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

CONTENTS

A. General description of CDM programme activity (CPA)

B. Eligibility of CPA and Estimation of Emission Reductions

C. Environmental Analysis

D. Stakeholder comments

Annexes

Annex 1: Contact information on entity/individual responsible for the CPA

Annex 2: Information regarding public funding

Annex 3: Baseline information

Annex 4: Monitoring plan

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.

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[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:

Promotion of Energy-Efficient lighting using Compact Fluorescent Light Bulbs in rural areas in Senegal ([Name of the concession(s) included in the CPA]).

Version X.X

Date: XX/XX/XXXX

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

This small-scale CPA is implemented as part of the SSC-CDM-PoA for the "Promotion of Energy-Efficient lighting using Compact Fluorescent Light Bulbs in rural areas in Senegal" undertaken by the Senegalese Rural Electrification Agency (ASER), the coordinating and managing entity of this PoA. This energy efficiency initiative is undertaken in connection with a nation-wide rural electrification plan designed under a concessions scheme[3]. An indication of whether this CPA is implemented as part of the emergency program in priority villages will be included here[4].

The purpose of this small-scale CPA is to promote energy-efficient lighting in newly electrified households and buildings located in [Name of the concession(s)] (the Concession(s)). The list and geo-coordinates of the villages included in this CPA are provided in the Annex 3 of this document.

A description of the institutional set up for the CPA implementation will be included here: implementation by concessionaire or directly by ASER. If the CPA is implemented by a concessionaire: provide name of the concessionaire, date of signing the Concession Contract, whether the concessionaire is the CPA implementer or the concessionaire has established a project company to be the CPA implementer.

A description of the institutional set up for the purchase of the CFLs will be included here: describe who purchases the CFLs (CPA implementer or ASER). If CFLs are not purchased directly by ASER, a reference to the Financing Convention (to be) signed to cover the cost of the CFLs by ASER will be included here.

The respective roles and responsibilities of coordinating entity (ASER) and the CPA implementer [Name of CPA implementer] for this CPA are listed in the table below:

[4] Refer to part A.2 and footnote 3 of the PoA DD

Operational task	Responsibilities	
	Coordinating and managing entity (**ASER**)	CPA implementer **(**[Name of CPA implementer]**)**
CFL Financing	○ ASER directly (if CFLs are purchased by ASER) or through subsidies to the concessionaire or the CPA implementer to recover the upfront cost of the CFLs (if CFLs are purchased by the concessionaire or CPA implementer)	
CFLs dissemination to households/ buildings	○ Annual verification through site visit	○ CFLs distribution and installation to households/buildings.
Collection of used CFLs and recycling	○ Collects used CFLs from [Name of CPA implementer] , transports and transfers to the recyclers. ○ Provides training to [Name of CPA implementer] for safe transport and temporary storage of CFLs. ○ Manages the promotion of the safe handling of CLFs at household level.	○ Collects used CFLs at households/buildings and store safely until collection by ASER. ○ Replaces
Monitoring of ERs	○ Provides equipment for data recording (meters for operating hours). Refer to Annex 4 for the sampling plan. ○ Selection and recruitment of sample group households / buildings (with meter for operating hour). ○ Verification and adjustment of the run time meters as per manufacturers technical specifications. ○ Collects and centralizes project database from [Name of CPA implementer]. ○ Validates data and rejects invalid data before entering data in central recording system. ○ Preparation of monitoring report for verification. ○ Responsible for the central management of data associated with (back-up, record keeping).	○ Collects data at the household level ○ Transfers the project database to ASER

The project implementation schedule is as follows:

Events	Dates
Signature of the Concession Contract, to be provided only if CPA is not implemented by ASER	[Date DD/MM/YYYY]
Signature of the Financing Convention[5], only when CFLs are not directly purchased by ASER	[Date DD/MM/YYYY, actual or scheduled]
Signature of the contract for CFLs purchase , only if available at the time of the CPA inclusion	[Date DD/MM/YYYY, actual or scheduled]

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

[Name of the CPA implementer] will be the entity responsible for implementing the CPA. Contact information for [Name of the CPA implementer] is provided in Annex 1.

ASER is the coordinating/managing entity to the SSC-PoA.

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

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

The CFLs will be purchased by the [CPA implementer or ASER] and installed in newly electrified households and buildings in the Concession(s) of [Name of the concession(s)], instead of Incandescent Light Bulbs (ILBs). CFLs meeting the technical requirements set by ASER will be used (rated power of 8 W or less, life time of 10,000 hours or more, meet the requirements of the norm NF EN 60969 § 6,7,8,9).

Forecast of the number of clients included in the CPA is listed in Annex 3.. Households and buildings in the CPA will be connected to the National grid.

A.4.1.1. Host Party:

The Republic of Senegal

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

The coordinates of the villages included in the CPA are listed in Annex 3.

[5] The Financing Convention is signed between ASER and [Name of the party to the Financing Convention] for the payment of a subsidy which covers the up-front investment cost of the CFLs to be purchased and installed in the concession.

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

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

XX/XX/XXXX [(actual or planned)]. The starting date of this CPA is set at the signature by [Name of the entity purchasing the CFLs: ASER or CPA implementer] of the contract for the purchase of the CFLs.

The PoA-DD was published for global stakeholder consultations on 3/12/2008 and no CPAs have started prior the commencement of validation of the PoA.

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

25 years, as defined under the rural electrification plan for Senegal or Duration of the Concession Agreement.

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

Fixed Crediting period

A.4.3.1. Starting date of the crediting period:

XX/XX/XXXX [(actual or planned)]. The starting date corresponds to the start of the project implementation (distribution of CFLs).

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

10 years

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

Ex-ante estimate of emission reductions:

Year	Annual estimation of GHG emissions reductions in tCO2e
year 1	
year 2	
year 3	
year 4	
year 5	
year 6	
year 7	
year 8	
year 9	
year 10	
Total	

Emission reductions will be adjusted ex-post using data collected from the CPA implementer including number of CFLs installed.

