



Monitoring report form for CDM programme of activities
(version 01.0)

MONITORING REPORT

Title of the programme of activities (PoA)	Programme of Activities for Small Scale Hydropower CDM in Sri Lanka	
UNFCCC reference number of the PoA	9705	
Version number(s) of the PoA-DD(s) applicable to this monitoring report	03	
Coordinating/managing entity (CME)	Sri Lanka Carbon Fund (Pvt.) Ltd.	
Version number of this monitoring report	1.0	
Completion date of this monitoring report	25/05/2016	
Monitoring period number and dates covered by this monitoring report	-Monitoring period number: 1st -Monitoring duration: 01/09/2015 ~ 30/04/2016 (243 days)	
Monitoring report number for this monitoring period	1	
Host Party(ies)	Host Party(ies) of the PoA	Is this a host Party to a specific-case CPA covered in this monitoring report?(yes/no)
	Sri Lanka	Yes
Sectoral scope(s)	Sectoral Scope: 1 : Energy industries (renewable - / non-renewable sources)	
Selected methodology(ies)	Methodology : AMS-I.D. (Version 17.0.0)	
Selected standardized baseline(s)	NA	
Total amount of GHG emission reductions or net GHG removals by sinks for all specific-case CPAs in the PoA covered in this monitoring report	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
	NA	6,760

PART I - Programme of activities

SECTION A. Description of PoA

A.1. Brief description of the PoA

>>

Policy/measure or stated goal of the PoA

Sri Lanka is heavily dependent on imported fossil fuel to meet its annual energy demand. Sri Lanka's annual oil import bill is 60% of its total export income and more than 25% of its annual total import bill. When the economy is expected to grow by 8%, the annual energy demand will grow by at least 6%. Country's high dependence on fossil fuel will gradually increase its GHG emission.

The government has given priority to develop its renewable energy potentials and taken Non-Conventional Renewable Energy (NCRE) as the fourth resource of the nation's diversification and security of energy strategy. In the renewable energy sector, small hydropower generation has great potential. Sri Lanka has large number of small scale hydropower projects distributed across the country. However, most of the small hydropower projects are not attractive to investors due to low return on investment. The government encourages investors to use CDM mechanism to make these small hydro projects viable.

Sri Lankan government has established Sri Lanka Carbon Fund¹(Pvt.) Ltd. The fund is a dedicated institution to encourage and facilitate investors to use CDM mechanism to mitigate country's GHG emissions. This PoA involves implementation of small hydropower project (CPA) to avoid the emissions of Carbon Dioxide to the atmosphere from the fossil fuel based power generation that would have otherwise been implemented to supply electricity to the people.

General operating and implementing framework of PoA

This Programme of Activities for small scale hydropower CDM in Sri Lanka (hereinafter "PoA") is to promote small hydropower generation in Sri Lanka through Clean Development Mechanism and to reduce GHG emission.

Currently there is a large potential for small hydropower generation in the country. However, most of these projects that are yet to be developed have faced serious financial and other barriers. Some of the developers have used Clean Development Mechanism (CDM) to improve the financial viability and remove these barriers. However, most small scale hydropower developers find it difficult to use CDM mechanism due to prohibitive cost mainly due to the small size of the project. Therefore the objective of this PoA is to develop programmatic CDM for those small hydropower generation projects which are not viable as a CDM project due to the small size and those have significant emission reduction potential.

This PoA is geographically located in Sri Lanka. The generated electricity is supplied to the national grid owned by CEB, the national utility.

The project participants of this PoA are Sri Lanka Carbon Fund (Pvt.) Ltd. (SLCF) which is a Company incorporated under the Company Act. 07 of 2007 of Sri Lanka, Korean Environment Corporation (KECO)², a Public Agency established under the Korea Environment Act. No.9433 of South Korea and Koho Trading & Consultancy (Pvt.) Ltd. (KoHo), a Company incorporated under

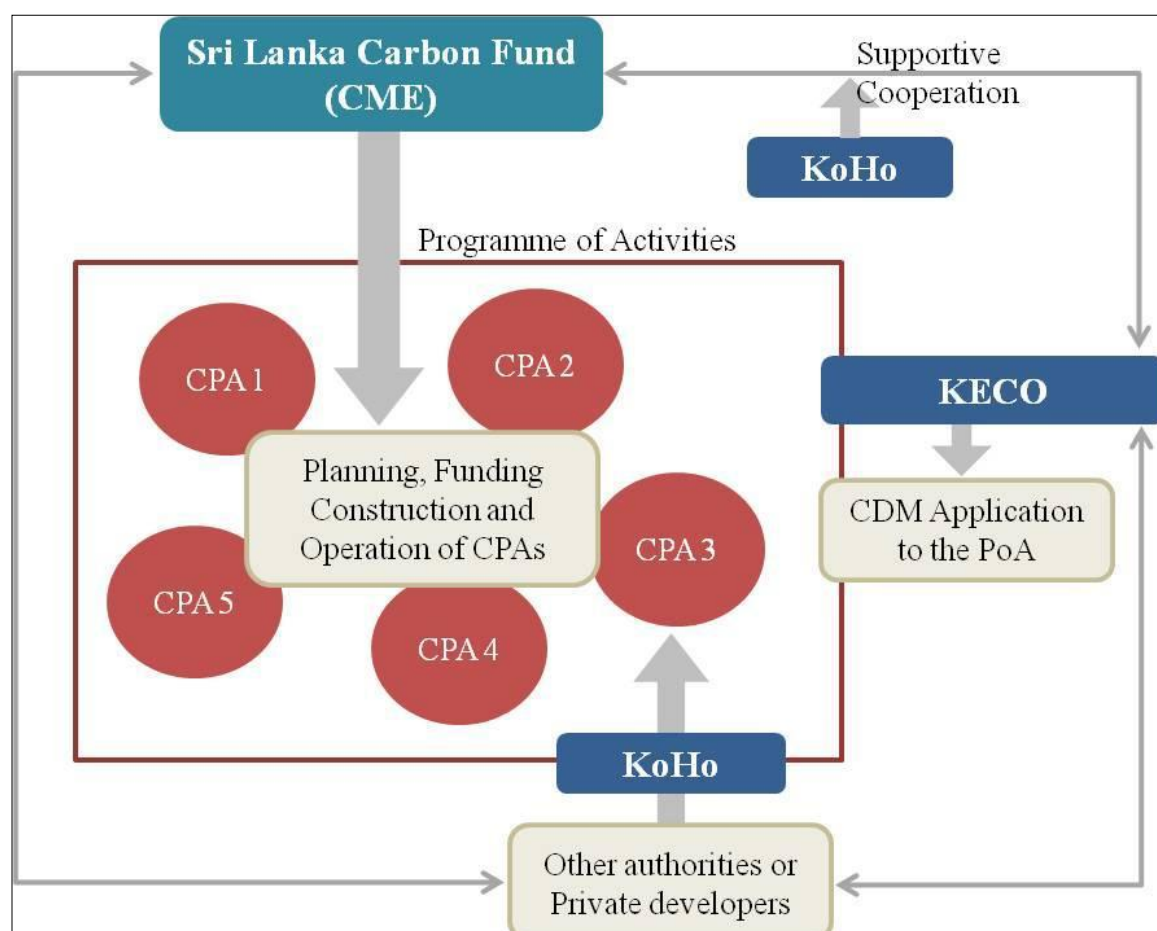
¹ Sri Lanka Carbon Fund (Pvt.) Ltd. was established on April 9, 2008 by a Cabinet decision as a private-public partnership company to provide and facilitate technical and financial assistances to the CDM project developers

