Programme design document form for small-scale CDM programmes of activities

(Version 04.0)

Complete this form in accordance with the Attachment "Instructions for filling out the programme design document form for small-scale CDM programmes of activities" at the end of this form.

PROGRAMME DESIGN DOCUMENT (PoA-DD)

Title of the PoA: Energy Efficient Building Materials Production Technologies Development Program

Version number of the PoA-DD: 01

Completion date of the PoA-DD: 03/04/2016

Coordinating/ managing entity: Greentech Carbon Solutions Limited

Host Party(ies): Bangladesh

Sectoral scope(s) and selected methodology(ies), and where applicable, selected standardized baseline(s):

Sectoral Scope 4, Manufacturing Industries

AMS-III.Z.: Fuel Switch, process improvement and energy efficiency in brick manufacture --- Version 6.0

PART I. Programme of activities (PoA)

SECTION A. General description of PoA

A.1. Title of the PoA

>>Energy Efficient Building Materials Production Technologies Development Program

A.2. Purpose and general description of the PoA

1. Policy/measure or stated goal of the PoA

The "**Energy Efficient Building Materials Production Technologies Development Program**", later on referred to as "**The PoA**", will support the development of new brick[1] production facilities throughout Bangladesh that will employ energy efficient technologies. Each small-scale CDM Program Activity (referred later on as **CPA**) under this PoA will comprise several such energy efficient brick/block plants of same kiln technology within the threshold for a small-scale CDM project.

2. General operating and implementing framework of PoA

The coordinating/management entity (CME) of this PoA is Greentech Carbon Solutions Limited (GCSL) (hereafter referred to as "CME") for the PoA. GCSL is committed to promote energy efficient technologies in Bangladesh through Clean Development Mechanism and Emission Reduction Trading.

The CME will work closely with the developers of the energy efficient brick/block production plants and other organizations active in the building and construction material sector in Bangladesh including both local commercial and international development Banks/FIs to facilitate the development of new energy efficient brick/block plants and their inclusion in this PoA. The CME will also act as the focal point with the CDM Executive Board and DNA Bangladesh in all the aspects relating to the validation, registration, inclusion and verification/issuance of carbon credits generated by the CPAs of the PoA.

GCSL Team has extensive experience in development of bundled and Programmatic CDM Projects. GCSL project team will monitor the kilns periodically. Different technologies will be grouped under different CPAs.

Brick Plants included in the program are considered as CPA Participants.

3. Confirmation that the proposed PoA is a voluntary action

The PoA is a voluntary action being coordinated and managed by Greentech Carbon Solutions Limited (GCSL)

4. Contribution to sustainable development

The project helps to meet a number of sustainable development objectives:

[1] Brick in the context of this PoA includes solid bricks and blocks as well as hollow or perforated bricks and blocks used in building construction.

a) *Environmental objectives:* The PoA will reduce the use of coal which will have a positive environmental benefit by reducing the mining, transport and burning of fossil fuel. Particulate emissions from kilns as well as green house gas emissions will be reduced.

b) *Economic objectives:*The project will introduce new technology and help to modernize the brick industry which accounts for an estimated 1% of Bangladesh GDP. Further, coal use will be reduced which will optimise use of the resource.

c) *Social objectives:* The project will increase the production of bricks from approximately 6 months of the year to 12 months of the year. This will help to transform the brick industry from being a seasonal to a permanent source of employment. Each kiln will create approximately 45-100 permanent as opposed to temporary jobs[2].

d) Health benefits of brick sector workers: Improvement in air pollution has been proven to have direct correlation with respiratory illness and mortality rates. Improved air quality and occupational and health safety standards within brick factories under this PoA will benefit the brick workers, who are considered amongst the poorest labour pool of the country.

A.3. CME and participants of PoA

1. **Coordinating or managing entity of PoA as the entity which communicates with the Board**

The Coordinating and Managing Entity (CME) of the PoA that communicates with the Board is **Greentech Carbon Solutions Limited.**

2. **Project participants being registered in relation to the PoA** (Project participants may or may not be involved in any of the CPAs related to the PoA.)

A.4. Party(ies)

Name of Party involved (host) indicates host Party	Private and/or public entity(ies) project participants, CME (as applicable)	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Bangladesh (host)	Greentech Carbon Solutions Limited (Private entity) (a)	No

A.5. Physical/ Geographical boundary of the PoA

The PoA boundary will be the geographical boundary of People's Republic of Bangladesh.