A.4.5. Public funding of the CPA:

The public funding resources available for the financing of the rural electrification plan, [if relevant, including the financing of the purchase of the CFLs through a subsidy to the concessionaire, will not purchase any GHG emission reduction generated by the proposed PoA.

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

As per the Guidance for determining the occurrence of de-bundling under a programme of activities (PoA) (EB 54, Annex 13), a CPA part of a PoA is exempted from performing de-bundling check if each of the independent subsystems/measures included in the CPA is no greater than 1% of the small scale thresholds defined by the methodology applied.

As per de-bundling criteria, 1% of the small scale threshold is 0.6 GWh per annum for a single measure. The annual energy saving potential from a measure taking 3.5 hours usage per day is = 3.5 h/d* 365 d/y *(40-8W) = 0.041 MWh/y, which is less than the de-bundling requirement. Therefore, the SSC-CPA is not a de-bundled component of a large scale activity.

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

This proposed small-scale CPA is not registered as an individual project activity. No project activity using AMS.II.C or other energy saving CDM methodology and promoting CFLs has been registered in Senegal. There is only one rural electrification and CFL distribution program in Senegal. Each CPA operates in geographically distinct areas (defined by the coordinated of the villages) and reports its activities to ASER, which is the centralised agency. Villages that were electrified by the Senelec or ASER before this PoA are excluded from the boundaries of this program. New connections will be verified by a third party as part of the financial/contractual agreements.

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:

Promotion of Energy-Efficient lighting using Compact Fluorescent Light Bulbs in rural areas in Senegal.

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

This small-scale CPA meets all of the criteria defined for the inclusion of a small-scale CPA in the Registered PoA:

No.	Eligibility criteria	Status
1	SSC-CPA follows the baseline and monitoring methodology AMS-II.C. --- Version 13.0 *Refer to section E.2 of the PoA-DD*	☑ yes ☐ no
2	SSC-CPA involves the installation of CFLs in newly electrified households and buildings in rural areas within the geographical boundary of Senegal. *In case of CPA implemented by a concessionaire, refer to concessionaire's proposal. In case of CPA implemented by ASER, refer to ASER's internal project documents*	☑ yes ☐ no
3	The geographical boundaries of the SSC-CPA area are uniquely defined by the list and coordinates of the villages included (listed in the SSC-CPA). Each household/building is identified by a client number and each CFL is identified by its serial number to avoid double counting. *Refer Annex 3 of the CPA-DD*	☑ yes ☐ no
4	SSC-CPA consists of the installation at households/buildings of CFLs meeting the following minimal quality criteria : rated power output of 8 W or less, life time of 10,000 h of use or more, conformity with the norm NF EN 60969 § 6,7,8,9). CFLs are installed in newly electrified households and buildings. *Refer to relevant project documents*	☑ yes ☐ no
5	The lumen outputs of the CFL are in the range of the baseline (i.e., lumen output of 40 W incandescent lamps[6]). It should not be significantly smaller (maximum - 10%) than the baseline or significantly larger (maximum + 50%) than the baseline. In the case of incandescent light bulb of 40 W, the lumen output is approximately 415[7]. The Lumen output of CFLs to be distributed and installed under any CPA will therefore be between 373.5 and 622.5. [Description of the CFLs selected or to be selected in the CPA] which is within the accepted range (XXX lumen as compared to 415, difference is X.X% greater/smaller). *Refer to relevant project documents*	☑ yes ☐ no
6	The start date of the CPA shall not be earlier than the date of publication	

[6] 40 W is use as the reference for the baseline scenario. Refere to section B.5.1 of the CPA-DD

[7] As per the methodology AMS IIJ version 4.

	of the PoA-DD for global stakeholder consultation. *Start date of the CPA*	☑ yes ☐ no
7	For a CPA implemented by a concessionaire, a Concession Agreement and Financing Convention have been signed with the concessionaire. *When applicable, Concession Agreement and Financing Convention*	☑ yes ☐ no
8	The CDM EB Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities (version 03.0) applies to the SSC-CPA (as described in Annex 4 of PoA-DD). *Refer to section B.6.1 of the CPA-DD.*	☑ yes ☐ no
9	**Additionality criteria** : the SSC-CPA which is located in Senegal (a LDC) aims to achieve energy savings at a scale of no more than 20 gigawatt hours per year[8]. Energy saving for the CPA is less than 20 Gigawatt hours/year. It is on average X.XX gigawatt hours per year (average per year over 10 years crediting, the maximum being X.XX gigawatt hours per year (yearly maximum) *Refer to section B.3 of the CPA-DD and ex-ante ERs calculation spreadsheet, specific to the CPA.*	☑ yes ☐ no
10	The CPA meets the requirements pertaining to the debundling check *Refer to section A.4.6 of the CPA-DD.*	☑ yes ☐ no
11	Any public funding received by the CPA from an Annex I country will not purchase any GHG emission reductions generated by the CPA. *Refer to Annex 2 of the CPA-DD.*	☑ yes ☐ no

As demonstrated, the small-scale CPA is in compliance with all requirements.

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

Additionality of this CPA is demonstrated using the Guidelines for demonstrating additionality of microscale project activities (EB 63, version 03).

[8] As per the Guidelines for demonstrating additionality of microscale project activities, version 03 (EB 63).

- The CPAs is implemented in Senegal, a Least Developed Country (LDC) [9], and in a rural area, a zone that is especially underdeveloped[10].
- Energy saving for the CPA is less than 20 Gigawatt hours/year. It is on average X.XX gigawatt hours per year (average per year over 10 years crediting), the maximum being X.XX gigawatt hours per year (yearly maximum)[11].