² It is Korean public agency and the project participant of the proposed program of activities. KECO has been established in order to handle environment-related projects with maximum efficiency. These projects include; pollution prevention, environmental improvement, and resource recirculation.

the Company Act., 07 of 2007 of Sri Lanka. The SLCF has signed a MoU with KECO and KoHo on 13th September 2012 to develop this PoA. Three parties, SLCF and KECO and KoHo jointly implement this PoA under clearly demarcated responsibilities.

The SLCF functions as CME of this PoA. KECO is responsible for the CDM registration, monitoring and CER issuance and other CDM-related issues. The KoHo supports SLCF for CME activities and the CPA activities.

This PoA consists of project activities that install a new small hydropower plant where there was no renewable energy power plant operation prior to the implementation of the project activities (Greenfield plant). Private companies or any government or semi government agencies that meet the criteria outlined in this PoA can participate in this PoA as a CPA implementer. The installed capacity of each CPA is less than or equal to 15MW. Therefore, all the entities regardless of whether private or public may be involved in this proposed PoA.



[Figure A.1: Procedure for inclusion of CPAs]

A.1.1. Generic CPA(s)

Title, identification/reference number and/or version number of the generic CPA(s) of the PoA	Sectoral scope(s)	Applied methodology(ies) or combination of methodologies and/or standardized baseline(s)
Single generic CPA as per Part II of PoA " Programme of Activites for Small Scale Hydropower CDM in Sri Lanka" version 03 dated 06/08/2013	Sectoral Scope: 1 : Energy industries (renewable - / non-renewable sources)	AMS-I.D. (Version 17.0.0)

A.1.2. Specific-case CPA(s) covered in this monitoring report

Reference number of the specific-case CPA included in the PoA as of the end of this monitoring period	Title, identification/reference number and version number of the generic CPA to which the specific-case CPA applies	Crediting period dates of the specific-case CPA	Is this specific-case CPA covered in this monitoring report? (yes/no)
9705-0001	CPA No 1: CPA Name: Ganthuna Small Hydropower Project	01/01/2016-31/12/2022	No
9705-0002	CPA No 2: CPA Name: 3.8MW Bulathwaththa Small Hydropower Project	01/09/2015 – 31/08/2022	Yes
9705-0003	CPA No 3: CPA Name: 2.0MW Maskeliya Oya Small Hydropower Project	01/02/2016-31/01/2023	No
9705-0004	CPA No 4: CPA Name: 3.0MW Koswathu Ganga Small Hydropower Project	01/09/2016-31/08/2023	No
9705-0005	CPA No 5: CPA Name: 3.25MW Dambulu Oya Small Hydropower Project	01/01/2017-31/12/2023	No

A.2. Contact information of the coordinating/managing entity (CME) and/or responsible persons(s)/entity(ies)

>>

CME: Sri Lanka Carbon Fund (Pvt.) Ltd.

Name: Suren Batagoda

e-mail: info@carbonfund.lk

Telephone: +94 11 2053065

SECTION B. Implementation of PoA**B.1. Implementation of the management system of the PoA**

>>

The operation and management of this PoA are implemented based on *CDM Operation Manual for 'Programme of Activities for Small scale Hydropower CDM in Sri Lanka'(hereinafter 'manual')*. This manual has a purpose for CME to develop various procedures in order to operate this PoA in stable and involves a range of operational activities in order to implement and manage the CPA by CME.

According to the 'Standard for demonstration of additionality, development of eligibility criteria and application of methodologies for programmes of activities, version 02.1 (EB 70, Annex 5)', this manual should involve the following:

- Roles, Responsibilities of personnel involved in the process of inclusion of CPAs, including a
- review of their Competencies;
- Records of arrangements for training and capacity development for personnel;

- d. A procedure for technical review of inclusion of CPAs;
- e. A procedure to avoid double counting;
- f. Records and documentation control process for each CPA under the PoA;
- g. Measures for continuous improvements of the PoA management system;
- h. Any other relevant elements.

Through Manual, Sri Lanka Carbon Fund (Pvt.) Ltd. implements the management system of each CPAs including environmental and social impact mitigation, baseline and project emission monitoring process, all the data collection, storage and retrieval system. Since this manual is subject to continuous improvement by CME or CPA implementer's request or due to validation and verification process, its content and possibly even structure can be expected to vary over time. Nevertheless, any changes that a DOE might observe at inclusion of CPAs after validation of the PoA will be documented through the procedure for continuous improvement.

