Monitoring report form

(Version 05.1)

MONITORING REPORT		
Title of the project activity	Distribution of Energy Savings Lamps in Madagascar – Project 1	
Gold Standard reference number of the project activity	GS1334	
Version number of the monitoring report	2.0	
Completion date of the monitoring report	07/03/2016	
Monitoring period number and duration of this monitoring period	Period: 1 Duration: 01/01/2015 – 31/12/2015	
Project participant(s)	- WWF MWIOPO (World Wide Fund for Nature Madagascar & Western Indian Ocean Program Office) - WWF Switzerland - Foundation myclimate	
Host Party	Madagascar	
Sectoral scope(s)	Energy efficiency, type “Relighting”	
Selected methodology(ies)	AMS-II.J Demand-side activities for efficient lighting technologies, Version 04 Tool to calculate the Emission Factor for an electricity system, V03.0.0	
Selected standardized baseline(s)	N.A.	
Estimated amount of GHG emission reductions or net GHG removals by sinks for this monitoring period in the registered PDD	9,393 tCO2e	
Total amount of GHG emission reductions or net GHG removals by sinks achieved in this monitoring period	GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012	GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards
	0	6,929 tCO2e

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

a) The project is the distribution of around 540,000 high quality CFLs (Compact Fluorescent Lamps) to grid-connected households in the city of Antananarivo in Madagascar to replace inefficient ICLs (Incandescent Lamps). Further, the project aims at moving towards the establishment of a regulatory framework promoting good quality lamps at an affordable price on the market. Efficient lamps reduce domestic electricity consumption from the grid and in this way they reduce CO2 emissions from thermal power plants in Madagascar.

b) The technology installed is a 14-Watts self-ballasted compact fluorescent lamp with a rated lifetime of 10,000 hours.

c) The CFLs were sold to household at a subsidized price during the period Sept 2013 to Dec 2014.

d) Total GHG emissions reductions achieved during the first monitoring period are **6,929 tCO2e**

A.2. Location of project activity

>> City of Antananrivo and its surroundings, Analamanga Province, Madagascar

A.3. Parties and project participant(s)

Party involved ((host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Indicate whether the Party involved wishes to be considered as project participant (yes/no)
Madagascar (host)	Private Entity - WWF MWIOPO (World Wide Fund for Nature - Madagascar & Western Indian Ocean Program Office)	No
Switzerland (Annex 1)	Private Entity - WWF Switzerland	No
Switzerland (Annex 1)	Private Entity - Foundation myclimate	No

A.4. Reference of applied methodology and standardized baseline

>> This project applies the methodology AMS II.J “Demand-side activities for efficient lighting technologies, Version 04”.

Furthermore, for calculation of grid emission factor the “Tool to calculate the Emission Factor for an electricity system, V03.0.0” was used.

A.5. Crediting period of project activity

>> Fixed crediting period of 10 years.

A.6. Contact information of responsible persons/entities

Tobias Hoeck, Foundation myclimate
Solo Thierry Randriamanalina, WWF MWIOPO (World Wide Fund for Nature - Madagascar & Western Indian Ocean Program Office)
For details see Appendix 1.

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

Distribution of CLFs: The CFL distribution officially kicked off on 23 September 2013. Various dissemination approaches were implemented including fixed distribution points in JIRAMA's[1] offices, distribution campaigns in different areas of the city, special distribution operation for companies' employees, and door-to-door sale at household level. A total of 125 volunteers and distribution agents were mobilized to conduct the CFL distribution. Thanks to the combined distribution approaches 518,248 CFLs have been sold to 128,598 households by the end of December 2014.

Awareness campaigns: The communication strategy that was tested during the pilot was refined to reflect the lessons learned. A press conference was organized on 16 September 2013 to announce the start of the CFL distribution campaign. A national communication campaign including both media and non-media intervention was implemented at the start and during the distribution campaign. Communication tools included: TV and radio spots, 4x3m street ads, posters for exchange spots and flyers, TV and radio interviews. TV and radio spots were also aired to announce the end of the distribution campaign.