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 proposed CPA disseminates CFLs to newly electrified households and buildings in the concession(s) of [Name of the concession(s)]. All households and buildings newly electrified covered by the CPA and referred to in the Concession Agreement (Cf. Annex 3) will be connected to the national grid:

	Emission source	Gas		Justification/Explanation
Baseline	Combustion of fossil fuel at grid connected power plants	CO_2	Included	Main emission source
		CH_4	Excluded	Excluded for simplification
		N_2O	Excluded	Excluded for simplification
Project activity	Combustion of fossil fuel at grid connected power plants	CO_2	Included	Main emission source
		CH_4	Excluded	Excluded for simplification
		N_2O	Excluded	Excluded for simplification

B.5. Emission reductions:

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

Data / Parameter:	$p_{i,BL}$
Data unit:	W
Description:	Power of the lighting device in the baseline scenario
Source of data used:	SEMIS, "Survey mission for the use of low energy consumption lamps in three concessions in rural areas of Senegal", 2009
Value applied:	40
Justification of the choice of data or description of measurement methods and procedures actually	The power of the baseline light bulb has been considered to be p_i = 40 W. In Senegalese rural areas, the electrical power of ILBs available on the market ranges from 25 to 100 W. However, in rural areas, the weighted average of the rated power output of the ILB is 40 W. 40 W is therefore used as the reference for the baseline scenario.

[9] As defined by the United Nations Conference on Trade and Development (UNCTAD).

[10] In rural area, two third of the population is considered below the poverty threshold Source : ESAM II 2001/2002 quoted in Senegal 2006 Poverty Reduction Strategy Paper (PRSP) - Republic of Senegal – Strategy Document for Growth and Poverty Reduction (2006-2010), October 2006.

[11] Based on the projected number of CFLs to be distributed as reported in Annex 3, 3.5 operating hours per day, Baseline power of 40W and CFLs power of 8 W..

applied :	
Any comment:	-

Data / Parameter:	$EF_{grid, CM}$
Data unit:	tCO_2/MWh
Description:	Emissions factor of the Senegalese National Grid
Source of data to be used:	Calculated according to the "Tool to calculate the emission factor for an electricity system", version 2.2.1 Data are provided by the West African Power Pool and are available in Annex 3 of the PoA-DD.
Value of data applied for the purpose of calculating expected emission reductions in section B.5	$EF_{grid, CM}$ =0.700 tCO_2/MWh This value of the Emissions Factor is determined ex ante (refer to section E.6.2 of the PoA-DD).
Justification of the choice of data or description of measurement methods and procedures actually applied :	Calculated using the "Tool to calculate the emission factor for an electricity system", version 2.2.1, as provided for in the PoA-DD
Any comment:	The combined margin EF is based on the simple margin EF and the build margin EF calculated ex ante. The combined margin EF is therefore determined ex-ante at the time of validation of the PoA. The EF Combined Margin will be revised at the renewal of the crediting period of PoA

Data / Parameter:	l_y
Data unit:	Number
Description:	Average technical grid losses (transmission and distribution)
Source of data used:	AMS-II.C.Version 13.0
Value applied:	0.1
Justification of the choice of data or description of measurement methods and procedures actually applied :	In the absence of recent data, a default value of 0.1 is used for technical T&D losses. This default factor applies only to electricity distributed by the national grid.
Any comment:	-

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

1. Emission Reductions

The emission reductions by the project activity during a given year *y* are calculated as follows:

$$ER_y = BE_y - PE_y$$

Where:

ER_y are the total emissions reductions during the year *y* in tons of CO_2e

PE_y are the emissions from the project activity during the year *y* in tons of CO_2e

BE_y are the baseline emissions for the project activity during the year *y* in tons of CO_2e.

2. Baseline emissions

The baseline emissions for electricity consumption (option 1 of AMS-II.C. --- Version 13.0) for the year *y* are calculated as follows:

$$BE_y = E_{BL,y} * EF_{CO2,ELEC,y}$$

$$E_{BL,y} = \sum_i n_y * p_i * o_i / (1 - l_y)$$

Where:

BE_y Baseline emissions in year *y* (tCO2e)

$E_{BL,y}$ Energy consumption in the baseline in year *y*

$EF_{CO2,ELEC,y}$ Emission factor in year *y* calculated in accordance with the provisions in AMS-I.D (tCO2/MWh). $EF_{CO2,ELEC,y}$ = $EF_{grid, CM,y}$ since all households and buildings covered by the CPA will be connected to the National Senegalese grid. The emission factor is calculated using the "Tool to calculate the emission factor for an electricity system", version 2.2.1. It is determined ex-ante for the first crediting period of the PoA (refer to Section E.6.2. of the PoA-DD).

n_y Number of devices of the group of *"i"* devices replaced, for which the project energy efficient equipment is operating during the year. Will be monitored ex-post. Ex-ante estimate is based on the concessionaire's proposal. Refer to Annex 3 for details.

p_i Power of the devices of the group of *"i"* baseline devices (40W is retained).[12]

o_i Average annual operating hours of the devices of the group of "i" baseline devices. This will be monitored ex-post on a representative sampling group (3.5 hours is used for *ex-ante* estimation[13]).

l_y Average annual technical grid losses (transmission and distribution) during year *y* for the grid serving the locations where the devices are installed, expressed as a fraction. In absence of accurate data, a default value of 0.1 is to be used for the average annual technical grid losses of this PoA.

Grid combined margin emission factor ($EF_{grid, CM}$)

The $EF_{grid,CM,y}$ for the grid is calculated using the "Tool to calculate the emission factor for an electricity system", version 2.2.1. It is determined ex-ante for the first crediting period of the PoA (refer to Section E.6.2. of the PoA-DD).

[12] The power of the baseline light bulb has been considered to be p_i = 40 W. In Senegal, the electrical power of ILBs available on the market ranges from 25 to 100 W. However, the rated power output of more than 70% of the ILB is above 40 W. As a simplification, 40 W will be use as the reference for the baseline scenario.