Roles, Responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their Competencies:

Entity	Roles
CME :SLCF	<ol style="list-style-type: none"> 1. Function as joint focal point on Modalities of Communication Form of the PoA. 2. Support the KECO and KoHo for PoA Registration and verification, communication, etc. with DOE, UNFCCC Secretariat and CDM EB 3. Providing CPA implementers with guidance for proper CDM monitoring activity and other CDM related process 4. General management of monitored parameters of all CPAs 5. Inclusion of new CPAs 6. De-bundling check 7. Double counting check 8. Ensure monitoring plan and establish the monitoring system 9. Verification and storage of monitoring data 10. CERs allocation with CPA implementer according to agreements
KECO	<ol style="list-style-type: none"> 1. Support activities related to CDM application 2. Support establishing PoA operation procedure and system 3. Undertake CDM registration, monitoring, CER issuance and other CDM related issues. 4. Function as joint focal point on Modalities of Communication Form of the PoA 5. Prepare monitoring report
KoHo	<ol style="list-style-type: none"> 1. Support SLCF for CME activities and the CPA activities 2. Support KECO for CDM registration, monitoring, CER issuance and other CDM related issues 3. Function as joint focal point on Modalities of Communication From of the PoA
CPA Implementer :Melanka Power Moraketiya (Pvt.) Ltd.	<ol style="list-style-type: none"> 1. Construction and operation of the hydropower plant 2. Direct CDM monitoring activity including data recording etc. 3. Installation and management of monitoring equipment including QA/QC activities 4. Report monitoring activity records to Sri Lanka Carbon Fund (Pvt.) Ltd. 5. Demonstrate the additionality of the CPA 6. Record keeping system

In addition, Sri Lanka Carbon Fund (Pvt.) Ltd. implements the following operational elements to ensure proper management and control of the proposed PoA.

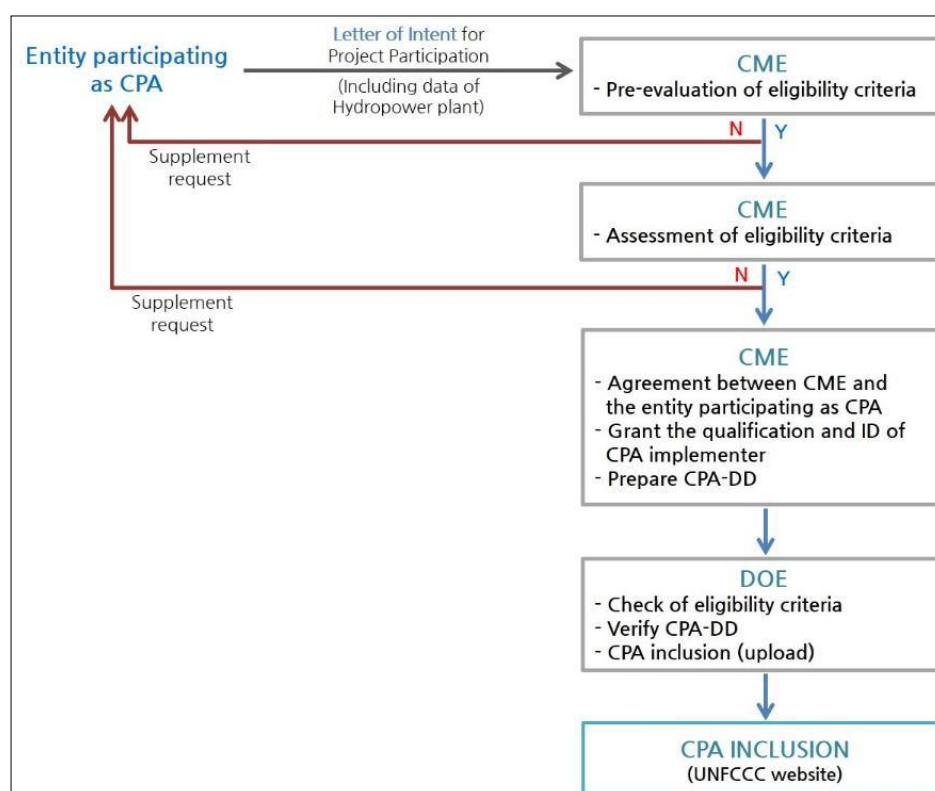
Records of arrangements for training and capacity development for personnel:

Training programs refer to activities and programs carried out by the CME or outside institute with the goal of maintaining and improving the job performance, qualifications and skills of the employees and managers of CPA implementer. Training contents for effective operation of the PoA are as following.

Department	Contents
Technical/Operation Department	<ul style="list-style-type: none"> - EB Guidelines and Methodology (AMS-I.D) - CDM Process - Monitoring parameter - Monitoring method and frequency - Calibration - Recording of monitoring data
Management Department	<ul style="list-style-type: none"> - Reporting of monitoring data - Data collection - Data management - Data storage

A procedure for technical review of inclusion of CPAs:

The flow of CPA inclusion is as follow;
(The detailed procedures for the technical review of inclusion of CPAs has been included in the manual which has been provided to the DOE.)