Collection and destruction of ICL: As required by the applied methodology, the collected incandescent lamps were destroyed in April 2015. The ICLs have been crushed with a steamroller. The destruction of the ICLs has been documented on a time-stamped video. The video can be accessed via the following link:
https://www.dropbox.com/s/pni7jaxt4yoto1a/MP4%20Destruction%20Lumitsits.mp4?dl=0

Recycling of CFLs: For the collection and recycling of CFLs waste materials, a feasibility study was conducted and the results were presented and discussed with stakeholders during a roundtable on 09 June 2015. Following the presentation a core group led by the Ministry of Energy was identified. For the collection a combination of voluntary deposit at mobile collection bins and door-to-door collection scenario was selected by the stakeholders. These approaches will be tested beforehand. The use of a compact integrated device has been identified as the most feasible solution for the recycling of CFLs at the lowest cost. This is a small device, called "bulb eater" that can extract mercury from different types of CFLs. The output is clean and can be landfilled or recycled. A detailed analysis has also been conducted to further refine the collection and treatment scenario. Partnerships will be established with the authority in charge of the landfill and with the associations in charge of the collection of wastes.

Regulatory framework: Following a series of round tables that have been organized from 09-11 June 2015, advancements have been initiated on the establishment of standards and regulations on lighting in Madagascar, including the definition of an ambitious action plan. A Standardization Technical Committee, led by the National Bureau of Standards, was created in August 2015 to set Minimum Energy Performance standards on lighting technologies. In November 2015 the Ministry of energy has officially announced that there will soon be a ban on incandescent lightbulbs. At the time we are writing this report, the Ministry in charge of Energy, in collaboration with WWF, is working on a decree announcing the upcoming ban on the importation and selling of non-approved lamps including inefficient lamps (incandescent lamps, some types of halogen) on a given date. A statutory application detailing the decree implementing rules will then be developed by the Ministry in charge of Energy.

[1] Stands The National utility provider. A partner of the CFL distribution project.

B.2. Post-registration changes

B.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline

>> none

B.2.2. Corrections

>> none

B.2.3. Changes to start date of crediting period

>> The crediting period starts after dissemination of all project CFLs have been completed. Distribution of CFLs was completed by end of 2014. The start date of the crediting period is 01/01/2015.

B.2.4. Inclusion of a monitoring plan to the registered PDD that was not included at registration

>> none

B.2.5. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline

>> none

B.2.6. Changes to project design of registered project activity

>> none

B.2.7. Types of changes specific to afforestation or reforestation project activity

>> N.a.

SECTION C. Description of monitoring system

Distribution of CFLs:

There were three distribution strategies that were adopted during the distribution.

- The first one is the "pull strategy" where customers come to one of the distribution points to exchange their ICLs into the project's CFLs. Each household must bring along the latest electricity bill (issued by JIRAMA) and the national identity card to the nearest distribution point (TELMA Shop or JIRAMA's office). Then, the agent register name and JIRAMA customer in the database using a software that was specially designed for the project. This procedure allows the unique identification of each household participating in the project and to record number and wattage of ICL that are replaced with project CFLs. Every time a household wishes to hand in ICL in exchange for project CFLs and information is entered in the database, it is automatically checked by the system if this household has already received CFLs and if yes how many. Once the maximum number of ICL to be exchanged by each household has been reached, the system does no more allow the exchange of further lamps.
- The second is a proximity strategy were distribution points are made available nearer to the customers. The recording and data entry is the same as in the first strategy.
- The third strategy is a door-to-door approach, which consisted of going directly into the households and exchanging their ICLs into CFLs. First, the distribution agents check that

the households have working and installed ICLs and are willing to make the exchange of lamps. After, the JIRAMA's unique identifier, the household's responsible identification card information, the number of ICLs to be exchanged with their wattages and the price are recorded in a sheet of paper. A hand-written receipt is then given to the household with the CFLs. The information is recorded in the database with the software afterwards. In order to make sure that the information that is entered is accurate, a supervisor systematically checks the recorded data and compares it to the hand-written record.

Monitoring survey:
The project coordinator was in charge of the monitoring survey. The monitoring consisted of a questionnaire survey of a randomly selected sample of 206 users of the distributed CFLs. The survey was conducted from the 20th of May to 01st June 2015. 11 enumerators were recruited and trained by the project coordinator. In order to ensure the quality of the collected data, the supervisor followed randomly each enumerator. About 20% of the surveyed people were also chosen randomly and called in order to check if the enumerators really went into their house and asked the appropriate questions. No substantial anomaly was detected.[2] The data was recorded using Google form during the same period of the survey. The recorded data was checked by the supervisor.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Data/parameter:	**$P_{i,PJ}$**
Unit	Watts
Description	Rated power of the project lighting devices of the group of "i" lighting devices (Watts)
Source of data	Lamp specifications from CFL supplier/ Lab Test Report for project CFL
Value(s) applied)	14W
Choice of data or measurement methods and procedures	N.A.
Purpose of data	For ER calculation
Additional comments	There is only one type of project CFL distributed.