[13] Default value, as per AMS–II.J. Will be monitored ex-post

The Grid combined margin emission factor is: 0.700 tCO_2/MWh. **This value will be used for this CPA, until the renewal of the PoA crediting period is undertaken at which point the Grid combined margin emission factor will be revised.**

3. Project emissions

Project emissions consist of electricity and/or fossil fuel used in the project equipment, determined as follows.

$$PE_y = E_{PJ,y} * EF_{CO2,y}$$

Where:

PE_y	Project emissions in year y ($tCO2_e$)
$E_{PJ,y}$	Energy consumption in project activity in year *y*. This will be determined *ex post* based on monitored values (MWh)
$EF_{CO2,y}$	Emission factor for electricity or thermal baseline energy.

$EF_{CO2,y}$ = $EF_{CO2,ELEC,y}$ = $EF_{grid,\ CM}$ since all households and buildings covered by the CPA will be connected to the National Senegalese grid. The emission factor is then calculated using the "Tool to calculate the emission factor for an electricity system",version 2.2.1. . It is determined ex-ante for the first crediting period of the PoA (refer to Section E.6.2. of the PoA-DD). $EF_{grid,\ CM}$ = 0.700 tCO_2/MWh. This value will be used for this CPA until the renewal of the PoA crediting period is undertaken at which point the Grid combined margin emission factor will be revised.

Project energy consumption in case of project activities that displace grid electricity is determined as follows using the data of the project equipment or system:

$$E_{PJy} = \sum_i n_y * p_{i,PJ} * o_i / (1 - l_y)$$ Where:

n_y	Number of devices of the group of *"i"* devices (CFLs) installed, for which the project energy efficient equipment is operating during the year. *Ex-ante* estimate is based on the concessionaire's proposal. This will be monitored *ex post.*
$pi_{,PJ}$	Power of the devices of the group of *"i"* baseline devices. This parameter will determined *ex post* (*ex ante* value is 8 W as evidenced by project documents).
oi	Average annual operating hours of the devices of the group of *"i"*. This value will be monitored *ex post* (3.5 hours used for ex-antes estimation [14]).
l_y	Average annual technical grid losses (transmission and distribution) during year *y* for the grid serving the locations where the devices are installed, expressed as a fraction. In absence of accurate data, a default value of 0.1 is to be used for the average annual technical grid losses of this CPA.

[14] Default value, as per AMS IIJ

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

Year	Estimation of project activity emissions (tonnes of CO_2 e)	Estimation of baseline emissions (tonnes of CO_2 e)	Estimation of leakage (tonnes of CO_2 e)	Estimation of overall emission reductions (tonnes of CO_2 e)
year 1			0	
year 2			0	
year 3			0	
year 4			0	
year 5			0	
year 6			0	
year 7			0	
year 8			0	
year 9			0	
year 10			0	
Total (tonnes of CO_2 e)			0	

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

B.6.1. Description of the monitoring plan:

A list of parameters to be measured during the implementation of project activity is adapted from Section E.7.2 of the PoA-DD for the purpose of this SSC-CPA:

Data / Parameter:	n_y
Data unit:	Number
Description:	Number of CFLs installed and in operation in year y
Source of data to be used:	Data are reported yearly by [Name of the CPA implementer] to ASER. Number of electrified clients will be validated by a third party for the three first years of the CPA. A survey on a representative sample of non–metered CFLs will be conducted annually to ensure that lamps are still operating and determine the percentage of operating CFLs.
Value of data applied for the purpose of calculating expected emission reductions in section B.5	See Annex 3, as per the concessionaire's proposal to ASER or ASER documentation in case of CPA implemented by ASER.
Description of measurement methods and procedures to be applied:	Report from [Name of the CPA implementer]. Cross-checked with the bills of the purchased CFLs.
QA/QC procedures to	A survey on a representative sample of non–metered CFLs will be conducted

be applied:	annually to ensure that lamps are still operating and determine the percentage of operating CFLs. Number of electrified clients will be validated by a third party for the three first years of the CPA. The number of CFLs will be cross-checked with annual disposal of CFLs.
Any comment:	The data will be archived for the entire crediting period (paper + electronic) + two years.

Data / Parameter:	$p_{i,PJ}$
Data unit:	Watts
Description:	Power of CFLs under the project activity
Source of data to be used:	Data are reported yearly by [Name of the CPA implementer] to ASER
Value of data applied for the purpose of calculating expected emission reductions in section B.5	8 W is used for ex antes calculations (as per relevant project documents). This value will be adjusted *ex post* using data reported by [Name of the CPA implementer] on each CFL. These data will also be reviewed and double checked by ASER (sampling during annual site visit for inspection of the CPA).
Description of measurement methods and procedures to be applied:	[Name of the CPA implementer] has the responsibility to record the power of each CFL installed/replaced in each household and building (and serial number of each CFL). For each CFL replaced during the crediting period, [Name of the CPA implementer] will record the power of the new CFL, the serial number and the date of the replacement.
QA/QC procedures to be applied:	ASER will cross-check the information provided by [Name of the CPA implementer] during annual site visits from a sample of clients.
Any comment:	The data will be archived (paper and electronic) for the entire crediting period + two years.

Data / Parameter:	$o_{i,y}$
Data unit:	Hours
Description:	Average annual operating hours of the CFLs
Source of data to be used:	To be monitored in sample
Value of data applied for the purpose of calculating expected emission reductions in section B.5	3.5 hours per day (*ex ante*, adjusted *ex post*)
Description of measurement methods and procedures to be applied:	Continuous measurement using run-time meters (using sampling) for each client category (households and buildings). Each client where run-time meters are installed will be identified (unique client identification number, location and address). The installation of metering devices will take place right after the installation of the CFLs by the [Name of the CPA implementer]. ASER will undertake annual cross-checks of a sample (random) of households/buildings part of the villages included in the PoA to verify that CFLs are operating. The sampling plan is detailed in Annex 4 of the PoA-DD.
QA/QC procedures to be applied:	Data will be checked by ASER in order to detect wrong values.

Any comment:	The data will be archived (paper, electronic) for the entire crediting period + two years.