[Figure B.1: Procedure for inclusion of CPAs]

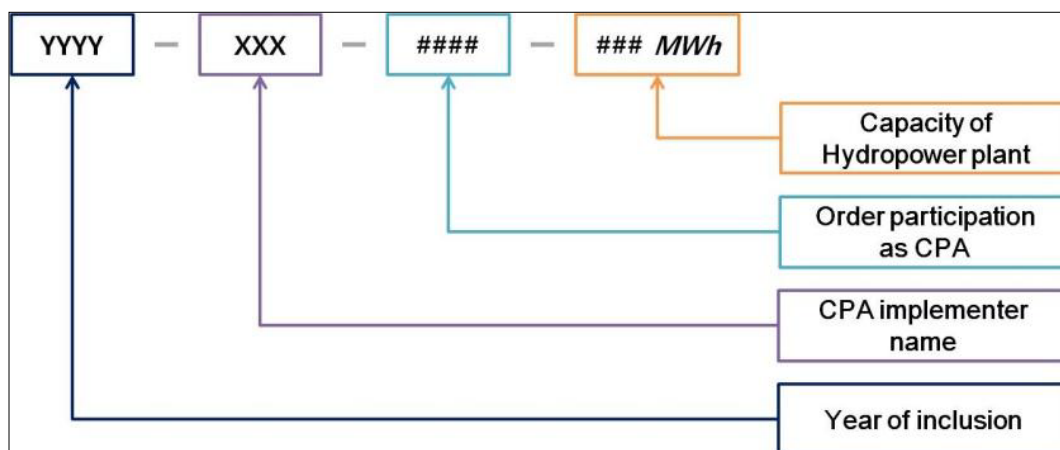
A procedure to avoid double counting:

The database described above will be used to perform a double counting check. Every new CPA will be compared to the list of project activities that are under validation or registered at the UNFCCC. Before the inclusion of any CPA the CPA implementer will be made aware of the double counting principle and will be required to certify in writing that proposed CPA is not currently

registered under the CDM of UNFCCC or any voluntary scheme nor is currently in the CDM pipeline going through the process of validation or registration.
Therefore, eligibility criteria No. 5 of this PoA provides a strict restriction that will avoid double counting of a new CPA.

Records and documentation control process for each CPA under the PoA:

In order to unambiguously identify each CPA in this PoA, Sri Lanka Carbon Fund (Pvt.) Ltd. will grant CPA implementers with ID number according to the following ID numbering system;



[Figure B.2: I.D. forms of CPA Implementer]

This ID numbering system will be used to record baseline and monitoring data on a continuous basis using a template of CDM Operation Manual with a MS excel database. Each CPA will follow the monitoring requirements stipulated in AMS-I.D, ver.17 and CME will record and document CPA detail information as follows:

- Name, address, details of CPA implementer
- Capacity of hydropower plant
- Geographical coordinates of CPA (GPS information)
- The record of technical specification of each hydropower plant participating in the PoA
- Check if the hydropower plant equipment were transferred from or to another project activity

And CME develops and maintains an electronic database, which contains essential data and information about each CPA, including;

- i) Technical Document
 - Project Design Document (PoA-DD & CPA-DD)
 - Validation Report of PoA & CPA
 - Documents related to government approval
 - Qualification or education certificate of person in charge
 - CDM Operational Manual and Procedures
 - Monitoring report
 - Documents related to eligibility criteria check
 -
- ii) Standard Document/Information
 - CDM-SSC-PoA-DD
 - CDM-SSC-CPA-DD
 - AMS I.D, Grid connected renewable electricity generation
 - Methodological Tool
 - Guidelines and Standards

iii) General Document

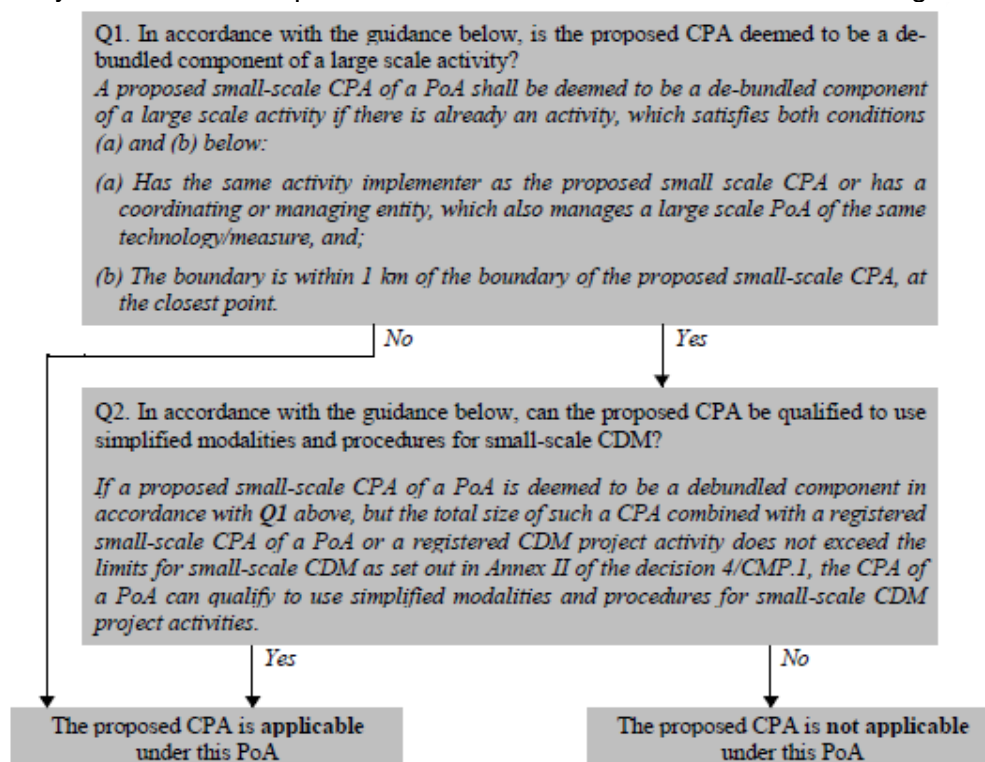
General documents are classified into the internal documents such as the minutes or notes of CPA Implementer/CME, and the External documents such as the official notes from government offices, 3rd parties

Measures for continuous improvements of the PoA management system;

Sri Lanka Carbon Fund (Pvt.) Ltd. updates/revises the processes and procedure of manual periodically with a view to improving them for better management system control based on changes incurred from time to time during the operation of the PoA.