Data/parameter:	**O_i**
Unit	Hours per 24hrs period
Description	Operating hours of the project and baseline lamps per 24hrs period
Source of data	AMS-II.J, page 3.
Value(s) applied)	3.5
Choice of data or measurement methods and procedures	Default value as per Option 1 in paragraph 11. (ii) on page 3 of the applied methodology AMS-II.J.
Purpose of data	For ER calculation
Additional comments	This value is fix for the entire crediting period.

Data/parameter:	**NTG**

[2] Some incomplete forms where found and the information was completed by calling the surveyed households

Unit	Fraction
Description	Net-to-gross adjustment factor
Source of data	AMS-II.J, V04, page 4
Value(s) applied)	0.95
Choice of data or measurement methods and procedures	Default value as per applied methodology
Purpose of data	ER calculation
Additional comments	None

Data/parameter:	**TD_i**
Unit	Fraction
Description	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
Source of data	AMS-II.J, V04, page 4
Value(s) applied)	0.1
Choice of data or measurement methods and procedures	Default value as per applied methodology
Purpose of data	ER calculation
Additional comments	None

Data/parameter:	**L_i**
Unit	Hours
Description	Average Life (or Rated Average Life until average life value is available) for equipment type i (hours)
Source of data	Manufacturer information
Value(s) applied)	10,000
Choice of data or measurement methods and procedures	Rated average life as per manufacturer information
Purpose of data	ER calculation
Additional comments	None

Data/parameter:	**R_i**
Unit	%
Description	% of lamps of type i operating at the end of average life or the rated average life (use a value of 50)
Source of data	AMS-II.J, V04, page 5
Value(s) applied)	50%
Choice of data or measurement methods and procedures	Defaults value as per applied methodology
Purpose of data	ER calculation
Additional comments	None

Data/parameter:	**X_i**
Unit	Hours

Description	Number of operating hours per year for equipment type i (hours)
Source of data	AMS-II.J, V04, page 5
Value(s) applied)	1277.5 hours
Choice of data or measurement methods and procedures	Xi = Oi x 365 = 3.5 x 365 = 1277.5 hours
Purpose of data	ER calculation
Additional comments	None

Data/parameter:	**$EF_{CO2,ELEC,y}$**
Unit	tCO2/MWh
Description	Grid emission factor in year y
Source of data	Calculated in files: - 130604_GEF_Madagascar_Report_V01.pdf - 111220_GEF_Madagascar_V01.xlsx - 111220_Antananarivo_lambda.xlsx
Value(s) applied)	0.589
Choice of data or measurement methods and procedures	Value was calculated according to the "Tool to calculate the Emission Factor for an electricity system, V03.0.0".
Purpose of data	ER calculation
Additional comments	The grid emission factor is calculated ex-ante and fix for the entire crediting period.

D.2. Data and parameters monitored

Data/parameter:	**$Q_{PJ,I}$**
Unit	Number (quantity)
Description	Number (quantity) of pieces of equipment (CFLs) of type i distributed or installed under the project activity (units).
Measured/calculated/default	Measured
Source of data	Project's sale database and results of first ex-post monitoring survey
Value(s) of monitored parameter	518,248 sold according to sales database 434,292 installed according to first ex-post monitoring survey
Monitoring equipment	Sales software and monitoring questionnaires
Measuring/reading/recording frequency:	Continuous during sales
Calculation method (if applicable):	Number of CFLs sold as per project's sale database adjusted with percentage of CFLs installed and operating based on results of first ex-post monitoring survey.
QA/QC procedures:	Following generic instructions for conducting surveys and sampling as per paragraph 20 of applied methodology.
Purpose of data:	ER calculation
Additional comments:	None

Data/parameter:	**$P_{i,BL}$**
Unit	Watts
Description	Rated power of the baseline lighting devices of the group of "i" lighting devices (Watts)

Measured/calculated/default	Measured
Source of data	Project's sale database: power rating of all functional ICL handed in for exchange of a project CFL are recorded in the sale database.
Value(s) of monitored parameter	25 W: 0.6% 40 W: 20.5% 60 W: 35.3% 75 W: 31.5% 100 W: 12.1%
Monitoring equipment	Sales software
Measuring/reading/recording frequency:	Continuous during sales
Calculation method (if applicable):	Reading the value of rated power as marked on the ICL. Wattage of ICL is recorded in the sale database.
QA/QC procedures:	Training of staff on proper use of sales database and of handling and testing of ICL.
Purpose of data:	ER calculation
Additional comments:	None