Data /Parameter:	n_{y2}
Data unit:	Number
Description:	Number of CFLs replaced in year y (due to usage or defect).
Source of data to be used:	Data are reported yearly by [Name of the CPA implementer] to ASER.
Value of data applied for the purpose of calculating expected emission reductions in section B.5	n/a, will be monitored ex-post
Description of measurement methods and procedures to be applied:	Report from [Name of the CPA implementer].
QA/QC procedures to be applied:	This is not used for calculations of emission reductions, but only to cross-check with the number of CFLs disposed per year to ensure that CFLs are disposed properly.
Any comment:	The data will be archived for the entire crediting period (paper+ electronic) +two years.

Data /Parameter:	n_{y3}
Data unit:	Number
Description:	Number of used CFLs collected and transferred to recyclers in year y.
Source of data to be used:	Data are reported by ASER for each monitoring period.
Value of data applied for the purpose of calculating expected emission reductions in section B.5	N/A, will be monitored ex-post.
Description of measurement methods and procedures to be applied:	Report from ASER
QA/QC procedures to be applied:	Report of transfer specifying the number of CFLs will be made available to the DOE at the time of the verification. This is not used for calculations of emission reductions, but only to cross-check with the number of CFLs disposed per year to ensure that CFLs are disposed properly.
Any comment:	The data will be archived for the entire crediting period (paper+ electronic) + two years.

The following monitoring plan is proposed

The monitoring methodology as defined in AMS II.C version 13 is applied in this CPA-DD. This methodology proposes two options of monitoring:

(a) Recording the "power" of the device installed using nameplate data or bench tests of a sample of the units installed and metering a sample of the units installed for their operating hours using run time meters.

OR

(b) Metering the "energy use" of an appropriate sample of the devices installed. For technologies that represent fixed loads while operating, such as lamps, the sample can be small while for technologies that involve variable loads, such as air conditioners, the sample may need to be relatively large.

The recording of the power and metering of a sample of units installed in their operating hours was selected, as provided for in the POA-DD.

The monitoring plan is made to verify that the emission reductions are real and measurable. The data needed for the emission reductions calculations will be monitored transparently during the crediting period. The data will be collected by [Name of the CPA implementer] and ASER depending on the parameter. The operational/monitoring responsibilities are defined in the table below:

Operational task	Responsibilities	
	Coordinating and Managing Entity (CME) (**ASER**)	CPA implementer ([Name of the CPA implementer]**)**
CFL Financing	○ ASER directly (if CFLs are purchased by ASER) or through subsidies to the concessionaire or the CPA implementer to recover the upfront cost of the CFLs (if CFLs are purchased by the concessionaire or CPA implementer)	
CFLs dissemination to households/ buildings	○ Annual verification through site visit	○ CFL distribution and installation to households/buildings
Collection of used CFLs and recycling	○ Collects used CFLs from [Name of the CPA implementer], transports and transfers to the recyclers. ○ Provides training to [Name of the CPA implementer] for safe transport and temporary storage of CFLs. ○ Manages the promotion of the safe handling of CLFs at household level.	○ Collects used CFLs at households/buildings and store safely until ASER collection. ○ Replaces used CFLs
Monitoring of ERs	○ Provides equipment for data recording (meters for operating hours). Refer to Annex 4 for the sampling plan.	○ Collects data at the household level ○ Transfers the project database to

	○ Selection and recruitment of sample group households/buildings (with meter for operating hour). ○ Verification and adjustment of the run time meters as per manufacturers technical specifications ○ Selection of sample households and sample buildings of annual check of non-metered CFL to ensure that they are still operating as detailed in the sampling plan in Annex 4 of the PoA-DD. ○ Collects and centralizes project database from [Name of the CPA implementer] ○ Validates data and reject invalid data before entering data in central recording system ○ Preparation of monitoring report for verification ○ Responsible for the central management of data associated with the CPA (back-up, record keeping)	ASER

Data available:
The name of the villages and geo-*coordinates* of each village included in the CPA are listed in Annex 3 of this CPA-DD.

Data collected
The data to be collected are the following:

The following parameters will be monitored by [Name of the CPA implementer]**:**

- Identification (*client number*) of households and building electrified and their date of connection;
- The identification (serial number) of each CFL installed in each household and building and the technical characteristics (technical life time in years or hours, power in watts) and their date of installation;
- The identification of each light bulb replaced during a year y (serial numbers of light bulbs installed and replaced) and the technical characteristics (technical life time in years or hours, power in watts) and date of the replacement;
- The identification of the CFLs (serial numbers), which are metered for recording of the average daily operating hours and the date of installation;
- Bill(s) for electricity purchased from Senelec by CPA implementer (to be transferred to ASER);
- Bill(s) for CFLs purchased by CPA implementer (to be transferred to ASER).

The following parameters will be monitored by ASER:

- The reading of the run-time meters (this can also be done by the CPA implementer depending on the contractual arrangement). A 95% confidence interval and 10 % error margin is applied to determine the sample size across all CPAs (i.e. CPAs are to be combined together) households and buildings separately. The sampling plan is presented in Annex 4 of the PoA-DD.
- The result of the calculated mean operating hours per day during the reporting period;
- A representative sample of non–metered CFLs will be checked annually to ensure that lamps are still operating and determine the percentage of operating CFLs. The percentage of functioning non-metered CFLs will be used to discount the energy savings and thus emission reductions. A 90/10 confidence/precision will be used to calculate the minimum sample size for households and buildings separately for the CPA.
- Consolidation of data transmitted by [Name of the CPA implementer] to validate the consistency. ASER will also ensure that no double counting occurs using the unique identification (serial number of CFLs). ASER will cross-check the number of CFLs replaced and CFLs collected annually for recycling by [Name of the CPA implementer].

In addition, these documents collected by ASER will be made available to DOE at verification:

- The verification report on the number of households/buildings connected - conducted annually for the first three years by an independent entity. This procedure is part of the contractual arrangement with [Name of the CPA implementer];
- The verification report on the power of the CFLs purchased by [the CPA implementer or the concessionaire] to be measured on each batch of CFLs by a third entity using a sample. This procedure is a requirement part of the contractual arrangements with [Name of the CPA implementer]; and
- Reports of electricity purchased from the national Grid and reports from electricity sale to the clients in the Concession(s) will also be available to DOE for cross-checking.