Any other relevant elements.**- Procedure to check de-bundled component;**

The de-bundling check will be performed based on “Guidelines on assessment of de-bundling for SSC project activities, Version 03 (EB 54, Annex 13). The database described above will be used to perform the de-bundling check. Every new CPA will be compared to the list of project activities that are under validation or registered at the UNFCCC by Sri Lanka Carbon Fund (Pvt.) Ltd. Before the inclusion of any CPA the CPA implementer will be made aware of the de-bundling rules below.



[Figure B.3: De-bundling check list]

- The provisions to ensure that those operating the CPA are aware of and have agreed that their activity is being subscribed to the PoA;

To ensure that the operators of the CPA are aware of and have agreed that their activity is being subscribed to the PoA, the CPA implementer shall enter into a contractual arrangement with CME including respective provisions that:

- The CPA implementer is aware that the CPA will be subscribed to the present PoA.
- The CPA (has not) is not (and will not) undertaking another hydropower project within 1 km of the proposed CPA.
- The CPA implementer may cede its rights to claim and own emission reductions under the CDM or any voluntary scheme to CME

- The CPA implementer certifies that the CPA is not registered under the CDM of the UNFCCC or any voluntary scheme

Therefore, the acceptance and awareness of each CPA implementer is evidenced through the agreement between CME and CPA implementer before CPA inclusion in the PoA. In case that CPA implementer is same with CME, the agreement is not necessary.

B.2. Implementation of single sampling plan(s)

>>

Not Applicable

SECTION C. Post-registration changes to the PoA (including the generic CPA(s))

C.1. Corrections

>>

No correction to project information or parameters fixed at validation since the beginning of Project Activities.

C.2. Inclusion of a monitoring plan to the registered PoA-DD (including its generic CPA-DD(s)), if a monitoring plan was not included at the time of registration

>>

Not Applicable

C.3. Permanent changes to the monitoring plan as described in the registered PoA-DD, applied methodology, or applied standardized baseline

>>

No permanent changes from registered monitoring plan or applied methodology.

C.4. Changes to the programme design of the registered PoA-DD (including corresponding changes to project design of the generic CPA-DD(s)) and updates to the eligibility criteria for inclusion of specific-case CPAs in the PoA

>>

Not Applicable

C.5. Types of changes specific to afforestation and reforestation activities

>>

Not Applicable

PART II - Specific-case component project activity(ies)

SECTION D. Description of specific-case CPA(s)

>>

D.1. Brief description of implemented specific-case CPA(s)

>>

The purpose of the project activity and the measures taken for GHG emission reductions

The Bulathwaththa Small Hydropower Project is to promote small hydropower generation in Sri Lanka through Clean Development Mechanism. Currently there is a large potential for small hydropower generation in the country. However, most of the potential projects have not been developed due to serious financial and other barriers that the developers face. Even though some developers are willing to remove these barriers through Clean Development Mechanism, due to the small size, the application of CDM has been costly. Therefore, the project aims to supply the electricity to a national grid by generating electricity using mini-hydro technology.

Brief description of the installed technology and equipment

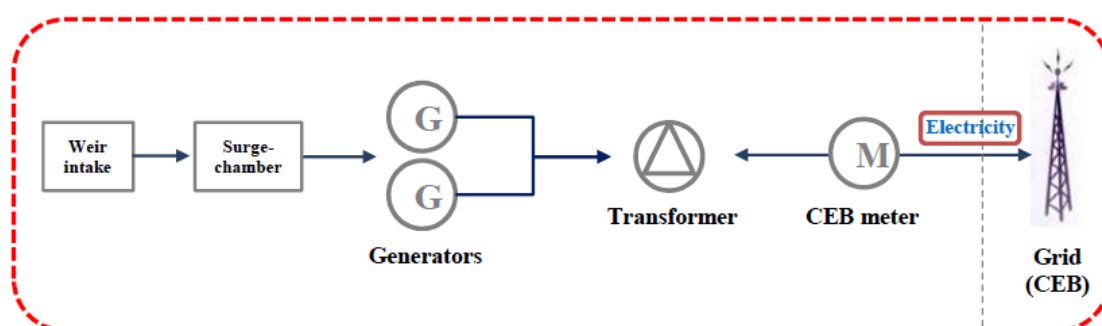
The run-of-river hydropower plant with a capacity of 3.8MW has been installed using water flow of Kalkanna Oya at Bulathwaththa. The estimated annual power generation of the hydropower plant is 12,464MWh. The entire power generation is exported to the national grid of Ceylon Electricity Board, but this CPA does not generate more than 3.8MW of electricity pursuant to the contract with CEB, which is the National Utility, owns the grid. If more than 3.8MW of electricity is generated, the alarm will go off or the system will be shut down.

The proposed project activity is the implementation of the small-scale hydro power plant project that supplies electricity to national grid. The Bulathwaththa small hydro power plant consists of construction of a weir, intake, a headrace channel, a surge chamber, and a tailrace and Switchyard and power house equipped with two sets of turbines. The moving water rotates the turbine, which spins a shaft. The motion of the shaft was used for mechanical processes, such as pumping water, or it was used to power an alternator or generator to generate electricity.

[Table D.1] Project Technical Parameters

Catchment Area	55km ²
Installed Capacity	3.9MW
No. of Generator Units	2 Unit
Capacity of each Generator	2,600kW, 1,300kW
Hydraulic Turbine	Francis
Plant Load Factor	37.4%
Yearly generation (ex-ante)	12,464MWh

The system diagram of Bulathwaththa small hydro power is as below:



[Figure D.1] Project Boundary

Project schedule for the specific CPA is as follows;

[Table D.2] Relevant dates for the specific-case CPA

No	Date/Month/Year	Implementation Schedule
1	14/10/2010	Environmental Approval Letter from Forest Department
2	20/10/2011	Standardised Power Purchase Agreement(SPPA)
3	08/03/2013	Contract agreement for construction of CPA
4	28/03/2015	Commissioning Date of the plant

Total GHG emission reductions achieved in this monitoring period: 6,760 tCO₂e

D.2. Geographical references or other means of identification of the location of the specific-case CPA(s)