A.6. Technologies/measures

"**The PoA**", will support the development of new brick production facilities throughout Bangladesh employing energy efficient technologies.

The technology to be supported under this PoA are as follows:

A: Clay Brick production Technology by Sintering/firing process inside a kiln

[2] Whilst the traditional kilns remain in production for 6 months of the year due to the monsoon season, the newly constructed kilns will be able to operate round the year.

1. Tunnel kiln technology
2. Hybrid Hoffman Kiln technology

B. Non Firing Brick/block production technology

1. Auto Clave brick/block production Technology
2. Cellular Lightweight Concrete brick/block production Technology
3. Other suitable non fired building material production technology

The above list is not exhaustive and any future technology may be included under the PoA if they meet the eligibility criteria of the PoA. Such inclusion will be made through post registration change procedure as per the latest CDM Project Standard and CDM Project Cycle Procedure

A.7 Public funding of PoA

Currently there is no public funding involved in the PoA. A separate check will be performed at the time of inclusion of CPAs as per the eligibility criterion 10 in section B.2 of Part I.

In case public funding is involved in future

(a) Information on Parties providing public funding will be provided
(b) The affirmation obtained from such Parties in accordance with applicable provisions related to official development assistance in the Project standard will be attached in Appendix 2.
(c) Such public funding should not be a diversion of Official Development Assistance.

SECTION B. Demonstration of additionality and development of eligibility criteria

B.1. Demonstration of additionality for PoA

According to " **Guidelines on the demonstration of additionality of small-scale project activities" version 10, EB 83 Annex 14**

Project participants are required to provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

a) Investment barrier: A financially more viable alternative to the project activity would have lead to higher emission
b) Technological Barrier: A less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions

c) Barrier due to prevailing practice; prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions;

d) Other barriers: without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emissions would have been higher.

The table below indicates the additionality criteria relative to each Project scenario applicable under this
PoA. The different additionality approaches are discussed after the table.

Additionality criteria relative to each Project scenario

Project Scenario	Project Scenario Description	Technology type	Demonstration of Additionality
A	Clay brick production by sintering/firing process inside a kiln	Tunnel Kiln Hybrid Hoffman KIln	Additionality is demonstrated by Investment Comparison Analysis
B	Non Firing Brick/block production technology	Aerated Auto Clave (AAC) technology Cellular Lightweight Concrete (CLC) Technology	Additionality is demonstrated by barrier Analysis specially market penetration barrier

Scenario A:
Investment Comparison Analysis (for Tunnel Kiln and Hybrid Hoffman Kiln Technology):

A comprehensive financial analysis was done according to "Tool for demonstration and assessment of additionality" and "Guideline on the assessment of Investment barriers". The baseline technology is more profitable any other alternative technology. However, since no non firing technology exist in the country and since no investment info is yet in hand the analysis is limited to clay brick technology. Barrier analysis and investment analysis will be carried out for non firing brick when relevant information will be available.

OUTCOME OF THE FINANCIAL ANALYSIS					
	FCK	HHK		Tunnel	
		Without CER	With CER	Without CER	With CER
IRR	65%	11.45%	12.11%	16.54%	17.18%
Equity IRR	65%	11.12%	12.10%	15.33%	16.51%
Pay Back Period	2.26	7.21	6.56	7.21	6.56

Sensitivity analysis shows that at any scenario the baseline technology is far more profitable then project technologies.

Sensitivity Analysis						
	FCK		HHK		Tunnel	
Varibles	Variation	IRR	IRR Without CER	IRR with CER	IRR Without CER	IRR with CER
Kiln, Dryer & other civil works	0%	65%	11%	12%	17%	17%
	10%	62%	11%	12%	16%	17%
	-10%	65%	12%	12%	17%	17%
Main machinery & equipments	0%	65%	11%	12%	17%	17%
	10%	64%	11%	12%	16%	17%
	-10%	65%	12%	12%	17%	17%
Total Investment	0%	65%	11%	12%	17%	17%
	10%	59%	10%	10%	14%	15%
	-10%	66%	12%	13%	17%	18%
Clay Price	0%	65%	11%	12%	17%	17%
	10%	56%	11%	12%	16%	16%
	-10%	66%	11%	12%	17%	17%
Coal Price	0%	65%	11%	12%	17%	17%
	10%	46%	10%	11%	16%	16%

	-10%	68%	12%	12%	17%	17%
Sales price	0%	65%	11%	12%	17%	17%
	10%	108 %	16%	17%	22%	22%
	-10%	55%	10%	11%	15%	16%

Assumptions:

FCK has very high IRR as it requires very little investment. No fixed land (high ground) is required for the project. HHK and Tunnel both has high investment and low IRR. In HHK the capacity utilization is lower 55%-70% and also quality and price of bricks are also lower than tunnel kiln.