All reports will be centrally kept by ASER and made available to the DOE.

Monitoring institution

ASER has designated one of its units, responsible for monitoring the CDM program: the “Direction of the studies and information system”. This unit, reporting directly to the General Manager of ASER, is currently in operation and is in charge of monitoring the progress of the implementation of the rural electrification. As such, it is structured and qualified to manage data and records as this is part of its daily assignment.

This unit will be responsible for the CDM monitoring plan, including its implementation, the staff training and quality assurance and control.

The implementation of the CDM monitoring plan will encompass:

- regular training of [Name of the CPA implementer] for data collection and recycling requirement;
- site visits to verify data collection and monitoring equipment;
- site visits to ensure that non-metered CFLs are still operating

- data collection from [Name of the CPA implementer];
- data analysis and rejection of invalid record;
- valid data entry in central database;
- data regular backup;
- data processing for calculations of emission reductions;
- preparation of verification and monitoring report;
- collection of used CFLs from CPA implementers, transport and transfer to recyclers.

A staff training program for the unit has been designed and is currently implemented. Such training covers relational database design and management, monitoring and evaluation of information system design and management. If needed, a competence analysis will be undertaken and the training program adjusted consequently in order to manage complete and accurate data necessary for CDM monitoring.

The equipments for monitoring

Runtime meters are required for the metering of the operating hours of the CFLs inside the project boundary. Households and buildings will be selected randomly. The installation of metering devices will take place right after the installation of the CFLs by [Name of the CPA implementer].

The sampling plan for metering the operating hour is presented in Annex 4 of PoA-DD. This plan was elaborated according to the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities (version 03.0).

Verification and calibration of the equipment
The verification and calibration of the run time meters will be done by ASER according to the procedure provided by the manufacturer.

Data Management
The Direction of the studies and information systems will be responsible for the data management. All data collected by ASER from [Name of the CPA implementer] will be centralised by the Direction of the studies and information systems.

Any other reports listed in the monitoring plan and documents such as paper-based maps, diagrams will be kept by the Direction of the studies and information system.

All relevant paper-based information will be stored by ASER and kept, with electronic copies for two more years after the end of the crediting period for the proposed PoA.

Monitoring Report
The Direction of the studies and information systems is responsible for preparing the monitoring report under the supervision of the CDM manager. All the related records of verification, reading, cross checking will be readily accessible for the verification of the DOE.

The monitoring report shall include all information used to calculate the emission reductions of each CPA, which can reflect the real, measurable and long-term GHG reductions achieved by this proposed PoA.

SECTION C. Environmental Analysis

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 to be completed in this form.

1. Environmental Analysis is done at PoA level ✓

The environmental analysis was undertaken at the PoA level to determine the measures that will apply for any CPA. The PoA consists of disseminating high efficiency lighting devices (CFLs). No Environmental Impact Assessment Analysis is required for this type of project under the Senegalese regulation.

2. Environmental Analysis is done at SSC-CPA level ☐

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

- Air quality (Local environment protection).
- The use of high efficiency lighting will reduce fossil fuel based electricity generation and related suspended particles, SOx and NOx are therefore reduced.
- Compact Fluorescent lamps contain small quantities of mercury. If not disposed properly of after use, the mercury can be released and will have negative environmental impact due to its toxicity. ASER will coordinate the collection of the CFLs. At the time of the replacement of the CFLs (early technical failures or end of life), the used CFLs bulbs will be collected and stored in a temporary facility by [Name of the CPA implementer] and then transported by ASER to a central storage facility and later recycled.

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:

No environmental impact assessment is required for the CPAs to be included in this PoA according to Senegalese regulations.

SECTION D. Stakeholders' comments

In the context of this PoA that will be implemented nationwide it was relevant to undertake the local stakeholder consultation at the PoA level. The identified stakeholders for this POA are the members of the National Committee for Climate Change (COMNACC) designated according to the article 2 of the Ministry decree and all the associations and non-governmental organisations involved in the protection of the environmental and the rural development in Senegal.

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.

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

n/a

D.3. Summary of the comments received:

n/a

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

n/a

Annex 1

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

[To be provided in each CPA-DD]

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

Multilateral and bilateral donors including the World Bank, the African Development Bank, France and Germany have or will extend financing to the Government of Senegal for the investment cost of rural electrification infrastructure and equipment. Each agency will finance one or several Concessions (CPAs).

A grant from the Global Environment Facility (GEF) also contributes to the funding of the rural electrification programme in Senegal. Such grant is dedicated to the promotion of renewable energy for rural electrification. Therefore, it should not be considered for this PoA as no emission reductions are claimed for consumers electrified by renewable energy.

The public funding resources available for the financing of the rural electrification plan will not purchase any GHG emission reduction generated by the proposed PoA. The use of public fund for the financing of the rural electrification plan in Senegal will not result in a diversion of ODA resources.

Annex 3

BASELINE INFORMATION

Number of clients per year and devices (ni) (as per the relevant project documents)

Year	No clients (cumulative)	No CFLs (n_i) (cumulative)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

List of villages included in the Concession(s):

Annex 4

MONITORING INFORMATION

Sampling plan to determine the value of operating hours of CFLs and to cross-check the operation of CFLs

The sampling is designed according to the Standard for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 03.0 (EB69, Annex 4) and the "Guidelines for sampling and surveys for CDM project activities and programme of activities, Version 02.0, EB 69. As per the Guidelines, the sampling plan should contain information relating to: (A) sampling design; (B) data to be collected; and (C) implementation plan.

(A) Sampling Design

Objectives and Reliability Requirements

According to the monitoring plan and consistent with AMS-II.C, Version 13, paragraph 13 (a) and paragraph 14, the annual operating hours of lamps need to be measured and annual checks of non-metered systems that are still operating is required.

