CLEAN DEVELOPMENT MECHANISM
SMALL-SCALE PROGRAMME OF ACTIVITIES DESIGN DOCUMENT FORM
(CDM-SSC-PoA-DD) Version 01

Title of the small-scale Programme of Activities (PoA):

CUIDEMOS Mexico (Campana De Uso Intelegente De Energia Mexico) – Smart Use of Energy

Version 03
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Coordinating/Managing Entity:

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A.4.4. Operational, management and monitoring plan for the programme of activities (PoA):

A.4.4.1. Operational and management plan:

>> Description of the operational and management arrangements established by the coordinating/managing entity for the implementation of the PoA, including:

(i) A record keeping system for each CPA under the PoA,
(ii) A system/procedure to avoid double accounting e.g. 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,
(iii) The SSC-CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity.
(iv) The provisions to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA.

The proposed PoA involves a range of operational activities in order to effectively implement and manage each SSC-CPA. The coordinating entity has divided these operations into five broad categories and has defined the management responsibilities for each as detailed in the table below:

Operational Category	Management Responsibilities & Arrangements
Product Supply	- Maintain existing relationships with suppliers - Ensure timely production and supply of CFLs for each SSC-CPA
Transport & Storage Logistics	- Arrange transport of CFLs from supply partner - Arrange storage prior to distribution - Delivery of CFLs to distribution hubs
Distribution to Households	- Management of distribution points; stock; customer transactions and staff - Household data collection
Baseline Technology	- Collection of baseline technology from distribution hubs - Undertake independently verified destruction of incandescent bulbs
Monitoring Emission Reductions	- Selection & recruitment of sample group households - Periodic collection of monitoring data - Preparation of monitoring reports for emission reduction verification

Table 1: Operational Categories and Management Responsibilities for CUIDEMOS Mexico PoA

Further information regarding these operational categories and project implementation can be found in Annex 6 ('CUIDEMOS Mexico – Process Flow Charts'), and Annex 7 ('CUIDEMOS Mexico PoA - Sampling Plan').

In addition to the above management tasks, the coordinating entity will implement the following operational elements to ensure proper management and oversight of the proposed PoA.

SSC-CPA Record Keeping

Each SSC-CPA will follow the record keeping and monitoring requirements stipulated in ASM II.C. and detailed in Section E below. In summary, the coordinating entity will ensure that each SSC-CPA will maintain appropriate records documenting the following variables:

- The geographical location of each CPA.
- The name, address and record of specifications of incandescent bulbs and CFLs exchanged for each household participating in the CPA.
- The names, addresses and monitoring/spot check data of each household involved in sample and cross check groups.

The coordinating entity will be responsible for the management of records and data associated with each SSC-CPA.

