

SMALL-SCALE CDM PROGRAMME ACTIVITY DESIGN DOCUMENT FORM  
(CDM-SSC-CPA-DD) - Version 01



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

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**NOTE:**

- (i) This form is for submission of CPAs that apply a small scale approved methodology using the provision of the proposed small scale CDM PoA.
- (ii) The coordinating/managing entity shall prepare a CDM Small Scale Programme Activity Design Document (CDM-SSC-CPA-DD)<sup>1,2</sup> 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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<sup>1</sup> The latest version of the template form CDM-CPA-DD is available on the UNFCCC CDM web site in the reference/document section.

<sup>2</sup> 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).



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

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

>> “Turbococinas”, rural cooking stove substitution program in El Salvador – CPA 1

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

>> CPA 1 includes 5,000 households based in the department of “La Libertad”, 980 households are based in the department of “La Libertad” or in another physically attached department, and it also includes 3,500 schools from around the country. CPA 1 includes public schools that are part of the program “Programa de Alimentación Escolar” (PAE) and the families of the program “Comunidades Solidarias Rurales” (CSR).

#### Size of a CPA:

The number of Turbococinas to be included in CPA 1 will be kept below the small scale limit; the threshold limit of the small-scale activity is 180 GWh of annual thermal energy savings.

#### Capacity buildings-schools:

The capacity building will take place in two sessions: an initial training and an on-site training in each of the schools that receive the Turbococina.

The initial training will be held at the municipal level, in schools that have been previously selected (in collaboration with MINED) in terms of their accessibility and suitability. The training sessions at the schools will be split into a morning and afternoon session. The director or the teacher, in charge of the PAE and two cooks from each school that are partaking in the project will participate. The training will be conducted by TECSA staff or by partner NGOs. Each trainer during the capacity building will be responsible for up to three to four schools, equivalent to between nine to twelve people. The trainers will be organized into teams of three to form sections with a maximum of between 27 to 30 students each. This is done by following the teaching scheme used by the Ministry of Education as part of the PAE.

The capacity building program has been developed between the Ministry of Education and TECSA, and for the current year, 2010, will take place during the initial months of the academic year, starting on the 11<sup>th</sup> of February at the Department of La Libertad and finishing in June, at the Department of Chalatenango. In the meantime, schools from another seven Departments will be trained.

The on-site training at each school will take place with all the mothers in charge of cooking at the school. This training will be 100% practical, focusing on the proper use and maintenance of the Turbococina. The schools also serve as a training and technology diffusion platform for households, since often the same mothers are responsible for cooking at the school as well as for the families that will also take part in the project.

#### Distribution-schools:

Once the Turbococinas are received from the manufacturing facility (currently in Spain), they will be stored, and assembled in the same warehouse used to store food for the PAE of the Ministry of Education. This will allow for the distribution of the Turbococina under the same procedure that is used by the PAE for food distribution, and it is done by companies who specialize in logistics and are registered with the PAE, and contracted by TECSA. These companies are responsible for delivering the Turbococinas to each distribution centre used by the PAE within each municipality, at a predefined date.

Directors of schools in each municipality are notified in advance to make sure that they will be present at the distribution centre on the day of delivery of the Turbococinas for schools. At the same time a contract



will be signed that the school has voluntarily adopted the kitchen and agrees to the proper use and maintenance of the Turbococina and the transfer of the carbon rights to SOTER/TECSA. Schools have been fully informed in advance of the contract during the initial capacity building.

### Capacity building-households

For the capacity building a similar scheme to the one used for the CSR program will be used, as it will be done either by TECSA staff or through NGOs working in cooperation with FISDL. The capacity building will take place in two sessions: an initial training session that will take place at the municipal level, and an on-site training in each of the households that receive the Turbococina, which will take place during the first monitoring visit.

SOTER/TECSA will either provide the training directly or utilize the services of the NGOs working in cooperation with FISDL. These NGOs have been previously identified by their participation in the trainings conducted by the “Comunidades Solidarias Rurales” program, and are therefore already registered in the service provider’s database of FISDL.

### Distribution-households

The distribution to households will be coordinated by TECSA with the support of FISDL, who is in charge of implementing the program for CSR. The same local distribution centres that are used by the CSR for the delivery of health and education bonds will be used.<sup>3</sup> The transportation of the Turbococinas from the warehouse where they are stored to these distribution centres is coordinated, in the same way as explained for the schools with the same logistics companies.