>>

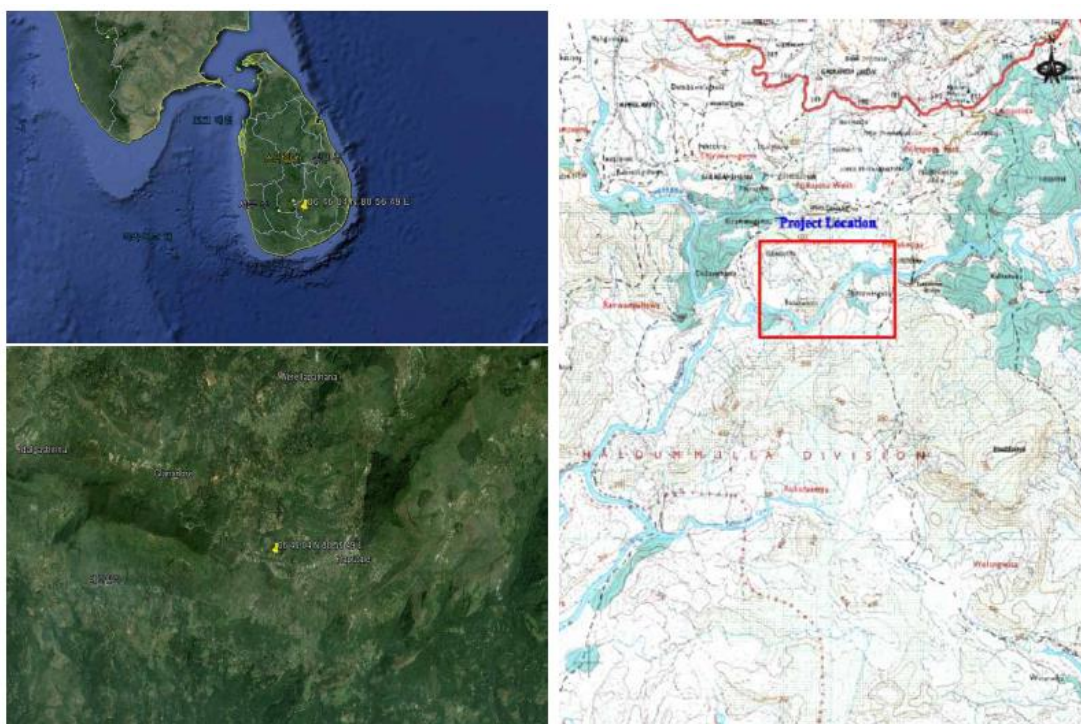
The project site is located on a tributary of Weli Oya and Walawe Ganga, as it drops down 117.7 m, near the village of Bulathwaththa in the Divisional Secretarial area of Haldummulla.

Detailed information is as follows;

- Host party: Sri Lanka
- Region/state/province: Uva
- City/town/community: Nikapota, Bulathwaththa

[Table D.3] Project Boundary

Component	Details
Address of CPA site	Kalkanna Oya – a tributary of Weli Oya and Walawe Gangs
Name of relevant entity which is responsible for management of the power plant used for the proposed CPA	Melanka Power Moraketiya (Pvt.) Ltd.
Geographic Reference based on GPS	<p>Longitude Latitude</p> <p>Power house : 80°56'49"E 06°43'04"N</p> <p>Weir : 80°57'44"E 06°43'24"N</p>



[Figure D.2] Project Location**SECTION E. Post-registration changes to specific-case CPA(s)****E.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline**

>>

Not Applicable

E.2. Corrections

>>

Not Applicable

E.3. Changes to the start date of the crediting period of the specific-case CPA(s)

>>

Not Applicable

E.4. Inclusion of a monitoring plan into the specific-case CPA(s) that was not included at registration

>>

Not Applicable

E.5. Permanent changes to the monitoring plan as described in the registered specific-case CPA-DD(s), applied methodology or standardized baseline

>>

Not Applicable

E.6. Changes to project design of the specific-case CPA(s)

>>

Not Applicable

E.7. Types of changes specific to afforestation and reforestation specific-case CPA(s)

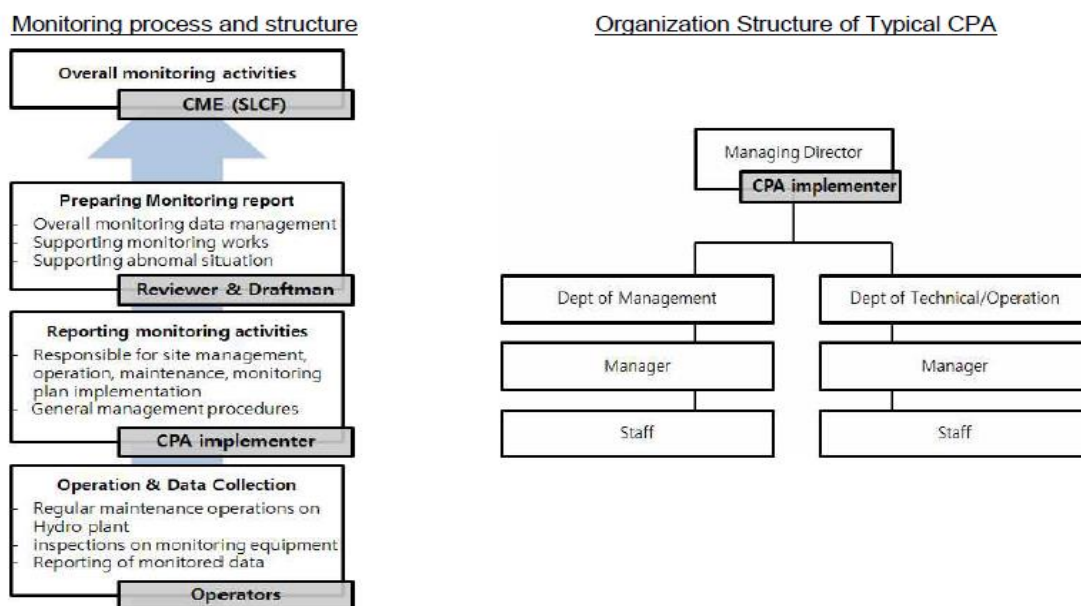
>>

Not Applicable

SECTION F. Description of the monitoring system of specific-case CPA(s)

>>

The purpose of Monitoring Plan (MP) is provided standard to conduct monitoring and record consistent data necessary for the verification of the Project. Monitoring plan of the project includes followings.