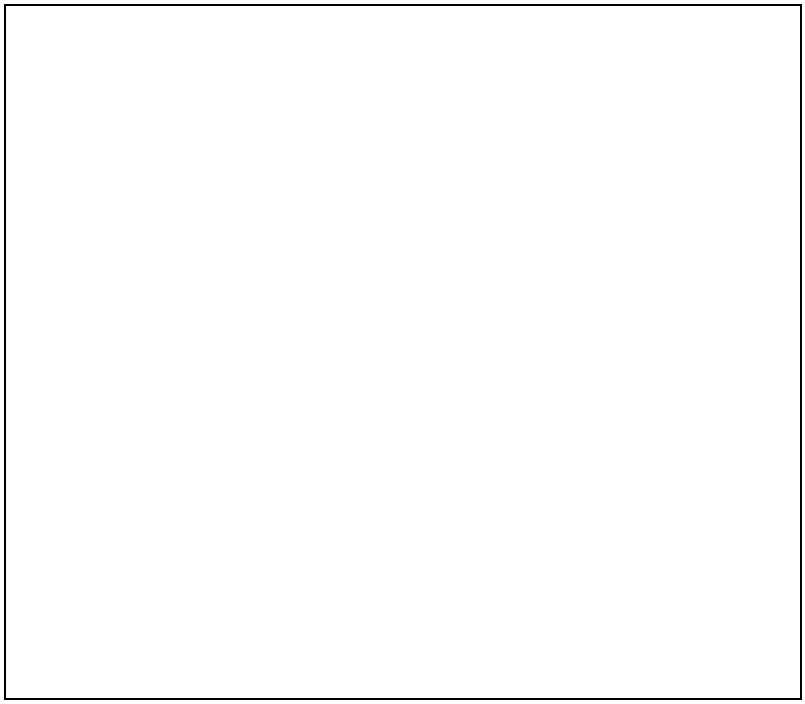

Figure 2: Data collection and record keeping procedure

Procedure to Avoid Double Counting
Ensuring that SSC-CPAs within the proposed PoA do not overlap will prevent double counting of emission reductions. Prior to registering a new SSC-CPA within the proposed PoA, the coordinating entity will check the CDM project database to establish whether a CDM project activity or CPA of another PoA utilising energy efficient lighting technologies has already been registered in the same geographic area. This search will cover registered project activities, project activities requesting registration, project activities under review and project activities for which either a review or corrections have been requested. The process of checking will be duplicated by the DOE responsible for registering new SSC-CPAs under the proposed PoA.

Participating households must provide their electricity bill at the time of the exchange of CFLs, thereby enabling the CPA activity implementer to determine whether they are eligible to participate. The collection of both utility bill folio numbers (a unique identification code provided to each

household connected to the electricity grid by national utility CFE) and addresses will ensure that the households belonging to CPAs can be unambiguously defined.

In an instance where a CPA of another PoA or CDM project activity is already registered in the same geographic area as a proposed SSC-CPA, the coordinating entity will not proceed with the registration of the SSC-CPA. In the instance where a CPA of another PoA or CDM project activity is requesting registration, is under review or for which review or corrections have been requested, is in the same geographic area as a proposed SSC-CPA, the coordinating entity will wait for these processes to be resolved before proceeding with registration of the new SSC-CPA.

De-bundling
In order to avoid registering a SSC-CPA that is in fact a de-bundled component of another CPA or CDM project, the coordinating entity will follow the guidance provided by the Executive Board in Annex 27 of EB 36 Report. The coordinating entity intends to implement multiple CPAs within Mexico, of the same sectoral scope – 3 Energy Demand. In order to prevent an occurrence of de-bundling, the coordinating entity will implement two approaches:

1. Ensure that where the same activity implementer is involved in two adjacent SSC-CPAs, their boundaries are not within 1km of each other at the closest point, as defined by the Executive Board in the aforementioned guidance. In instances where a household is a geographic 'outlier' (eg. a household from one SSC-CPA that is within 1km of a state boundary which may be the location of an existing SSC-CPA managed by the same activity implementer) the coordinating entity will exclude such a household from the calculation of emission reductions of that SSC-CPA. By carefully planning the location and roll-out of SSC-CPAs, and monitoring the customer database for any 'outlier' households, the coordinating entity will maintain a 1km "buffer zone" between CPAs, thereby complying with the Executive Board's rules regarding de-bundling.

2. Where different activity implementers are involved in the development of geographically adjacent SSC-CPAs, by definition de-bundling will not occur. However, the coordinating entity will ensure that there is no duplication or double counting (single households receiving CFLs from different activity implementers) between SSC-CPAs. This will be done by cross-checking the data management system of the PoA to check for duplicates, and removing those households participating in multiple SSC-CPAs within the PoA. This cross-check will occur in real time during the CFL distribution process.

All CPAs Are Subscribed to the PoA
The coordinating entity is responsible for identifying, developing, registering and managing all SSC-CPAs to be included in the proposed PoA. This will mean that those operating the SSC-CPA will be aware and will have agreed that their activity is subscribed to the proposed PoA. Legal agreements have been put in place with PoA distribution partners clearly stipulating that their activities are subscribed to the SSC-PoA. Households will be made aware that they are participating in a climate change action program aiming to reduce greenhouse gas emissions. It is reasonable that having been made aware of the nature of the program, and by accepting the free CFLs there is implied agreement by the household that their activity is subscribed to the relevant SSC-CPA.