Beneficiary households previously trained, will be summoned to the distribution centre to receive their Turbococina and at the same time a contract will be signed that the household has voluntarily adopted the stove and agrees to the proper use and maintenance of the Turbococina and the transfer of the carbon rights to SOTER/TECSA. Households have been fully informed in advance of the contract during the initial capacity building.

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

>> “Tecnologías Ecológicas Centroamericanas S.A. de C.V.” (TECSA) and “Soter AG” will be responsible for implementing the 1.CPA “La Libertad”.

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

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

>> “Turbococinas”, rural cooking stove substitution program in El Salvador – CPA 1

##### **A.4.1.1. Host Party:**

>> El Salvador

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

<sup>3</sup> LOS DESAFÍOS DEL PROGRAMA DE TRANSFERENCIAS MONETARIAS CONDICIONADAS EN EL SALVADOR, RED SOLIDARIA, Tatiana Feitosa de Britto, Centro Internacional de Pobreza, 2008: <http://www.ipc-undp.org/pub/esp/IPCCountryStudy9.pdf>



>> The limit of CPA 1 is El Salvador. The 3,500 schools included in CPA 1 are part of the program “Programa de Alimentación Escolar” (PAE) and are spread around the country. The households included are mainly based in the department “La Libertad” (5,000), 980 households are based in the department “La Libertad” or in another physically attached department.

The department of “La Libertad” is limited in the north to the department of Chalatenango and to the north-east and east to the department of San Salvador. In the south-east it is limited to the departments of La Paz and San Salvador and in the south it is limited by the Pacific Ocean. To the south-west it is limited to the department of Sonsonate and by the Pacific Ocean. In the west it is limited to the department of Sonsonate, whilst in the north-west it is limited to the department of Santa Ana.

Coordinates of “La Libertad” department:

Norte: 14° 3' 48"N

Sur: 13° 25' 11"N

Este: 89° 8' 17"W

Oeste: 89° 37' 31"W



The department measures 1652.88 km<sup>2</sup>, which corresponds to each municipality as follows: Antiguo Cuscatlán 19.41 km<sup>2</sup>; Ciudad Arce 86.76 km<sup>2</sup>; Colón 84.05 km<sup>2</sup>; Comasagua 75.05 km<sup>2</sup>; Chitiupán 96.66 km<sup>2</sup>; Huizucar 44.33 km<sup>2</sup>; Jayaque 47.53 km<sup>2</sup>; Jicalapa 42.93 km<sup>2</sup>; La Libertad 162.00 km<sup>2</sup>; Nuevo Cuscatlán 15.6 km<sup>2</sup>; Nueva San Salvador 112.20 km<sup>2</sup>; Quezaltepeque 125.38 km<sup>2</sup>; Sacacoyo 25.22 km<sup>2</sup>; San José Villanueva 32.52 km<sup>2</sup>; Opico 218.94 km<sup>2</sup>; San Matías 52.53 km<sup>2</sup>; San Pablo Tacachico 129.48 km<sup>2</sup>; Tamanique 59.04 km<sup>2</sup>; Talnique 29.72 km<sup>2</sup>; Teotepeque 109.67 km<sup>2</sup>; Tepecoyo 61.14 km<sup>2</sup> and Zaragoza 22.71 km<sup>2</sup>.<sup>4</sup>

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

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

>> The distribution of the “Turbococinas will start on February 15th, 2010; the first capacity building will start one week before this date.

Starting date: March 1st, 2010

<sup>4</sup> <http://www.metabase.net/docs/ugb/01767.html>

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

>> 10 years

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

Fixed crediting period

**A.4.3.1. Starting date of the crediting period:**

>> 10th of March 2010.

**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:**

>> 360.164 tCO<sub>2</sub>-e for a 10 year crediting period.

Date	Year	Households (total)	Schools (total)	Annual estimation of emission reductions in tonnes of CO <sub>2</sub> -e
2011	1	1500	500	7.991
2012	2	5980	3500	39.130
2013	3	5980	3500	39.130
2014	4	5980	3500	39.130
2015	5	5980	3500	39.130
2016	6	5980	3500	39.130
2017	7	5980	3500	39.130
2018	8	5980	3500	39.130
2019	9	5980	3500	39.130
2020	10	5980	3500	39.130
<b>Total estimated emission reductions (tonnes CO<sub>2</sub>-e)</b>				<b><u>360.164</u></b>
<b>Total number of crediting years</b>				10
<b>Annual average over crediting period of estimated reductions (tonnes CO<sub>2</sub>-e)</b>				36.016

**A.4.5. Public funding of the CPA:**

>> The SSC-CPA will not involve any public funding.