The sampling plan objectives are to determine two monitored parameters: 1) the mean value of the annual operating hours of the CFLs, using run-time meters; and 2) the percentage of functioning non-metered CFLs. Both objectives will be achieved on representative samples as described in this annex.

The program includes two main categories of clients, namely, residential clients (households) and non-residential clients (buildings) such as schools, offices, shrines, etc. These two categories have different lighting usage. Thus, the sampling approach has been chosen to estimate these parameters annually for each group of clients.

Parameter 1: Mean value of the operating hours of the CFLs

The first parameter is the mean value of the annual operating hours of the CFLs. The sampling consists of determining the devices to be metered for their operating hours. The operating hours will be determined ex-post and used for both baseline and project emissions reductions calculation.

The operating hours will be determined across CPAs, but separately for each group of clients (households and buildings). A 95% confidence interval and 10 % error margin is to be applied to determine the sample size across all CPAs (i.e. CPAs are to be combined together) households and buildings separately.

Parameter 2: Percentage of functioning non-metered CFLs

The second parameter is the percentage of functioning non-metered CFLs. This parameter will be captured through a survey on a sample of non-metered lamps. The percentage of functioning non-metered CFLs will be used to discount the energy savings and thus emission reductions.

The percentage of functioning non-metered CFLs will be determined separately for each group of clients (households and buildings) and for each CPA separately. A 90/10 confidence/precision will be used to calculate the minimum sample size for households and buildings separately.

Targeted Population

Two categories of clients are included in the PoA that define two different usages of lighting: 1) Group 1 is composed of households in which lighting is used in the evening and 2) Group 2 includes non-household buildings where lighting is used for services, i.e. office hours. The two parameters will be determined separately for each group of clients, i.e., the operating hours will be monitored for households and buildings separately. Each of these two groups (households and buildings) represents a homogeneous group in terms of operating hours for the CFLs.

Parameter 1: Mean value of the operating hours of the CFLs

In order to monitor the operating hours, the targeted population is constituted of all clients separated into two distinct groups: households and buildings.

The sample will be determined across CPAs in the PoA, i.e. for each group (households or buildings), the population will be all CFLs distributed in all CPAs included in the PoA.

Parameter 2: Percentage of functioning non-metered CFLs

The percentage of functioning non-metered CFLs will be monitored annually separately for each group and for each CPA as failure rate among CPAs implemented at different time may differ.

For this parameter, the population will be all CFLs distributed in a particular CPA divided into Group 1 (households) and Group 2 (buildings).

Sampling Method

The Coordinating and Managing Entity will use the **simple random sampling** method where the targeted population is differentiated for each parameter and is subdivided into two groups of clients (households and other buildings) and the samples within each group will be determined using a random selection.

This approach is suitable given the fact that the population consists of pre-defined sub-components: the households (levels of service 1-3) and the buildings (level of service 4)[15]. The buildings covered by this program operate mainly in the operating hours of public services.

[15] As per the Rural Electrification plan, four levels of services are to be offered to clients. Services 1 to 3 will be covering households, while service 4 will be covering mainly municipal building.

Clients (households and buildings) are to be selected randomly.

A minimum of 90 days of continuous measurement is deemed acceptable for the monitoring of operating hours.

Sample Size

Parameter 1: Mean value of the operating hours of CFLs

The mean value of the operating hours of the CFLs is determined using a single sampling plan for all CPAs in the PoAs, but applied separately to the two subgroups of clients (households and buildings). In accordance with paragraph 20 of the Standard for Sampling and Surveys for CDM Project activities and Programme of Activities Ver. 03.0, a 95/10 confidence/precision is applied to calculate the sample size of CFLs in households and CFLs in buildings (non-households) separately.

The sample size is calculated to meet a 95% confidence interval and a 10% error margin. Using the "Guidelines for sampling and surveys for CDM project activities and programme of activities, Version 02.0, EB 69, the determination of the sample size (n) is based on the following formula[16]:

$$n \geq \frac{1.960^2 \times V}{0.1^2}$$

Where

$$V = \left(\frac{SD}{mean}\right)^2$$

n	Sample size
mean	Expected mean value of operating hours (5 hours for households and 8 hours for buildings)
SD	Expected standard deviation for the operating hours (2.5 hours for households and 4 hours for buildings)[17]
1.96	Represents the 95% confidence required
0.1	Represents the 10% precision

Sample size for households

$V = 2.5^2/5^2 = 0.25$

$n \geq (1.960)^2 \times 0.25/0.1^2 = 96$

[16] The approximate equation is used as it expected that each group of clients involve a large number of CFLs (more than 5,000)

[17] As there is no reliable data available on the operating hours, the standard deviation is initially estimated using a 50% variation from the mean value as recommended in the International Performance Measurement and Verification Protocol (IPMVP). Concepts and Options for Determining Energy and Water Savings Volume 1 (page 98). 2012.

Sample size for buildings
$V = 4^2/8^2 = 0.25$
$n \geq (1.960)^2 \times 0.25/0.1^2 = 96$

For households, the sample size is thus determined as 96, which is round up to 100, to which a safety factor of 20% is added leading to a sample size of **120 households**.

For buildings, the sample size is determined as 96, which is round up to 100, to which an over sampling of 20% is applied leading to a sample size of 120 buildings.

This target is applicable to each group, i.e., households and buildings. Thus the operating hours of the lighting equipment are to be monitored for 120 households and 120 buildings across all CPAs included in the PoA during the covered monitoring period.

For the residential clients (households), three run-time metres are to be installed in the following areas of the house: 2 run-meters installed in the areas of common living (e.g., kitchen, living room) and 1 run-meter installed in a rest area (e.g., bedroom). The total of run-time meters to be installed in households is thus **360**.

In building, two run-time meters will be installed in each building. The total of run-time meters to be installed in buildings is thus **240**.