Please see the table below for the initial investment of the cost

Technology	Installed annual Capacity (million)	Total Investment in million BDT	Cost/million bricks capacity
FCK-baseline	4	4.65	1.1625
HHK	15	148.20	9.88
Tunnel	30	396.00	13.2

The key assumptions are as follows[3]:

			FCK	HHK	Tunnel
		Unit	Value	Value	Value
A	**Project Cost**	BDT	**4,642,583**	**148,200,000**	**396,000,000**
	Land and Land Development	BDT	**Rented Land**	**26,000,000**	**36,000,000**
	Kiln and other civil construction	BDT	1,943,500	37,200,000	100,000,000
	Machineries and equipment	BDT	199,083	70,000,000	230,000,000
	Net Working Capital	BDT	**2,500,000**	**15,000,000**	**30,000,000**
B	**Means of Finance**				
	Debt	Percentage		60%	60%
	Equity	Percentage	**100%**	**40%**	**40%**
C	**Production**				
	No of working days in a year	days	**177**	**300**	**300**
	Daily Production capacity	bricks	25,377	50,000	100,000
	Annual Production Capacity.avg	bricks	4,000,000	15,000,000	30,000,000

[3]For details please refer to Investment Comparison Analysis_BAN Brick Sector_2013.xls

	Capacity Utilization	%	**85-95%**	**60%-70%**	**70-80%**
	Average brick price	BDT	6.00	6.50	7.5
D	**Raw material and Fuel**				
	Clay price	Tk/cft	10	10	10
	Sand Price	Tk/cft	6	6	6
	Coal Price	Tk/ton	10,000	10,000	10,000
	Diesel Price	Tk/liter	70	70	70
	Clay Consumption per brick	cft	0.10	0.125	0.125
	Coal Consumption per brick	gm	240	130	120
	Sand Consumption per brick	cft	1.00E-04	-	-
E	**Manpower**				
	Total Employment	No.	**150**	**96**	**65**
	Permanent Employee	No.	7	96	65
	Administrative employee	No.	7	14	20
	Factory workers	No.	143	82	45
F	**Inventory**				
	Clay stock required	Days	90	120	120
	Coal Stock required	Days	30	60	60
G	**CER Revenue**				
	CER price	Tk/CER		400	400
	CER Generation			4,628	10169
	CER Share			50%	50%

Clay Calculations				
Clay required @ 100% capacity	cubic feet compact clay	400,000	1,875,000	3,750,000
Volm Reduction during Compacting			10%	10%
Transportation lost		10%	10%	10%
Total Clay Requirement	cubic feet loose clay	444,444	2,343,750	4,166,667

Depreciation				

Kiln, dryer & Other Civil Works	5%	97,175	1,860,000	5,000,000
Machinery	10%	19,908	7,000,000	23,000,000
Vehicle	20%			
Others	20%			

Scenario B:

Barrier Analysis (Non fired Brick Technology):

The project activity faces one or more barriers as defined in above guideline

Under the Version 01 of "GUIDELINES FOR OBJECTIVE DEMONSTRATION AND ASSESSMENT OF BARRIERS" (Annex 13 of EB 50 guidelines), Guideline 7 states that "For projects in Least Developed Countries[4] it is sufficient to transparently describe the relevant barriers, as less stringency is needed with regards to data availability in the actual demonstration of barrier, as compared to the projects in other countries. Projects in Least Developed Countries are not bound by the provisions in this guideline and may use other approaches that are more adapted to the local circumstances".

The Rationale under Guideline 7 suggests that Projects in Least Developed Countries can be assumed in general to face significant barriers to their implementation. At the same time, data availability in these countries is considerably limited which complicates the demonstration of additionality and therefore further increases transaction costs. Bangladesh falls under the category of Least Developed Countries as listed by the United Nations General Assembly[5]. Accordingly the barriers to this project are transparently described below based on available information, thereby satisfying Executive Board requirements:

The barrier analysis demonstrates that a large number of barriers have so far inhibited the adoption of cleaner brick making technologies and that without the project activity business as usual will continue to prevail. Under business as usual, CO2 emissions will be higher than under the project. The project activity therefore meets the first additionality test.