Data/parameter:	**LFR_y**
Unit	Fraction
Description	Lamp Failure Rate for equipment type i in year y (fraction)
Measured/calculated/default	Measured
Source of data	Ex-post monitoring surveys
Value(s) of monitored parameter	<table><tr><td>y</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>LFR</td><td>7.2%</td><td>14.4%</td><td>21.6%</td><td>28.8%</td><td>36%</td><td>43.2%</td></tr></table>
Monitoring equipment	Survey questionnaire
Measuring/reading/recording frequency:	Once every 3 years
Calculation method (if applicable):	LFR is the percentage of project CFLs not found operational during the surveys compared to total number of CFLs installed. Linear extrapolation of LFR based on first ex-post monitoring survey results.
QA/QC procedures:	Following generic instructions for conducting surveys and sampling as per paragraph 20 of applied methodology.
Purpose of data:	ER calculation
Additional comments:	None

Sustainability indicators:

Data/parameter:	**SD 1: Recycling/disposal of CFLs**
Unit	%
Description	Percentage of failed/returned CFLs recycled or disposed
Measured/calculated/default	Measured
Source of data	WWF records
Value(s) of monitored parameter	0% CFLs have not yet been returned or disposed.
Monitoring equipment	CFL tracking records
Measuring/reading/recording frequency:	Annually

Calculation method (if applicable):	Failed CFLs will be collected in the collection points in JIRAMA and transported regularly for recycling or disposal.
QA/QC procedures:	Accurate data recording
Purpose of data:	Ensure sustainability
Additional comments:	None

Data/parameter:	**SD 1: Option for recycling or disposal of CFL**
Unit	Option 1-3
Description	Option 1: Build up a CFL recycling facility in Madagascar Option 2: Identify a recycling facility abroad and export failed CFLs for recycling. Option 3: Environmentally safe and permanent disposal of CFLs with special attention to mercury.
Measured/calculated/default	N.A.
Source of data	WWF Madagascar
Value(s) of monitored parameter	Option 1 is chosen: The recycling facility has not yet been established in Madagascar. For the recycling of CFLs in Madagascar a technology like the "BulbEater" (http://www.aircycle.com/bulb-eater-premium/) will be applied.
Monitoring equipment	N.A.
Measuring/reading/recording frequency:	Once recycling facility is operational.
Calculation method (if applicable):	N.A.
QA/QC procedures:	N.A.
Purpose of data:	Ensure sustainability
Additional comments:	None

Data/parameter:	**SD 2: CFL breakage**
Unit	Number and %
Description	Number and percentage of CFLs broken during distribution (handling, transport, etc.)
Measured/calculated/default	Measured
Source of data	Sales Database, WWF records
Value(s) of monitored parameter	Number of CFLs failed during distribution: 4,543 (0.88%) Number of CFLs broken during distribution: 234 (0.05%) Inventory on failed and broken lamps was done after the end of distribution period in February 2015.
Monitoring equipment	N.A.
Measuring/reading/recording frequency:	Each week and at the end of the distribution
Calculation method (if applicable):	Regular Inventories: broken CFLs are counted and recorded in the project database/software
QA/QC procedures:	Accurate data recording
Purpose of data:	Ensure sustainability
Additional comments:	None

Data/parameter:	**SD 3: Total electricity savings due to CFL use**
Unit	GWh/year
Description	Total electricity savings in GWh per year due to CFL use

Measured/calculated/default	Calculated
Source of data	Project database
Value(s) of monitored parameter	2015: 11.76 GWh If we also consider the CFLs not counted for ER due to higher wattage of baseline ICL (75W and 100W) the achieved savings amount to 27.85 GWh.
Monitoring equipment	Sales database and monitoring questionnaires
Measuring/reading/recording frequency:	Once all CFLs have been distributed; thereafter annually
Calculation method (if applicable):	Calculation of net electricity savings using the formula in the applied methodology under consideration of actual number of CFLs distributed and actual lamp failure rate monitored.
QA/QC procedures:	Calculation method as per applied methodology
Purpose of data:	Ensure sustainability
Additional comments:	None