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

>> All CPA included under this PoA will be exempt from the de-bundling check as all types of the Turbococina devices represent energy savings far less than 1% of the small scale threshold defined by the



methodology AMS II.G. This is based on the clarification from EB 47: “If each of the independent subsystems/measures (e.g. biogas digester, solar home system) included in the CPA of a PoA is no greater than 1% of the small scale thresholds defined by the methodology applied, than that CPA of PoA is exempted from performing de-bundling check i.e. considered as being 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:**

>> No other CPA or CDM project involving the distribution and/or installation of the efficient cooking stove “Turbococina”, and relating to Energy efficiency measures in thermal applications of non-renewable biomass, is already registered and operating in the same specific physical geographical area.

**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:**

>> “Turbococinas”, rural cooking stove substitution program in El Salvador

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

>> A typical SSC-CPA will be eligible for inclusion in the PoA if it meets each of the criteria outlined in section A.4.2.2. of the SSC-PoA-DD. Those criteria are as follows:

- Each SSC-CPA will involve the distribution and installation of the efficient cooking stove Turbococina, within the geographical boundary of El Salvador.
- Each SSC-CPA must implement the baseline and monitoring methodology AMS II.G. “Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass - Version 02”.
- All Turbococinas are given free of charge to final users, which have previously participated in an initial training session, and have voluntarily agreed to participate in the project. The coordinating entity / project participants do not get other revenues except the revenues as a result of carbon credits.

**Limit of the Small-Scale Activity CPA**

The threshold limit of the small-scale activity is 180 GWh annual thermal energy savings; no CPA will exceed this limit. Thermal energy savings of efficient stoves are calculated by multiplying the annual biomass savings of each efficient stove with the calorific value of fuel wood:

Thermal Energy Savings =  $B_{y,savings} \times NCV_{biomass}$

$B_{y} \times (1 - \eta_{old} / \eta_{new}) \times NCV_{biomass}$

Household

=  $4.66t (1 - 0.10 / 0.83) \times 4167 \times 10^{-6} \text{GWh/t}$

= 0.0170786 GWh

School

=  $6.05t (1 - 0.10 / 0.83) \times 4167 \times 10^{-6} \text{GWh/t}$

= 0.0221729 GWh

Where:

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By Quantity of woody biomass used in the absence of project activity in tonnes  
 $\eta_{old}$  Efficiency of the system being replaced (0.1)  
 $\eta_{new}$  Efficiency of the system being deployed as part of the project activity (0.83)

$NCV_{biomass}$  Net calorific value of the non-renewable biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne, corresponding to 4167 kWh/t)

The maximum number of efficient stoves eligible to be operational in any year during the project activity is therefore limited to  $180GWh/0.0170786 GWh = 10,539$  households and to  $180GWh/0.0221729 GWh = 8,118$  schools. As part of monitoring program it will be ensured that the total energy saved through efficiency gains by the stoves installed under the project will not exceed 180 GWh for any year of the crediting period. According to the information regarding stove efficiency available at validation, the approximate number of stoves that may be installed and operated at once are 5,980 (equivalent to 102GWh) households and 3,500 (equivalent to 77.6GWh) schools.”

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

>> Under this PoA, the PPs have opted for the demonstration of additionality at the PoA level. This CPA is hence exempt from demonstration of additionality.