Hence, it has been clearly established that the technology mentioned above are additional and Additionality has been established at PoA level

B.2. Eligibility criteria for inclusion of a CPA in the PoA

A CPA that is included in the PoA must meet the following criteria in accordance with the applicable provisions in the PoA standards[6]:

	Eligibility criteria		Means of proof	Confirmation
#	Description	Condition to be met		
1	Methodology Applicability	Each CPA must meet the criteria for methodology AMS IIIZ, the version that is described in the PoA. No other	Each CPA will describe compliance and applicability and other requirements of the methodology AMS III Z in the	Yes/No

[4] As defined by the United Nations General Assembly in its resolutions (59/209, 59/210 and 60/33) and its updates.

[5] http://unfccc.int/files/cooperation_and_support/ldc/application/pdf/ldc-list-31jan08.pdf

[6] Clause18 of "Standard: Demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities", Version 04.0

		methodologies will be used.	CPA-DD section D.2	
2	Technology Requirement	Each CPA will implement anyone of the technology/measures listed below in brick [7] production facilities: 1. New brick/block production technology/process which may include the following a) Tunnel Kiln technology b) Hoffman Kiln technology c) Autoclave technology d) Compressed brick technology e) any other new alternative technology using either fired or non fired brick/block production technology ; or 2. Complete/partial substitution of high carbon fossil fuels with low carbon fossil fuels[8].	Technology Description in the CPA-DD section A.5	Yes/No
3	Boundary and location of the CPA	The geographical boundary of the CPA including any time-induced boundary is consistent with the geographical boundary set in the PoA;	The boundary of each CPA will be within the POA boundary and will be stated in the CPA DD (Section A.7)	
4	Conditions that avoid double counting of emission reductions	i) Each CPA Participants (brick factory) of the CPA shall be uniquely identified by its geographical coordinates and Company Name. ii) A confirmation from each CPA Participants /CME that the proposed CPA is neither registered as an individual CDM project activity nor included in another PoA and that no CERs will be claimed for the CPA Participants (brick factory) other than those claimed by this PoA's CME	i) Demonstrate that each CPA Participants under the CPA employs unique identification by individual Company name and geographical coordinates in the CPA-DD (A.7 of the CPA-DD) ii) Attestation signed by CPA Participants and/or by the CME	Yes/No
5	Start date	The CPA start date shall be after the PoA prior consideration date[9], i.e. June 02 ,2013)	The start date of the CPA will be specified in each CPA-DD.(Section A.8.1) and it will be ensured that the CPA start date	Yes/No

[7]Brick in the context of this methodology AMSIIIZ includes solid bricks and blocks as well as hollow blocks used in building construction.

[8]For example from anthracite coal to natural gas.

[9]The date on which the CME has*submitted the notification of the commencement of the programme of activities (PoA) and the intention to seek CDM status*

			is after the PoA prior CDM consideration date , i.e. after January 02 ,2013 The Start date will be confirmed by any documentary proof of purchase of machineries, e.g. letter of credit (LC) opening, wire transfer, purchase order etc.	
6	The conditions that ensure that CPAs meet the additionality requirements	Each CPA has to meet anyone of the following combination of eligibility criteria 1) Eligibility Criteria no 2(1) , 3 and 7(1) 2) Eligibility Criteria no, 2(1) , 3 and 7 (2)	Means of proof satisfying that anyone of the following combination of eligibility criteria are met 1) Eligibility Criteria no 2(1) , 3 and 7(1) 2) Eligibility Criteria no, 2(1) , 3 and 7 (2)	
7	Size Limit for CPAs	Each CPA (in aggregate if it comprises of independent sub units) meets the 1. Small-scale threshold of 60,000 tCO2e per year. i.e. The annual emissions reductions of each CPA shall not go beyond the limits of 60 ktCO2e/y over the entire crediting period Or, 2. Micro-scale threshold of 20,000 tCO2e per year and remains within this threshold throughout the entire crediting period	Emissions reductions will be estimated in the CPA DD section D.6.3 and verified by a DOE.	Yes/No
8	CPA Development, Management	Each CPA Participants in the CPA has to be approved by the CME for inclusion in the PoA.	A written approval/attestation will be provided by the CME	Yes/No
9	Target Group	The target group is industrial investors/businesses (i.e. brick/block manufacturers) in Bangladesh.	CPA is comprised of individual brick manufacturing factories/plants listed in section A.7 of the CPA-DD	Yes/No
10	Non-diversion of ODA/Non-use of Public Funding	CPA does not lead to a diversion of official development assistance (ODA)	Any of the following: (i) Confirmation from CME and/or CPA implementer that no public funding is involved in the CPA. (ii) In case public funding is involved, confirmation from the public fund provider or the DNA of the Annex I party involved that no ODA is diverted for the Implementation of a CPA.	Yes/No