A.4.4.2. Monitoring plan:

>> The following information shall be provided here:

(i) Description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the amount of reductions of anthropogenic emissions by sources or removals by sinks of greenhouse gases achieved by CPAs under the PoA.

(ii) In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA (whether in groups or not, with different or identical verification periods), a transparent system is to be defined and described that ensures that no double accounting occurs and that the status of verification can be determined at any time for each CPA;

The coordinating entity has opted to implement a verification system for the DOE that will individually verify each CPA in order to determine the abatement created by the PoA. The project database managed by the coordinating entity includes the following data-set that can be attributed to each CPA within the PoA, thereby allowing determination of the emission reductions attributable for each CPA:

- A list of households participating in each CPA including name, address, electricity bill folio number, number and wattage of light bulbs exchanged, date and location of the exchange transaction;
- Metering data collected from the Project Sample Group (PSG) households relating to the ongoing hours of use of project CFLs during each monitoring period;
- Data obtained from the Project Cross-Check Group (PCCG) households indicating the proportion of project CFLs operating during each monitoring period.

Annex 7 ('CUIDEMOS Mexico PoA - Sampling Plan) provides a detailed description of the statistical methods used to determine data collection and calculations for the PSG and PCCG parameters used in the emission reduction calculations.

The coordinating entity will produce a monitoring report for the DOE to verify corresponding to the preceding monitoring period. This report will set-out the data relating to the emission reductions generated by each CPA during the monitoring period.

PoA record keeping procedures will prevent double counting across CPAs. The data-set of households participating in each CPA will be mutually exclusive of the data-set of another CPA under the PoA. The list of households that participate in the exchange of light bulbs for each CPA cannot contain any duplicate entries. This duplication rule applies *within* each CPA (ie a household cannot participate more than once during each CPA), and *between* CPAs (ie households cannot participate in more than one CPA). Project Sample Group and Project Cross-Check Group households will be identified to ensure they are statistically representative as determined by an independent statistical expert. Based on this data, the calculation of emission reductions will be carried out for each CPA.

Verification of each CPA will occur at the end of each monitoring period. The project database will record the start and end dates of each monitoring period, and record the emission reductions attributable to each monitoring period. Appropriate record keeping procedures will be implemented to ensure that each monitoring period data set can be transparently attributed to its corresponding CPA, preventing any occurrences of double counting. An audit of the project database will be able to

determine the current status of each CPA – the duration of previous monitoring periods, the households and sample groups delivering monitoring data, and current verification activities.

E.6.3. Data and parameters that are to be reported in CDM-SSC-CPA-DD form:

(Copy this table for each data and parameter)

Data / Parameter:	**L_k**
Data unit:	-
Description:	Estimated number of project activity devices to be distributed by the CPA coordinator
Source of data used:	Determined by project participants
Value applied:	Variable
Justification of the choice of data or description of measurement methods and procedures actually applied :	Actual numbers of devices distributed within each CPA may vary depending on success of distribution and uptake by households.
Any comment:	

Data / Parameter:	**n_{PSG}**
Data unit:	Households
Description:	Total sample size used for monitoring utilisation hours/electricity consumption of CFLs.
Source of data used:	Determined by project participants at the PoA level
Value applied:	220
Justification of the choice of data or description of measurement methods and procedures actually applied :	The samples for PSG will be randomly selected and selected across all combined CPAs under the PoA by applying 95/10 confidence /precision for sample size calculation in accordance with the footnote 13 of paragraph 19 of EB 65, Annex 2. Within Project Sample Group households enough light fittings will be monitored to enable data to be captured from 220 households initially (with up to 4 bulbs per household totalling up to 880 bulbs) in order to determine an average hours of utilisation and/or electricity consumption at the PoA level. This sample size will enable a robust assessment of key parameters for the determination of emission reductions. The total sample size of 220 households (and up to 880 bulbs) will be monitored at the PoA level in order to be statistically representative with a 95/10 confidence/precision level. The CME may choose to increase or decrease the sample size for subsequent monitoring periods to meet the required confidence/precision level.
Any comment:	Annex 7 (‘CUIDEMOS Mexico PoA - Sampling Plan) provides a detailed

	description of the statistical methods used to determine the sample size and to select households for the PSG.