**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 limit of the CPA 1 is El Salvador. The schools that takes place of the CPA 1 are part of the program “Programa de Alimentación Escolar” (PAE) and spread over the country. The households included are mainly based in the department “La Libertad” further households are based in the department “La Libertad” or in another physically attached department  
 The following GHG will be included in the project boundary:

	Source	Gas	Included	Justification / Explanation
Baseline	Cooking, production of fuel, and transport of fuel	CO <sub>2</sub>	Yes	Important source of emissions
		CH <sub>4</sub>	No	Minor Source
		N <sub>2</sub> O	No	Minor Source

	Source	Gas	Included	Justification / Explanation
Project	Cooking, production of fuel, and transport of fuel	CO <sub>2</sub>	Yes	Important source of emissions
		CH <sub>4</sub>	No	Minor Source
		N <sub>2</sub> O	No	Minor Source

**B.5. Emission reductions:**

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

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<b>Data / Parameter:</b>	$\eta_{old}$
Data unit:	Fraction
Description:	Efficiency of the system being replaced
Source of data used:	IPCC default value
Value applied:	0.10 <sup>5</sup>
Justification of the choice of data or description of measurement methods and procedures actually applied :	IPCC default value.
Any comment:	

<b>Data / Parameter:</b>	$f_{NRB,y}$
Data unit:	Fraction
Description:	The fraction of overall fuel wood consumption extracted on a non-renewable basis in year y, i.e. fraction of non-renewable woody biomass saved by the project.
Source of data used:	Spatial analysis of fuel wood supply/demand imbalances in El Salvador 2007.
Value applied:	Each department or CPA has a different % of non-renewable biomass used.
Justification of the choice of data or description of measurement methods and procedures actually applied :	See PoA-DD, E.6.1., Step 3: Determination of the Share of Non-Renewable Biomass.
Any comment:	

<b>Data / Parameter:</b>	$NCV_{biomass}$
Data unit:	TJ t <sup>-1</sup>
Description:	Net calorific value of the non-renewable biomass that is substituted.
Source of data used:	IPCC default for wood fuel (Table 1.2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories).
Value applied:	0.015 TJ t <sup>-1</sup>
Justification of the choice of data or description of measurement methods and procedures actually applied :	IPCC default value.
Any comment:	

<b>Data / Parameter:</b>	$EF_{projected\ fossilfuel}$
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<sup>5</sup> Annex 18 - AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass (version 02)

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Data unit:	tCO <sub>2</sub> /TJ
Description:	Quantity of biomass that is substituted or displaced in tonnes.
Source of data used:	IPCC default for liquefied petroleum gas (Table 2.5: 2006 IPCC Guidelines for National Greenhouse Gas Inventories).
Value applied:	63.0 tCO <sub>2</sub> /TJ
Justification of the choice of data or description of measurement methods and procedures actually applied :	Liquefied petroleum gas (LPG) is the most commonly used fossil fuel for residential cooking in El Salvador. IPCC default value.
Any comment:	

<b>Data / Parameter:</b>	<b>B<sub>y</sub></b>
Data unit:	Tonnes per year (t yr <sup>-1</sup> )
Description:	Quantity of biomass that is substituted or displaced by introduction of Turbococina.
Source of data to be used:	Sample survey for determining household and school fuel wood consumption.
Value of data	Schools: 6.05 t school <sup>-1</sup> yr <sup>-1</sup> Homes: 4.66 t hh <sup>-1</sup> yr <sup>-1</sup>
Justification of the choice of data or description of measurement methods and procedures actually applied :	$B_{y,savings} = B_y \cdot \left(1 - \frac{\eta_{old}}{\eta_{new}}\right)$ <p>B<sub>y</sub>: See E.6.1., Step 1, the provided results are used.                      For η<sub>old</sub>: the default value 0.10 is used                      For η<sub>new</sub>: The Efficiency of the system being deployed as part of the project activity (fraction) will be monitored</p>
Any comment:	

<b>Data / Parameter:</b>	
Data unit:	η <sub>new</sub>
Description:	Efficiency of the Turbococina
Source of data to be used:	Water-Boiling Test for every year of operation.
Value of data	83%
Justification of the choice of data or description of measurement methods and procedures actually applied :	See PoA-DD, E.6.1., Step 2: Determination of the efficiency of the replaced and the deployed system for calculation of biomass savings.
Any comment:	

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

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**ER-Calculation for the first year of the CPA 1:**