11	Sampling requirements	All sampling requirements for a CPA should be based on the POA-DD and in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys.	Confirmed in CPA-DD (Section D.7.2 of the CPA-DD)	Yes/No
12	Debundling Check	Confirmation that the CPA is not a debundled component of a large scale project activity.	Attestation from CME that it has undertaken debundling check as per the procdure mentioned in the PoA-DD and the CPA is not a debundled component of a large scale project activity	Yes/No
13	Local Stakeholder Analysis	Local stakeholder consultations will be carried out at CPA level for each CPA participants	The summary of the local stakeholder consultation procedure, comments, solicitation and consideration of comments will be described in Section C of the CPA-DD	
14	Environmental Impact Analysis	Each CPA will demonstrate the CPA is in line with the host Party environmental laws/regulations.	Analysis of environmental impacts will be conducted by the CME for the technology employed under the CPA and the summary of which is included in section B.1 of the CPA-DD. For one technology type, one such analysis of environmental impacts will be deemed adequate in this regard. i.e. Analysis will be required if the technology type is included for the first time under the PoA. Subsequent CPAs with same technology type will refer to the Analysis already submitted/undertaken.	Yes/No

The CME will implement the following operational elements to ensure proper management and oversight of the proposed PoA

(i) A record keeping system for each CPA under the PoA

In order to unambiguously identify CPA Participants under each CPA (i.e brick plants participating in the PoA a record keeping system will be implemented that uniquely identify each CPA Participants (i.e brick plant) by its Plant name and geo coordinates and the CPA number under which they are included

The database will include the following specific detail information for each CPA as follows:

- CPA number
- List of brick plants with geo coordinates and factory addresses
- Installed capacity of each brick plant
- Kiln numbers
- The name, address, and owners and contact person’s details of each brick plant

- The record of technical specification of each brick plant participating in the CPA

(ii) Double Counting Procedure:

Each CPA will follow the procedures established by the CME to avoid double accounting and comply therewith.

The CME will implement a system to avoid double counting of emission reductions. This system will avoid the situation where a new SSC-CPA that has been already registered either as a CDM project activity, or as a CPA of another PoA, is included under the PoA.

Each CPA Participants, included within a CPA , will have unique Company Name and Geographical coordinates recorded and stated in the CPA DD section A.7. Prior to registering a new SSC-CPA within the proposed PoA, the CME will check the UNFCCC CDM project database to establish whether a CDM project activity or CPA of another PoA utilizing the same technology under the same name and geo coordinates as this CPA Participants of the PoA has already been registered within the PoA's project boundary. In addition, the CME will ensure that all parties involved in the implementation of a SSC-CPA have agreed to assign CERs to this PoA. This will avoid the situation whereby the project owners or any other party other than the CME involved in SSC-CPA implementation claim the same emission reductions as CERs for another CDM project or PoA. The CME will establish appropriate legal agreements with the SSC-CPA implementers to ensure that the ownership and assignment of CERs in respect of the PoA is clear, and avoids the possibility of emission reductions being double counted.

(iii) Debundling Check Procedure:

According to "*Guidelines on Assessment of De-bundling for SSC Project Activities, version 03"* EB 54, Annex 13, Section II.8

For the purposes of registration of a Programme of Activities (PoA), a proposed small-scale CPA of a PoA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity[10], which satisfies both conditions (a) and (b) below:

(a) Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure, and;
(b) The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.

The information in (i) and (ii) will be utilized by the DOE to determine that a CPA is not a de-bundled
component of another CDM programme project activity or CDM project activity.

In order to determine if the CPAs of this PoA are not de-bundled components of a large scale activity, a statement is provided by the CME for each CPA DD of this PoA that CME has undertaken debundled check as per the above procedure and the CPA is not a debundled component of a large scale project activity.

B.3. Application of technologies/measures and methodologies

[10] Which may be a (i) registered small-scale CPA of a PoA, (ii) an application to register another small-scale CPA of a PoA or (iii) another registered CDM project activity

Within this PoA two project activity scenarios for CPAs are contemplated.

Project activity Scenario A comprises the CPAs in which similar technology type of brick plants producing clay bricks by using sintering /firing process inside a kiln are included.