Data / Parameter:	n_{PCCG}
Data unit:	Households
Description:	Total sample size used for checking to ensure ongoing operation of project devices.
Source of data used:	Determined by project participants as per the procedure outlined in Annex 7 (CUIDEMOS Mexico PoA - Sampling Plan)
Value applied:	97
Justification of the choice of data or description of measurement methods and procedures actually applied :	Within each household up to four light bulbs will be checked. Data to be captured from at least 97 sample households in order to determine the number of CFLs still operational. This sample size will enable a robust assessment of a key parameter for the determination of emission reductions. In order to constitute the sample size for PCCG group, CPAs will be grouped according to distribution date. Each block of CPA/s may consist of one or more CPAs. A minimum of 97 households will be surveyed for each block of CPA/s whether the block contains a single CPA or more. A separate sample will be taken for each of these blocks. Specifically, all CPAs where distribution occurred within a three-month period will be combined for the purposes of this estimation and a sample will be taken randomly from the set of all non-metered households in that block of CPA/s. If no group of CPA could be formed or a single CPA distribution occur in three months time then a separate PCCG survey will be carried out for that CPA. The total sample size of 97 households will be surveyed initially in order to be statistically representative with a 95/10 confidence/precision level. The CME may choose to increase or decrease the sample size for subsequent monitoring periods to meet the required confidence/precision level.
Any comment:	Annex 7 ('CUIDEMOS Mexico PoA - Sampling Plan) provides a detailed description of the statistical methods used to determine the sample size and to select households for the PCCG.

Data / Parameter:	**EF**
Data unit:	$kgCO_2/kWh$
Description:	Emissions factor for electricity displaced from the grid relevant to the project boundary.
Source of data used:	Official government data – SENER "Prospectiva del sector electrico 2005-2014", "Prospectiva del sector electrico 2006-2015", "Prospectiva del sector electrico 2007-2016"
Value applied:	0.514
Justification of the choice of data or description of measurement methods	Project coordinator has obtained latest data from government sources and applied calculation methodology specified in "Tool to calculate the emission factor for an electricity system" version 1 (EB Report 35, Annex 12). Details of calculations are provided in Annex 12.

and procedures actually applied :	
Any comment:	EF will be revised at the point of renewal of the crediting period of the PoA.

E.7. Application of the monitoring methodology and description of the monitoring plan:

E.7.1. Data and parameters to be monitored by each SSC-CPA:

(Copy this table for each data and parameter)

Data / Parameter:	**n_k**
Data unit:	
Description:	Number of operational CFLs
Source of data to be used:	Record keeping during CFL exchange process and monitoring of cross check households during crediting period.
Value of data applied for the purpose of calculating expected emission reductions in section B.5	To be filled by the implementer in the SSC-CPA.
Description of measurement methods and procedures to be applied:	The coordinating entity will keep records of each household participating in the project activity, including the number of project devices distributed. The ongoing operation of these CFLs will be checked at least annually in a sample of non-metered households.
QA/QC procedures to be applied:	The initial value of n_k will be determined through record keeping during the exchange of CFLs for incandescent lamps. At the time of the exchange with each household a record will be kept of the number and power of CFLs provided to them. This information will be stored in the project data management system (DMS). Each employee involved in the distribution of CFLs will be trained in the use of the DMS to ensure accurate record keeping. The DMS is able to track the number of CFLs distributed each day at each distribution point. In addition, supply and logistics record keeping procedures will ensure that data is kept on the number of CFLs provided to each distribution point. These two sources of information data will be used to cross check the number of CFLs distributed at each outlet. The DMS uses industry standard software, databases, infrastructure and back-up procedures to allow full auditability with the aim of ensuring long-term data integrity and security so that data is not misrecorded, overwritten or lost. Data entry occurs at point of CFL distribution to householders, with the full database stored at a central location. Data is verified in a timely manner at point of data entry to ensure valid and non-duplicate names and addresses, and a valid and accurate number and wattage of both incandescent bulbs replaced, as well as number and wattage of CFLs distributed, for each household. All data will be stored in the project DMS for at least two years after the