	Unit	Tcs 1 Househ.(La Libertad)	Tcs 1 Househ.(La Libertad or other Dep)	Tcs 2 Schools
Number of stoves operating	N	1500	0	500
Average annual biomass consumption per stove	t/a	4.66	4.66	6.05
Quantity of biomass used in the absence of the project ( $B_v$ )	t/a	6,990.00	0.00	3,025.00
Efficiency of the system being replaced ( $\eta_{old}$ )		0.1	0.1	0.1
Efficiency of the system being deployed ( $\eta_{new}$ )		0.83	0.83	0.83
Quantity of biomass that is saved ( $B_{vsavings}$ )	t/a	6,147.83	0.00	2,660.54
Fraction of biomass saved (non-renewable) ( $f_{NRB,y}$ )		0.96	0.96	0.96
Net calorific value of the non-renewable biomass ( $NCV_{biomass}$ )	TJ/t	0.015	0.015	0.015
Emission factor of the substitution of non-renewable biomass ( $EF_{projected\_fossilfuel}$ )	tCO <sub>2</sub> /TJ	63	63	63
Emission reductions during the year y ( $ER_y$ )	tCO <sub>2</sub>	5,577.31	0.00	2,413.64
<b>TOTAL</b>			7,991	

The average of the fraction of biomass saved was used for the second and third column of the calculation, since it is not defined by where these households and schools will be exactly located. The first column refers to the households implemented in “La Libertad”, therefore the  $f_{NRB,y}$  specific value is used.

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

>>

Year	Estimation of project activity emissions (tonnes of CO <sub>2</sub> e)	Estimation of baseline emissions (tonnes of CO <sub>2</sub> e)	Estimation of leakage (tonnes of CO <sub>2</sub> e)	Estimation of overall emission reductions (tonnes of CO <sub>2</sub> e)
Year 2010	0	0	0	7,991
Year 2011	0	0	0	39.130
Year 2012	0	0	0	39.130
Year 2013	0	0	0	39.130
Year 2014	0	0	0	39.130
Year 2015	0	0	0	39.130
Year 2016	0	0	0	39.130
Year 2017	0	0	0	39.130
Year 2018	0	0	0	39.130
Year 2019	0	0	0	39.130
<b>Total (tonnes of CO<sub>2</sub> e)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>360.164</b>

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

**B.6.1. Description of the monitoring plan:**

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>> As per AMS II.G version 02.

- Monitoring shall consist of an annual check of efficiency of all appliances, or a representative sample thereof, to ensure that they are still operating at the specified efficiency ( $\eta_{\text{new}}$ ) or replaced by an equivalent in-service appliance. Where replacements are made, monitoring shall also ensure that the efficiency of the new appliances is similar to the appliances being replaced.
- In order to assess the leakages specified, monitoring shall include data on the amount of woody biomass saved under the project activity that is used by non-project households/users (who previously used renewable energy sources). Other data on non-renewable woody biomass use required for leakage assessment shall also be collected.
- Monitoring shall ensure that:
  - Either the replaced low efficiency appliances are disposed off and not used within the boundary or within the region; or
  - If the baseline stoves usage continues, monitoring shall ensure that the wood fuel consumption of those stoves is excluded from  $B_y$ , in equation 2.

As per the CDM, only emission reductions that are monitored and verified can be claimed, therefore, a statistical based sampling will be carried out before each verification. This will incorporate monitoring the percentage of stoves in use. Sample size will be chosen for a 90/10 precision (90% confidence interval and 10% margin of error); in the case where survey results indicate that 90/10 precision is not achieved the lower bound of a 90% confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts to achieve a 90/10 precision.

As two possible outcomes exist (cookstove being used vs. abandoned), and “trials” are statistically independent, the normal approximation interval, as the simplest and most commonly used formula will be used. Worth noting is that the binomial distribution is approximated with a normal distribution, justified by the central limit theorem:

$$n = \left[ \frac{z_{\alpha/2} \sqrt{p(1-p)}}{E} \right]^2$$

Where n is the sample size needed,  $z_{\alpha/2}$  is equal to 1.645 following AMS.II requirements (90/10 precision); p is the proportion of cookstoves being used, conservatively 0.5 if no previous pilot study is available<sup>6</sup>; and E is equal to 0.1 following AMS.II requirements (90/10 precision).

The survey will also ensure due to the WBT that the stoves are all operating to the specified efficiency and where replacements are made the efficiency of the replacement stove is similar to the stove being replaced. The monitoring data and information is archived for at least 2 years after the end of the actual crediting period or the last issuance of CERs for the project activity whichever comes later (please see Annex 3 Sampling Plan).

#### Responsibility

The overall monitoring will be managed and conducted by TECSA and their monitoring staff. They will ensure successful monitoring of the emission reductions of the proposed project during its crediting period.