Data/parameter:	**SD 4: Average monetary savings per household**
Unit	%
Description	Average monetary savings per household in % due to CFL usage
Measured/calculated/default	Calculated
Source of data	Baseline and monitoring surveys
Value(s) of monitored parameter	20 % monetary savings per household A household saves 117,9924 Ar. per year on electricity.
Monitoring equipment	Monitoring questionnaires
Measuring/reading/recording frequency:	Every 3 years
Calculation method (if applicable):	A random sample of customers visited for the monitoring survey. Compare monthly electricity bills before and after installation of CFLs. Monthly electricity bill in baseline: 49,413 Ar. (baseline survey 2011) Monthly electricity bill in project: 39,586 Ar, (monitoring survey 2015) Monthly savings: 9,827 Ar. (calculated) Annual savings: 117,924 Ar. (calculated)
QA/QC procedures:	Accurate data recording
Purpose of data:	Ensure sustainability
Additional comments:	None

Input and grievance mechanism:

Input and grievance expression notebooks were made available in 8 fixed distribution points. So far no comments have been received in these books. However, the distribution agents received verbal complaints from the beneficiaries that were taken into account during implementation:

Complaints	Action taken
The receipt should be translated in Malagasy	An option to print a Malagasy version of the receipt was added to the software
The quota for each household should be raised	The maximum quota was raised from 4 to 6 starting from March 2014
Near the end of the project, the CFLs with bayonet socket were running out but still in demand. The CFLs with screw socket constituted about 25% of the total CFLs available.	The price was dropped from 1,000 Ar. to 500 Ar. at the end of October 2014 for the CFLs with screw socket to account for the fact that the households need to replace their socket.

D.3. Implementation of sampling plan

The ex-post monitoring survey was conducted by the project owner according to the guidelines as set out by the applied methodology (AMS-II.J) and following the design details of the baseline survey. The following survey principles from Paragraph 20 of the methodology are considered:

- Minimum sample size is 100. Sample size is determined by minimum 90% confidence interval and the 10% maximum error margin.
- Applying random sampling methods considering representativeness of target population (size, location).
- Household interviews are conducted by site visits.
- Only persons over age 12 are interviewed.

SECTION E. Calculation of emission reductions or GHG removals by sinks

Emissions reductions are calculated using the following calculation steps:

i) Nameplate/rated power (Watts) of the baseline incandescent lamps to be replaced:
Data on the share of ICL in the baseline with different rated power was collected in the first ex-post monitoring survey conducted in 2015. ICL with wattage < 25W are not eligible and will thus not be accepted by the project. The project CFL has a lumen output of $\geq$ 850 lm, which is equivalent to ICL with 69W. Households that want to exchange ICL of 70-100W will be informed that the lumen output (brightness) of the project CFL is lower. If households still want to exchange their ICL for project CFLs, the project will accept and hand out CFLs. However, these CFLs are not counted for emission reductions since they do not fulfill the requirement of minimum lumen output.

ii) Determine operating hours of the project (and baseline) lamps:
Option 1 is applied using the default value of 3.5 hours per 24 hours period for "daily operating hours" (factor O_i). This value is used throughout the crediting period and no survey to determine O_i is required.

iii) Calculate annual gross electricity savings:
(1) $ES_i = (P_{i,BL} - P_{i,PJ}) * O_i * 365 / 1000$
$= (P_{i,BL} - 14) * 3.5 * 365 / 1000$

Where:
ES_i : Estimated annual electricity savings for equipment of type *i*, for the relevant technology (kWh)
$P_{i,BL}$: Rated power of the baseline lighting devices of the group of "i" lighting devices (Watts)
$P_{i,PJ}$: Rated power of the project lighting devices of the group of "i" lighting devices (Watts)
O_i : Average daily operating hours of the lighting devices replaced by the group of "i" lighting devices. For ex post values use 3.5 hours per 24 hour period.

iv) Calculate annual net electricity savings (NES):
(2) $NES_y = \sum Q_{PJ,I} * (1 - LFR_{i,y}) * ES_i*(1/(1-TD_i)) * NTG$
$= \sum Q_{PJ,I} * (1 - LFR_{i,y}) * ES_i*(1/(1-0.1)) * 0.95$

Where:
NES_y : Net electricity saved in year y (kWh)
$Q_{PJ,I}$: Number (quantity) of pieces of equipment (CFLs) of type i distributed or installed under the project activity (units). In total for all "i", this value shall be equal to or less than the documented number of all baseline incandescent lamps destroyed. Once all of the project CFLs are distributed or installed, QPJ,i is a constant value independent from y
ES_i : Estimated annual electricity savings for equipment of type *i*, for the relevant technology (kWh)
$LFR_{i,y}$: Lamp Failure Rate for equipment type *i* in year *y* (fraction)

TD_i : 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.