	crediting period or the last issuance of CERs, for this programme, whichever occurs later.
Any comment:	The number of CFLs distributed will be determined on a CPA by CPA basis.

Data / Parameter:	n_i
Data unit:	
Description:	Number of incandescent bulbs collected
Source of data to be used:	SSC-CPA implementer
Value of data applied for the purpose of calculating expected emission reductions in section B.5	To be filled by the implementer in the SSC-CPA.
Description of measurement methods and procedures to be applied:	The coordinating entity will keep records of each household participating in the project activity, including the number of incandescent bulbs collected and subsequently destroyed.
QA/QC procedures to be applied:	At the time of the exchange with each household a record will be kept of the number of incandescent bulbs replaced. This information will be stored in the project data management system (DMS). Each employee involved in the project will be trained in the use of the DMS to ensure accurate record keeping. The DMS uses industry standard software, databases, infrastructure and back-up procedures to allow full auditability with the aim of ensuring long-term data integrity and security so that data is not misrecorded, overwritten or lost. Data entry occurs at point of incandescent exchange with householders, with the full database stored at a central location. Data is verified in a timely manner at point of data entry to ensure valid and non-duplicate names and addresses, and a valid and accurate number and wattage of both incandescent bulbs replaced, as well as number and wattage of CFLs distributed, for each household. As per AMS.II.C. an independent auditor will be required to verify the collection and subsequent destruction of the incandescent bulbs. This will involve an independent verification of the total number of incandescent bulbs collected. All data will be stored in the project DMS for at least two years after the crediting period or the last issuance of CERs, for this programme, whichever occurs later.
Any comment:	The number of incandescent bulbs collected will be determined on a CPA by CPA basis, and is equivalent to the number of CFLs distributed.

Data / Parameter:	p_i
Data unit:	Watts
Description:	The power of the incandescent bulbs “i” replaced. In the case of a retrofit programme, p_i is the weighted average of the devices replaced.
Source of data to be used:	Nameplate data

Value of data applied for the purpose of calculating expected emission reductions in section B.5	To be filled by the implementer in the SSC-CPA.
Description of measurement methods and procedures to be applied:	The coordinating entity will keep records of each household participating in the project activity, including the wattage of incandescent bulbs collected and subsequently destroyed.
QA/QC procedures to be applied:	At the time of the exchange with each household a record will be kept of the power of incandescent bulbs replaced. This information will be stored in the project data management system (DMS). Each employee involved in the project will be trained in the use of the DMS to ensure accurate record keeping. Each employee involved in the project will be trained in the use of the DMS to ensure accurate record keeping. The DMS uses industry standard software, databases, infrastructure and back-up procedures to allow full auditability with the aim of ensuring long-term data integrity and security so that data is not misrecorded, overwritten or lost. Data entry occurs at point of incandescent exchange with householders, with the full database stored at a central location. Data is verified in a timely manner at point of data entry to ensure a valid and accurate number and wattage of incandescent bulbs replaced. All data will be stored in the project DMS for at least two years after the crediting period or the last issuance of CERs, for this programme, whichever occurs later.
Any comment:	