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<sup>6</sup> When p=0.5 the value of p(1-p) -and so of n- is maximized.



### Monitoring Periods

Data will be collected for each monitoring period, and used to calculate emission reductions for that portion of the crediting period. The length of each monitoring period will not exceed one year, furthermore double-checks of households and schools will occur at least annually.

### Data Management System

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

- A list of households and schools participating in the project, including information to identify households and schools by GPS, name and address, phone number as well as the serial number of the Turbococina.
- A record of the dispatch of the Turbococina to each participating household and school.
- A list of households and schools included in the Project Sample Group (PSG), including information to identify households and schools by GPS coordinates, name, address and date added to the sample group as well as the serial number of the Turbococina
- The following data are monitored:
  - Number of installed Turbococina
  - Efficiency of the Turbococina due to the water boiling test

The project implementation will start in March 2010. TECSA will provide an accurate record of the total number of distributed Turbococinas and contracts will be signed by the project participants. After having completed the initial training and distribution of the Turbococinas in schools and households, the monitoring and maintenance phase starts. As part of the monitoring, staff of TECSA will conduct a physical visit on site in the first year after installation of all the Turbococina in schools and households, to verify the proper use and maintenance of the Turbococinas and to register the GPS coordinates for unique identification. Furthermore, during each monitoring visit a digital picture of the installed Turbococina will be taken by the staff of TECSA. Each verification mission and its results will be recorded in the central database and a draft report of the initial monitoring will be done.

Based on the results received during the initial monitoring of all Turbococinas in the schools and households in the first year of operation, the representative sample group is calculated for the ongoing monitoring of  $N_y$ .

The Turbococina is an industrial product with constant quality, made of stainless steel and a lifetime of at least 25 years. To confirm the quality, the efficiency of the Turbococina appliance will be measured by repeating the water boiling test every year, and for each year of operation (i.e. after one year, a one year old stove will be tested, after two years a one year and a two year old stove will be tested, etc.). The value obtained for every year of operation will be used for the calculation of emission reductions of the systems in the respective year of operation.

The water boiling test (WBT) is carried out every year. This information will also be duly registered in the database and form part of the annual monitoring report.

In the case that performance problems of the Turbococina have been identified during the first year of operation, TECSA will send their maintenance staff to fix the problem on site or if necessary to replace the equipment. From the second year on, insurance for maintenance will be offered to each school or household for \$ 10 annually, covering minor and major repairs. In the case of theft, TECSA will be

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responsible to provide the replacement of a new Turbococina at cost, which must be assumed by the respective school or household.

QA/QC procedures to be applied

Telephone verification will be done in 80% of the schools and households of the established sample group to double-check if the installed Turbococina continues to operate or if there are any problems, which will be duly recorded in the central database, as well as the corrective measures undertaken (if any).

As part of the yearly monitoring the GPS-coordinates of the sampled school or household are taken. This is also an internal check of the TECSA staff, responsible for the monitoring data.

**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:**

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

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

>> N/A

**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:**

>> N/A

**SECTION D. Stakeholders' comments**

>>

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

X  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

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**Annex 1**

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

Organization:	TECNOLOGIAS ECOLOGICAS CENTROAMERICANAS SA DE CV
Street/P.O.Box:	Las Palmas 219
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Country:	El Salvador
Telephone:	+503 2223-1103
FAX:	
E-Mail:	Diego.salcedo@turbotecs.com
URL:	www.turbotecs.com
Represented by:	Diego Salcedo
Title:	Board Member
Salutation:	
Last Name:	Salcedo
Middle Name:	
First Name:	Diego
Department:	
Mobile:	+503 7830-5065
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State/Region:	
Postfix/ZIP:	
Country:	
Telephone:	
FAX:	
E-Mail:	
URL:	
Represented by:	
Title:	
Salutation:	
Last Name:	
Middle Name:	
First Name:	
Department:	
Mobile:	

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Direct FAX:	
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Personal E-Mail:	

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E-Mail:	
URL:	
Represented by:	Juan Alfonso Cardenal Gistau
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Salutation:	
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Direct FAX:	
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Personal E-Mail:	juanalfonsocardenal@yahoo.es

**Annex 2**

**INFORMATION REGARDING PUBLIC FUNDING**

**Annex 3**

**BASELINE INFORMATION**

**Annex 4**

**MONITORING INFORMATION**

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