NTG : Net-to-gross adjustment factor

Lamp failure rate:

If $y*X_i < L_i$, $LFR_y = y * X_i * (100 - R_i) / (100 * L_i)$

If $y*X_i >or= L_i$, $LFR_{i,y} = 1$

If $y*1277.5 < 10{,}000$, $LFR_y = y * 1277.5 * (100 - 50) / (100 * 10{,}000)$

If $y*1277.5 >or= 10{,}000$, $LFR_{i,y} = 1$

Where:

$LFR_{i,y}$ Lamp Failure Rate for equipment type i in year y (fraction)

L_i Average Life (or Rated Average Life until average life value is available) for equipment type i (hours)

R_i % of lamps of type i operating at the end of average life or the rated average life (use a value of 50)

X_i Number of operating hours per year for equipment type i (hours)

y Counter for year

(3) $ER_y = NES_y \times EF_{CO2,ELEC,y}$

$= (\sum Q_{PJ,I} * (1 - LFR_{i,y}) * ((P_{i,BL} - 14) * 3.5 * 365 / 1000) * (1/(1-0.1)) * 0.95) \times 0.589$

Where:

$EF_{CO2,ELEC,y}$ Emission Factor in year y calculated in accordance with the provisions in AMS-I.D (tCO2/MWh) L

$ER_{i,y}$ Emission Reductions in year y (tCO2e)

E.1. Summary of calculation of emission reductions or net GHG removals by sinks

Item	Baseline emissions or baseline net GHG removals by sinks (t CO_2e)	Project emissions or actual net GHG removals by sinks (t CO_2e)	Leakage (t CO_2e)	GHG emission reductions or net GHG removals by sinks (t CO_2e) achieved in the monitoring period		
				Up to 31/12/2012	From 01/01/2013	Total amount
Total	9,457	2,528	0	N.A.	6,929	6,929

E.2. Comparison of actual emission reductions or net GHG removals by sinks with estimates in registered PDD

Item	Values estimated in ex ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (t CO_2e)	9,393	6,929

E.3. Remarks on difference from estimated value in registered PDD

>> ER estimated in the PDD are higher than actual ER achieved during the monitoring period. This is due to the following reasons:

- Less CFLs have been distributed than assumed (518,248 vs. 540,000)
- The percentage of lamps not installed is higher than assumed (16.2% vs. 10%)
- The share of 70W and 100W ICL that cannot be counted for ER is higher than in the baseline survey (43.6% vs. 23.7%)

Appendix 1. Contact information of project participants and responsible persons/entities

Project participant and/or responsible person/ entity	☐ Project participant **x** Person/entity responsible for completing the CDM-MR-FORM
Organization name	Foundation myclimate
Street/P.O. Box	Pfingstweidstrasse 10
Building	
City	Zurich
State/region	ZH
Postcode	8005
Country	Switzerland
Telephone	+41 44 500 43 50
Fax	
E-mail	info@myclimate.org
Website	www.myclimate.org
Contact person	Project Manager
Title	
Salutation	
Last name	Hoeck
Middle name	
First name	Tobias
Department	Climate Protection Projects
Mobile	
Direct fax	
Direct tel.	+41 44 500 43 74
Personal e-mail	tobias.hoeck@myclimate.org

Project participant and/or responsible person/ entity	**x** Project participant ☐ Person/entity responsible for completing the CDM-MR-FORM
Organization name	WWF MWIOPO (Madagascar & Western Indian Ocean Program World Wide Fund for Nature)
Street/P.O. Box	BP 738
Building	
City	Antananarivo
State/region	
Postcode	101
Country	Madagascar
Telephone	+261 20 22 402 84
Fax	
E-mail	
Website	www.wwf.mg
Contact person	Project Coordinator
Title	
Salutation	
Last name	Randriamanalina
Middle name	
First name	Solo Thierry
Department	
Mobile	
Direct fax	
Direct tel.	+261 34 49 840 03
Personal e-mail	strandriamanalina@wwf.mg

Project participant and/or responsible person/ entity	**x** Project participant ☐ Person/entity responsible for completing the CDM-MR-FORM
Organization name	WWF Switzerland
Street/P.O. Box	Hohlstrasse 110
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City	Zurich
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Contact person	
Title	
Salutation	
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Middle name	
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