Data / Parameter:	p_k
Data unit:	Watts
Description:	The weighted average power of the CFLs “k” distributed.
Source of data to be used:	Nameplate data
Value of data applied for the purpose of calculating expected emission reductions in section B.5	To be filled by the implementer in the SSC-CPA.
Description of measurement methods and procedures to be applied:	The coordinating entity will keep records of each household participating in the project activity, including the wattage of CFLs distributed.
QA/QC procedures to be applied:	At the time of the exchange with each household, a record will be kept of the power rating of CFLs distributed. This information will be stored in the project data management system (DMS). Each employee involved in the project will be trained in the use of the DMS to ensure accurate record keeping. This information will also be cross-checked with supply data indicating the wattage

	of CFLs provided to each distribution point. The DMS uses industry standard software, databases, infrastructure and back-up procedures to allow full auditability with the aim of ensuring long-term data integrity and security so that data is not misrecorded, overwritten or lost. Data entry occurs at point of incandescent exchange with householders, with the full database stored at a central location. Data is verified in a timely manner at point of data entry to ensure a valid and accurate number and wattage of CFLs distributed for each household is recorded. All data will be stored in the project DMS for at least two years after the crediting period or the last issuance of CERs, for this programme, whichever occurs later.
Any comment:	The final wattages of CFLs distributed for each CPA will be determined by CPA implementer and documented in the CPA_DD.

Data / Parameter:	o_k
Data unit:	Hours
Description:	The average annual operating hours of CFLs "k" distributed.
Source of data to be used:	Periodic readings of monitoring equipment
Value of data applied for the purpose of calculating expected emission reductions in section B.5	3 hours
Description of measurement methods and procedures to be applied:	Electronic metering equipment installed in project sample group (PSG) households. This equipment will feed monitoring information back to a centralised database over the internet in real-time.
QA/QC procedures to be applied:	Monitoring equipment will be spot checked to ensure ongoing functionality and accurate calibration. The metering equipment is web-enabled allowing real-time collation of data. If irregularities are recorded with equipment or data, this will be registered immediately and corrective actions implemented to repair or re-calibrate metering equipment. If the internet connection fails during monitoring, data can be retrieved manually from meters. All data will be stored in the project DMS for at least two years after the crediting period or the last issuance of CERs, for this programme, whichever occurs later.
Any comment:	

Data / Parameter:	**CFL collection and recycling scheme**
Data unit:	N/A
Description:	The coordinating entity will work with government and non-government stakeholders to assist in the establishment of a national CFL collection and recycling scheme.

Source of data to be used:	Report from coordinating entity to the verifying DOE
Value of data applied for the purpose of calculating expected emission reductions in section B.5	N/A
Description of measurement methods and procedures to be applied:	The coordinating entity shall report to the verifying DOE on the establishment of a CFL collection and recycling scheme in the city or state that is the location of the SSC-CPA.
QA/QC procedures to be applied:	
Any comment:	

E.7.2. Description of the monitoring plan for a SSC-CPA:

>> AMS-II.C. stipulates that if the devices installed have a constant current (ampere) characteristics, monitoring shall consist of monitoring either the "power" and "operating hours" or the "energy use" of the devices installed using an appropriate method methodology. Appropriate methods include:

(a) 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.
OR
(b) Metering the "energy use" of an appropriate sample of the devices installed.

In either case, monitoring shall include annual checks of a sample of non-metered systems to ensure that they are still operating.

Based on this methodology, each SSC-CPA within the proposed PoA will use the following data sources and monitoring procedures to determine emission reductions:

Collection of Incandescent Nameplate Data
The number and power rating of all incandescent bulbs collected will be recorded. This information will be used to determine the weighted average power of baseline devices (p_i). Collection of nameplate data from all replaced equipment does not require a sampling procedure, as data on the entire baseline population will be collected. This data will be collected at the time of the distribution of CFLs and stored in the project data management system.

Collection of CFL Nameplate Data
The coordinating entity will keep a record of the number and power rating of the CFLs distributed during the project activity and use this to determine the weighted average power rating for the project devices (p_k).