Project activity Scenario B corresponds to the CPAs in which similar technology type non firing brick/block production plants are included

In both project Scenario, Methodology to be applied:

AMS-III.Z. Fuel Switch, process improvement and energy efficiency in brick manufacture --- Version 6.0

The eligible technology/measures and methodologies for this PoA are indicated below:

Technology/Measure	Project Acivity Description
Tunnel Kiln	Clay brick production technology using sintering/firing process inside a Tunnel Kiln
Hybrid Hoffman Kiln	Clay brick production technology using sintering/firing process inside a Hoffman Kiln
Aerated Auto Clave technology	Non fired brick/block production technology using autoclaving process
Cellular Light weight Concrete technology	Non fired brick/block production technology using autoclaving process

Please refer to Part II, section B.7.2 for details on the sampling plan.

B.4. Date of completion of application of methodology and standardized baseline and contact information of responsible person(s)/ entity(ies)

Date of Completion: 03/04//2016

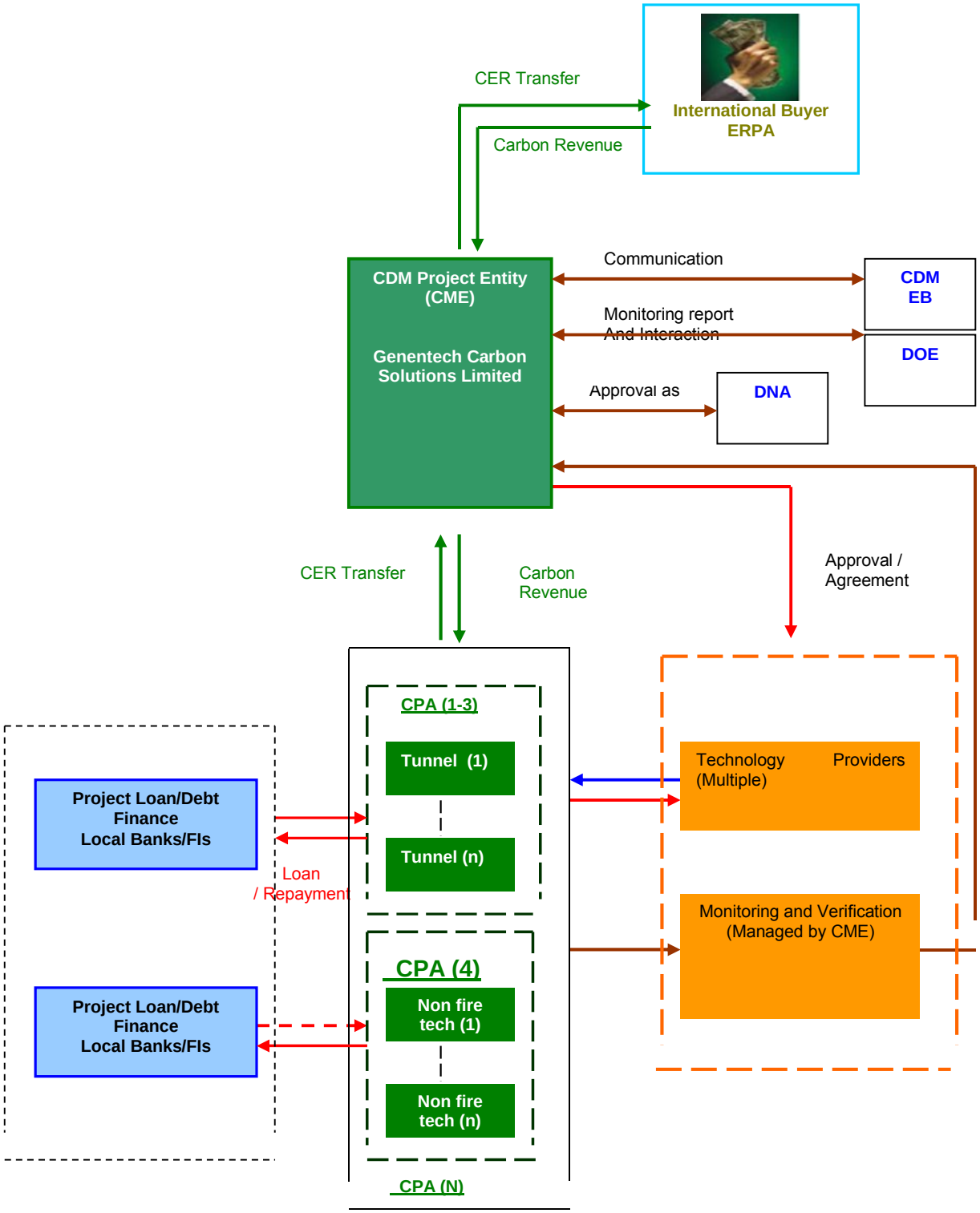
Contact Information of Responsible Person:

Shaymal Barman
Chief Executive Officer,
Greentech Carbon Solutions Limited
Location: Dhaka, Bangladesh
Mobile: +88-01716304650
Email: barman_shaymal@yahoo.com
Email official: info@greentechcarbonbd.com

SECTION C. Management system

The coordinating/management entity (CME) of this PoA is Greentech Carbon Solutions Limited (GCSL)(hereafter referred to as “CME”) for the PoA. The CME will work closely with the developers of the energy efficient brick/block production plants and other organizations active in the building and construction material sector in Bangladesh including both local commercial and international development Banks/FIs to facilitate the development of new energy efficient brick/block plants and their inclusion in this PoA. The CME will also act as the focal point with the CDM Executive Board and DNA Bangladesh in all the aspects relating to the validation,

registration, inclusion and verification/issuance of carbon credits generated by the CPAs of the PoA.



The management system will be govern by the Operations Management Plan prepared based on Para 19of the "Standard for Demonstration of Additionality,Development of Eligibility Criteria, and Application of Multiple Methodologies for Programmes ofActivities", Version 02.1, and is comprised of the following element:

(a) A clear definition of roles and responsibilities of personnel involved in the process of inclusionof CPAs, including a review of their competencies;

The CME will assign a Program Manager for review and inclusion of CPAs under the PoA who will be reporting to the CEO. Further information on the responsibilities of the CME staff can be found in the Operations Management Plan section 2.3 and the competency requirements of the CME staff engaged in CPA inclusion process are provided below.

Detailed roles & responsibilities and qualification of the Program Manager (CME Staff engaged in CPA inclusion)

Staff	Responsibilities	Qualification
Program Manager	▪ Coordinate and Manage all CME activities ▪ Responsible for supervising activities including CDM parameter monitoring, Environmental and social monitoring ▪ Coordination amongst the stakeholders ▪ Manage operation of the CME directly reporting to CEO ▪ Responsible for internal Audit ▪ Technical review for CPA inclusion in the PoA and CPA DD Development ▪ Reviews competencies of Monitoring officers ▪ Set Targets for Monitoring officers ▪ Quality control of implementation Work ▪ Addresses issues raised by Monitoring officers ▪ Is responsible for the design and continuous improvement of Database management systems ▪ Ensures staff is updated with latest EB rules via training information sessions, meetings etc. ▪ Continuously improves on the information and project	▪ University degree (Master's) in finance, business administration, economics or a relevant technical discipline (such as engineering or Natural sciences, public health etc.) ▪ Three to five years' relevant work experience in relevant fields, preferably CDM and project management. ▪ Knowledge of and experience in carbon markets will be preferable. ▪ Strong technical skills and experience in, or familiarity with PoAs ▪ Strong commercial and managerial Skills.

	management procedures ▪ Has overall responsibility for the audit process	
Asst Program Manager	▪ Assist Program Manager in all activities including CPA inclusion Process ▪ Manage all Records including arrangement for training and capacity development for personnel and Monitoring and Verification Reports etc. ▪ Responsible Monitoring and other report preparation ▪ Communications with the CPA Implementer. ▪ Compiles the monitoring information and develops the monitoring report from data provided by the CPA Implementer. ▪ Ensures the validity of the data provided by the CPA Implementer by means of consistency checks ▪ Identification of opportunities to improve work process and propose solutions to CME upper management. ▪ Deployment of any improvements and monitoring of their impact.	▪ University degree in finance, business administration, economics or a relevant technical discipline (such as engineering or natural sciences, public health etc.) ▪ One to three years 'work experience in relevant fields. ▪ Relevant technical or financial background. ▪ Familiar with the laws and regulations of the host country.

Personnel involved in CPA inclusion process will preferably have a background in any of the following area such as engineering, economics, finance, public health, business administration or natural sciences etc. and experience in CDM project development will be preferable. New staff shall be deemed to be competent to manage the inclusion of CPAs only after having completed the *on the job* training and having included a CPA in this registered PoA as part of such training.

The training and capacity development activities for the CME staff on Technical review and CPA inclusion process shall be carried-out by experienced staff of the CME and/or by specialist carbon companies if deemed appropriate.