[Figure F.1] Monitoring System

Data Collection and Archiving Procedures

Monitoring and its recording activity are implemented by the CPA implementer, Melanka Power Moraketiya (Pvt.) Ltd. All the data collected by the monitoring activity of the CPA are manually documented or electronically saved.

- The collected data is saved as computer file at least once a month. All the data collected are available two years after the end of the crediting period of the CPA.
- The monitoring activity includes QA/QC procedures for each parameter. For the stable CDM monitoring activity, the specific procedure are available in CDM Operation Manual.

Training

- Melanka Power Moraketiya (Pvt.) Ltd. should organize training for its staff that operates and maintains the power plant facility. The training includes maintenance, repair, overhaul, etc for CDM activity and usually organized in collaboration with the machine suppliers and KECO and KoHo. The person in charge of monitoring has been trained according to the CDM Operation Manual.

Operational and Monitoring Obligations

- Procedures for CPA monitoring activities are specified in a CDM Operation Manual which was prepared before the start of the first crediting period and has been tested during start-up of the components of the PoA. This provides an opportunity to correct any deficiencies and further refine the monitoring and recording procedures. It may also provide an opportunity to train operating personnel for the strict requirements for accuracy in collecting and recording data for CDM purposes.

Quality Assurance and Quality Control

- The quality assurance and quality control system for recording, maintaining and archiving data shall be maintained by each SSC-CPA. In order to maintain and upgrade the capability and skill of the operator, training related to maintenance of data and information related to power generation has been performed. Prior to the operation of the project, trainings are to be conducted for each of SSC-CPA personnel in order to ensure that the persons in charged are competent in performing their duties.

- The Metering Equipment shall be tested at least annually in accordance with Prudent Utility Practices set by CEB. Testing and calibration of meters, and any verification of meter accuracy, shall be performed pursuant to IEC Standards, by CEB or by a mutually agreed upon qualified independent third party. The metering instruments shall be calibrated before use of the meters and be sealed and locked by CEB after calibration/testing and after CEB who is the purchaser of the electricity shall carry out calibration according to their own standard, at any reasonable time. The results of meter calibration or tests shall be available for at all reasonable times. If, at any time, any metering equipment is found to be inaccurate by more than two per cent (2.0%), CEB shall cause such metering equipment to be made accurate or replaced as soon as possible.

Contingency Plan

- In case of measurement equipment trouble or data transferring error, the person in charge of monitoring is responsible for prompt grasping the problem and restoring it in due course. Also the person should comply with CDM Operation Manual.
- Corrective Action: When need for improvement is discovered during hydropower generation process, corrective action shall be taken immediately.
- Preventive Action: In order to find out any potential causes to abnormality in advance, carry out the preventive measures by using performance data and observation, periodically.
- After the Actions: Record the result of corrective and preventive actions taken and check if the results of such actions are effective.

SECTION G. Data and parameters

G.1. Data and parameters fixed ex ante, at registration, inclusion or renewal of crediting period

Data/parameter:	$EF_{grid,CM,y}$
Unit	tCO ₂ /MWh
Description	Combined Margin emission factor
Source of data	Calculated
Value(s) applied)	0.7268
Choice of data or measurement methods and procedures	This value is calculated according to “Tool to calculate the emission factor for an electricity system (Version 03.0)”. Sustainable Energy Authority in Sri Lanka (SEA), government for environmental issue, calculates the emission factor every year and opens the value to public. [Reference] http://www.energy.gov.lk/sub_pgs/elibrary_spe_pub.html
Purpose of data	Calculation of baseline emissions
Additional comments	- This data was calculated by SEA at the latest time of PoA-DD submission - $EFCO2,grid = EF_{grid,CM,y} = wOM \cdot EF_{grid,OM,y} + wBM \cdot EF_{grid,BM,y}$ - This value is applied during the crediting period without update.

G.2. Data and parameters monitored

Data/parameter	$EG_{BL,y}$
Unit	MWh/yr
Description	The quantity of net electricity supplied to national grid by project activity in year y

Measured/calculated/default	Calculated																
Source of data	The net electricity supplied by the hydropower plant to the national grid is calculated as the difference between Export and the import readings from the electricity meter. The electricity exported and electricity imported are measured once every month using electricity meter at grid interconnection point.																
Value(s) of monitored parameter	9,302 MWh																
Monitoring equipment	<table border="1"> <tr> <td>Item</td><td>Main Meter</td></tr> <tr> <td>Serial Number</td><td>213017492</td></tr> <tr> <td>Accuracy Class</td><td>± 1%</td></tr> <tr> <td>Calibration Frequency</td><td>1 year</td></tr> <tr> <td>Previous Calibration</td><td>13/05/2014</td></tr> <tr> <td>Previous Validity</td><td>12/05/2014</td></tr> <tr> <td>Last Calibration</td><td>13/10/2015</td></tr> <tr> <td>Last Validity</td><td>12/10/2016</td></tr> </table>	Item	Main Meter	Serial Number	213017492	Accuracy Class	± 1%	Calibration Frequency	1 year	Previous Calibration	13/05/2014	Previous Validity	12/05/2014	Last Calibration	13/10/2015	Last Validity	12/10/2016
Item	Main Meter																
Serial Number	213017492																
Accuracy Class	± 1%																
Calibration Frequency	1 year																
Previous Calibration	13/05/2014																
Previous Validity	12/05/2014																
Last Calibration	13/10/2015																
Last Validity	12/10/2016																
Measuring/reading/recording frequency	Monthly																
Calculation method (if applicable)	N/A																
QA/QC procedures	Calibration frequency: The Metering Equipment shall be tested at least annually in accordance with Prudent Utility Practices set by CEB. And the calibration should be carried out by an accredited person or institution.																
Purpose of data	Calculation of baseline emissions																
Additional comments	In order to deal with the uncertainty caused by delayed calibration, -1% of maximum permissible error applied in accordance with "Validation and verification standard Ver 09.0" from 01/09/2015 ~ 31/10/2015.																