Check that numbers of CFLs and incandescent bulbs correspond
As is required by PoAs applying AMS II.C, the number of CFLs distributed must correspond to the number of incandescent bulbs collected and scrapped. As is described in greater detail below, for each customer transaction, field teams will collect information on the number and wattage of incandescent

bulbs exchanged for CFLs and enter it into the data management system (DMS). Every incandescent bulb received, and every CFL provided will be recorded in the DMS. At the conclusion of the distribution process, the DMS will provide an accurate record of the total numbers of bulbs exchanged. In the unlikely event that there is a discrepancy between the numbers of CFLs and incandescent bulbs recorded in the DMS, the coordinating entity will use the lower of the two numbers so that a smaller total number of bulbs distributed is used for emission reduction calculations for that CPA.

Independent check of scrapped incandescent bulbs

As is required by the methodology, the coordinating entity will engage the services of an environmental audit firm to conduct independent verification of the scrapping of incandescent light bulbs collected during the distribution process. Incandescent bulbs collected during the distribution will be transported to a waste management company where scrapping will be conducted. All storage and destruction processes will be independently verified and the result of such process will be presented to the verifying DOE.

The process for undertaking this check will include:

- At least one physical spot check at a randomly selected retail store during the CFL distribution process to ensure that exchange procedures are being followed.
- On completion of the distribution process the independent verifier will conduct an inspection of the project database to ensure that electronic records have been correctly entered and that the number of CFLs distributed corresponds with the number of incandescent bulbs collected.
- A physical spot check will be conducted of incandescent bulbs prior to their destruction in order to satisfy the independent verifier that collection has been undertaken correctly. This check will not include counting of incandescent bulbs, as this is not realistic given the large number of incandescent bulbs being scrapped.
- The independent verifier will conduct at least one physical spot check of the scrapping of incandescent bulbs is undertaken to ensure that no leakage occurs.

The above process will be followed and a written report will be provided to the verifying DOE to demonstrate compliance with this aspect of the monitoring requirements.

Monitoring Use of Project Devices

Monitoring a sample of distributed CFLs to determine average hours of utilisation (o_k) or total energy consumption will be undertaken by installing metering equipment in households belonging to the Project Sample Group (PSG). The operating hours of monitored devices will be used to determine the energy baseline as per equations listed in E.6.2. above. In addition, the metering devices used by the project coordinator can simultaneously measure total electricity consumption of the CFLs. Where possible this measure will be used to determine the project energy consumption for each monitoring period.

The mean hours of use, or total energy use of light bulbs monitored in the PSG households will be directly extrapolated to all households involved in the PoA. The purpose of establishing the PSG is to create a *representative sample* of all other households participating in the efficient lighting initiative. It is not possible to monitor *all* households involved in a CPA or PoA, and it is a fundamentally agreed scientific and statistical procedure to apply mean values obtained through sampling to the broader population. Therefore, for each monitoring period a mean value will be obtained for energy used and baseline light bulb which will be extrapolated across the total number of bulbs operating during that monitoring period. This will be used in the calculations of project and baseline emissions as stipulated in the equations provided in section E.6.2. above.

Establishment of Project Sample Group (PSG)

The procedure to determine the sample of CFLs will ensure that they adequately represent the broader population, minimising sampling error. Given that participation in each SSC-CPA is voluntary, determination of the exact population of participating households prior to establishment of the PSG is not possible. In addition, because the coordinating entity cannot force households to participate in sample groups, the devices monitored in the resulting sample will be to a degree, self-selected rather than purely random. Despite these limitations the coordinating entity will work to ensure that devices sampled are representative of the broader population of measures in participating households.

A detailed description of the statistical methods used to select households for inclusion in the PSG is provided in Annex 7 ('CUIDEMOS Mexico PoA - Sampling Plan). This Annex also details strategies to manage sample group households over time to ensure their continued participation.