Parameter 2: Percentage of functioning non-metered CFLs

The parameter will be established in terms of proportion of non-metered CFLs that are still functioning in the population of installed CFLs for each group of clients. The sampling plan will be applied at CPA level for this parameter and separately for each group of clients (households and buildingsm_i). The sample size is thus determined using 90% confidence interval and a 10% error margin.

Using the ""Guidelines for sampling and surveys for CDM project activities and programme of activities, Version 02.0, the equation to give the required sample size is[18]:

$$n = \frac{1.645^2 (1-p)}{0.1^2 \times p}$$

Where

n	Sample size
p	Expected proportion of CFLs that are still operating (0.50 in all groups[19])

[18] The approximate equation is used as it expected that each group of clients in a CPA involve a large number of CFLs (more than 5,000)

[19] No data is currently available. As a common practice in statistical analysis in cases where the proportion is not known prior to the size calculation, the best and most conservative option is to consider P=0.5. The project participant aims at ensuring that at least 80% of the CFLs will still operating.

1.645 Represents the 90% confidence required
0.1 Represents the 10% relative precision

Sample size for households

$$n \geq \frac{1.645^2 \times (1-0.5)}{0.1^2 \times 0.5} = 271$$

This number is round up to 300 CFLs to be surveyed in households in each CPA every year.

For the purpose of practicality, the CFLs sample will be determined through a sample of randomly selected houses. The number of households to be visited is determined by dividing the CFLs sample size by the number of CFLs distributed per household.

The program established 3 levels of service for CFLs distributed in households. Levelof service 1 corresponds to the lowest number of CFLs distributed per household (5 CFLs). Therefore, for conservativeness, level of service 1 is used to determine the number of households to be surveyed.

The number of households to be visited will then be 60 (300/5) which is rounded up to 100 households to be drawn randomly. Finally, visiting 100 households means the annual check covers at least 100 x 5 CFLs = 500 CFLs which is by far larger than the calculated sample size (271 CFLs).

Sample size for buildings

$$n \geq \frac{1.645^2 \times (1-0.5)}{0.1^2 \times 0.5} = 271$$

This number is round up to 300 CFLs to be checked in buildings in each CPA every year.

For the purpose of practicality, the CFLs sample will be determined through a sample of randomly selected buildings. The number of buildings to be visited is determined by dividing the CFLs sample size by the number of CFLs distributed per building.

There one level of service for buildings corresponding to about 16 CFLs per building. The number of buildings to be visited will therefore be about 20 (300/16) which is rounded up to 30 households to be drawn randomly. Finally, visiting 30 households means the annual check covers at least 30 x 16 CFLs = 480 CFLs which is by far larger than the calculated sample size (271 CFLs).

The ratio (R) between the number of CFLs that are not in operation and the number of CFLs installed at the selected clients (households or buildings) is calculated as follow:

$$R = \frac{\text{Total number of CFLs that are not in operation}}{\text{100 x Number of CFLs installed at the selected clients}}$$

If any failure is detected (R ≠0), the total number of operational installed CFLs (n_y) which is to be used for the purpose of ERs calculation (n_y) is calculated by discounting the total number of CFLs installed based on the failure rate:

n_y = (1 – R) x total number of CFLs installed

Sampling frame

For the operating hours, the sampling frame is the total number of CFLs in the PoA (all CPAs together) separately applied for each group of clients. Two samples will be selected randomly 1) from the list of CFLs installed in households of all CPAs in the PoA, and 2) from the list of CFLs installed in buildings of all CPAs together.

In both cases, the sampling frame will be adjusted to take into account the inclusion of new CPAs in the PoA by adding the new population into the sampling frame.

For the percentage of operational CFLs, the sampling frame will be the listing of all CFLs included in a particular CPA, separately for each group of clients. Two samples will be selected randomly 1) from the list of CFLs in households and 2) from the list of CFLs in other buildings.

(B) Data to be collected:

Field Measurements

According to the Standard for Sampling and Surveys for CDM project Activities and Programme of Activities (version 03.0), the sampling is to be adjusted at each monitoring period depending on the number of clients covered at a given monitoring period (i.e. number of clients of the CPAs included during the monitoring period).

AMS-II.C. requires monitoring of the following parameters:

1. Recording the "power" of the device installed (e.g., lamp or refrigerator) using nameplate data or bench tests of a sample of the units installed and metering a sample of the units installed for their operating hours using run time meters

   The sampling aims at metering a number of CFLs in households and buildings to determine their operating hours. Runtime meters will be installed at selected at clients premises to record the operating hours.

2. Annual checks of a sample of non-metered systems to ensure that they are still operating. Annual; survey will be conducted to determine the percentage of CFLs that are actually functioning in group and in each CPA.

Quality Assurance/Quality Control

Any biased data will be identified by ASER. As part of the QA/QC, ASER is responsible for the calibration of run-time meters. The results of the calibration will be included in the monitoring report.
If there are any anomalies in the readings of the run-time meters, they will be recalibrated and the measurement reinitiated. For the period in which anomalies were noted, the lowest value recorded in previous monitoring periods or in the current monitoring period (if past values are not available) will be used to calculate the Emissions Reductions.

In any case, the following conservative approach will be applied in the calculation of emission reductions as per the Guidelines for Assessing Compliance with the Calibration Frequency Requirements (version 01, EB 52):

(a) Applying the maximum permissible error of the instrument to the measured values , if the results of the delayed calibration do not show any errors in the measuring equipment, or if the error is smaller than the maximum permissible error; or
(b) Applying the error identified in the delayed calibration test, if the error is beyond the maximum permissible error of the measuring equipment.

The error shall be applied in a conservative manner such that the adjusted measured values shall result in lower baseline emissions and higher project emissions / leakage.

Moreover, the reliability of the mean value, the confidence level and precision will be checked using "Guidelines for sampling and surveys for CDM project activities and programme of activities, Version 02.0, EB 69, to ensure the representativeness of the sample.

(C) Implementation

The Coordinating and Managing Entity will be responsible for the implementation of the sampling plan.