G.3. Implementation of specific-case CPA level sampling plan

>>

Not applicable.

SECTION H. Calculation of GHG emission reductions or net GHG removals by sinks

H.1. Calculation of baseline emissions or baseline net GHG removals by sinks

>>

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

Where;

BE_y	Baseline Emissions in year y (tCO ₂)
$EF_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{CO2,grid,y}$	CO ₂ emission factor of the grid in year y (tCO ₂ /MWh)

$EG_{BL,y}$ is estimated as follows: [Electricity output(MWh) – Electricity Input(MWh)] * $EF_{CO2,grid,y}$

Net electricity supplied to the grid by the project is calculated as follows;

$$\begin{aligned}
 BE_y &= EG_{BL,y} * EF_{CO_2,grid,y} \\
 &= 9,302 \text{ MWh/y} \times 0.7268 \text{ tCO}_2\text{e/MWh} \\
 &= 6,760 \text{ tCO}_2\text{e}
 \end{aligned}$$

H.2. Calculation of project emissions or actual net GHG removals by sinks

>>

As described in paragraph 20 of AMS I.D (ver.17), for most renewable energy project activities, $PE_y = 0$.

For this project, Project Emission is zero because there is no fossil fuel consumption in this project. And this CPA's plant type is run-of-river type, not the hydro power project activities that result in new single or multiple reservoirs or result in the increase of single or multiple existing reservoirs.
 $PE_y = 0$

H.3. Calculation of leakage

>>

As per category AMS I.D, leakage is to be considered only if the energy generating equipment is transferred from another activity or if the existing equipment is transferred to another activity. Since this does not apply for the project activity, there is no leakage associated with the project activity and therefore, leakage is zero.

$$\begin{aligned}
 LE_y &= 0 \text{ tCO}_2\text{/y} \\
 LE_y &= 0
 \end{aligned}$$

Thus $ER_y = BE_y$
 i.e. the emission reductions are the baseline emissions in this project.

H.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

Specific-case CPA reference number	Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e)	Project emissions or actual net GHG removals by sinks (tCO ₂ e)	Leakage (tCO ₂ e)	GHG emission reductions or net GHG removals by sinks (tCO ₂ e) achieved in the monitoring period		
				Up to 31/12/2012	From 01/01/2013	Total amount
Total	6,760	0	0	0	6,760	6,760

H.5. Comparison of GHG emission reductions or net GHG removals by sinks with estimates in the included CPA-DD(s)

Specific-case CPA reference number	Value estimated in ex ante calculation in the included CPA-DD(s)	Actual values achieved by the specific-case CPA(s) during this monitoring period
9705-0002	6,030	6,760

H.6. Remarks on difference from the estimated value in the included CPA-DD(s)

>>

The emission reduction is higher than the estimated in CPA-DD. According to CPA-DD, the estimation of emission reduction during this monitoring period was 6,030 tCO₂e, but the actual amount was 6,760 tCO₂e, about 11% higher.

Weather fluctuations could easily result in deviation between the actual and the estimated annual net power supplied to the grid. The difference was due to larger water availability caused by plenty rainfall produced from tropical depression in Sri Lanka.³ Recent tropical depression has brought torrential rain to Sri Lanka and neighboring countries for the past few months⁴.

Therefore, the deviation between CPA-DD estimates and actual values reached during the monitoring period is considered reasonable considering the abnormal weather condition in Sri Lanka .

³ <http://floodlist.com/asia/floods-sri-lanka-maldives-january-2016>

⁴ <https://blog.metoffice.gov.uk/2016/05/16/heavy-rainfall-for-sri-lanka-and-india/>

Appendix 1. Contact information of coordinating/managing entity and/or responsible persons/entities

Project participant and/or responsible person/ entity	<input checked="" type="checkbox"/> Coordinating/managing entity <input type="checkbox"/> Person/entity responsible for completing the CDM-MR-FORM
Organization name	Sri Lanka Carbon Fund (Pvt.) Ltd.
Street/P.O. Box	No. 980/4A, Wickramasinghe place
Building	
City	Ethul Kotte
State/region	
Postcode	
Country	Sri Lanka
Telephone	+94 11 2053065
Fax	+94 11 2053065
E-mail	info@carbonfund.lk
Website	
Contact person	
Title	Managing Director
Salutation	Mr.
Last name	Batagoda
Middle name	
First name	Suren
Department	
Mobile	
Direct fax	+94 11 2053065
Direct tel.	+94 11 2053065
Personal e-mail	info@carbonfund.lk

Project participant and/or responsible person/ entity	<input type="checkbox"/> Coordinating/managing entity <input checked="" type="checkbox"/> Person/entity responsible for completing the CDM-MR-FORM
Organization name	RCC Co., Ltd.
Street/P.O. Box	205 Venture bldg., Pohang Technopark, 394, Jigok-ro, Namgu
Building	
City	Pohang-si
State/region	Gyeonsangbuk-do, Korea
Postcode	37666
Country	Korea
Telephone	+82-54-223-2303
Fax	+82-54-223-2310
E-mail	jesslk@ircc.co.kr
Website	www.ircc.co.kr
Contact person	
Title	
Salutation	Ms.
Last name	Kueon
Middle name	
First name	Boreum
Department	
Mobile	
Direct fax	
Direct tel.	+82-54-223-2303
Personal e-mail	jesslk@ircc.co.kr

- - - - -

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	1 April 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: monitoring report, programme of activities		