Establishment of Project Cross-Check Sample Group (PCCG)

A non-metered sample of CFLs installed in participating households will be surveyed at least annually to ensure continuing operation. As with the PSG, the Project Cross-Check Sample Group (PCCG) is likely to be self-selected rather than entirely random, however, the coordinating entity will work to ensure that, as much is feasible, checks cover a representative sample of households that received CFLs during the exchange period. The households included in the PCCG will be randomly selected from the database of participating households as described in Annex 7 "CUIDEMOS Mexico PoA - Sampling Plan". The result of this sampling will determine the proportion of the total number of devices still operating at the end of each monitoring period (n_k) which will be applied to the calculation of emissions reductions for that period. CFLs distributed under the PoA will be marked with a logo, or serial number to ensure that they can be unambiguously differentiated from other light bulbs installed in the PCCG households.

As discussed above, the results obtained from the sampling process will be directly extrapolated across the entire population of households participating in the PoA as described in Annex 7 "CUIDEMOS Mexico PoA - Sampling Plan". Therefore, the proportion of CFLs installed and continuing to function as determined through the household cross-check will be taken to be representative of the pattern occurring in all households. For example, if the cross-check survey at the end of a monitoring period reveals that 85% of the bulbs originally distributed to the sample households are still functioning, it will be extrapolated that 85% of *all* CFLs distributed are still functioning.

A detailed description of the statistical methods used to select households for inclusion in the PCCG is provided in Annex 7 ('CUIDEMOS Mexico PoA - Sampling Plan).

Determination of EF

As stipulated above, the emissions factor for electricity displaced from the grid relevant to the project boundary will be calculated in accordance with AMS-I.D. Data has been sourced from Mexican government agencies to ensure accuracy. A detailed description of the calculation of the emissions factor for the PoA is provided in Annex 12 ('CUIDEMOS Mexico – Emission Factor Calculation').

Data Management System

The coordinating entity will develop and manage a data management system (DMS) that will record all information relevant to project activities and monitoring, including:

- A list of households participating in the project, including information to identify households by name and address.

- A record of the incandescent bulbs (number and power) surrendered and replacement CFLs (number and power) provided to each participating household.
- A list of households included in the PSG, including information to identify households by name, address and date added to the sample group.
- The following data relating to monitored CFLs and monitoring equipment:
    - Identification number for each CFL
    - Type of monitoring equipment and date of installation
    - Confirmation at each spot check that monitoring equipment is functioning
    - Confirmation at each spot check that the monitored device is functioning
    - Utilization data (hours of use and/or electricity consumption)
- A list of households participating in PCCG and the results of periodic checks of non-metered CFLs. The proportion of devices still operating at the end of each monitoring period will be calculated from these cross-checks and entered into the DMS.

Monitoring Periods

Data will be collected for each monitoring period, and used to calculate emission reductions for that portion of the crediting period. The surveys of cross-check households to occur at least annually.

It is expected that the CFL distribution process for each CPA will take approximately 30 days. Given that households are requested to bring incandescent light bulbs from their home to exchange for CFLs, it is assumed that installation will occur on the same day as the exchange. However, the coordinating entity will take a conservative approach and will not count energy savings created by households exchanging and installing CFLs during the first 30 days of the CFL exchange period. This means that the first monitoring period will effectively commence 30 days after the start of the CFL distribution process. If the CFL distribution process takes longer than 30 days, bulb exchange data from the project DMS will be applied to determine pro-rata energy savings attributable to the period between day 30 of the campaign, and the conclusion of the distribution period. The coordinating entity is able to accurately determine the number of bulbs exchanged on a daily basis as each transaction is logged with a time and date. This data will be used to determine the cumulative number of bulbs installed and the energy savings attributable to any extended distribution phase (post day 30) of the first monitoring period. At the conclusion of the distribution process, the total number of CFLs exchanged will be known, and this number will be cross-checked through the household survey that occurs at the end of each monitoring period.

Annex 4

MONITORING INFORMATION

Monitoring information is provided in the following Annexes:

Annex 7 – CUIDEMOS Mexico PoA - Sampling Plan

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