(b) Records of arrangement for training and capacity development for personnel;

The CME is responsible for arranging, with the help of technology providers (manufacturers or suppliers of brick kiln technology), training any brick project staffs. The CME will ensure training of all on-site staff with respect to adherence to the Monitoring Plan of the project activity. Records of the training will be kept. At the time of validation, the POA raining and capacity development activities have not yet commenced. Training records and procedures will be provided to the DOE at the time of verification.

(c) Procedures for technical review of inclusion of CPAs;

The CEO of the CME will designate appropriately trained technical staff (Program Manager) for technical review of the inclusion of CPAs seeking inclusion in the PoA, to ensure it meets all the relevant eligibility criteria specified in the PoA-DD before including it in the PoA.

The list of eligibility criteria which has to be satisfied by each CPA for inclusion of the CPA within this PoA are provided in section B.2 above. Program Manager will review and ensure that each CPA meets all the eligibility criteria in section B.2 and means of proof provided are adequate.

All documents required for validating the compliance with such eligibility criteria as stipulated in the PoA-DD are to be collected and checked by the Assistant Program Manager. The Assistant Program Manager is also responsible for gathering all the additional information and supporting evidence required to complete the corresponding CPA-DD for related CPAs. Although most CPAs will be directly implemented by the CME itself, if any CPA implementer other than the CME is involved, Assistant Program Manager should liaise with the CPA Implementer for information collection.

After performing a detailed technical review, the Assistant Program Manager will compile the information and the results of the review in the form of a technical report concluding whether the CPA is eligible to be included in the PoA or not. The Program Manager will do a final check and ensure that all necessary documents for the compliance check have been collected and verified. The CEO of CME will approve and sign off for the inclusion of CPAs if all conditions are satisfied.

All information pertaining to the CPA is stored in the CPA deployment Record, on the CME's Electronic Database system.

The Program Manager shall then prepare the corresponding CPA-DD package and assemble the set of supporting documents that will be presented to the validating DOE.

(d) A procedure to avoid double accounting (e.g. to avoid the case of including a new CPA that has been already registered either as CDM project activity or as a CPA of another PoA);

As per section B.2 (ii) of part-I of the PoA-DD

(e) Records and documentation control process for each CPA under the PoA;

A record keeping system for each CPA under the PoA, the monitoring plan for this project is closely derived from the methodology. A database for the project activity will be maintained continuously.

A project database will be maintained recording all activities under the PoA.

(f) Measures for continuous improvements of the PoA management system

The CME shall continually improve the effectiveness of the PoA management system through the use of the internal audit,to be carried out once a year,of all the records of the CPA inclusion, CPA specific information, monitoring activities, analysis of data, corrective and preventive actions if any shortcomings are found and management review. If the methodology and standard are updated, the PoA management system should be improved too.

SECTION D. Duration of PoA

D.1. Start date of PoA

June 02, 2013,the start date of the PoA is determined by the date on which CME has notified to UNFCCC and DNA Bangladesh of the prior CDM Consideration i.e. commencement of programme of activities and intention to seek CDM status.

D.2. Duration of the PoA

28 years

SECTION E. Environmental impacts

E.1. Level at which environmental analysis is undertaken

Environmental Analysis is done at SSC-CPA level

E.2. Analysis of the environmental impacts

Not Applicable. Environmental Analysis is done at SSC-CPA level

SECTION F. Local stakeholder consultation

F.1. Solicitation of comments from local stakeholders

Local Stakeholder Consultation is done at SSC-CPA level

F.2. Summary of comments received

Local Stakeholder Consultation is done at SSC-CPA level

F.3. Report on consideration of comments received

Local Stakeholder Consultation is done at SSC-CPA level

SECTION G. Approval and authorization

The CME has received Host Country Approval on August 13, 2015

PART II. Generic component project activity (CPA)

SECTION A. General Description of a generic CPA

A.1. Purpose and general description of generic CPAs

Scenario A: Clay Brick production by Sintering/firing process inside a kiln

CPAs under this generic CPA-DD involve establishment / installation of new Clay brick/block technology by sintering/firing process inside a Kiln.

The CPA includes establishment of [insert CPA specific info: X number] [insert CPA specific info: Type of Technology e.g Tunnel kiln technology]brick manufacturing projects which will use sintering/firing process to produce brick/block . The projects are located in the following geographical area of Bangladesh

[Insert CPA specific info: Location details of the CPA
Example:

Sl. No	Name of Brick Projects Included	Technology Type	Current Installed Capacity	Location

]

The CPA will be coordinated and managed by Greentech Carbon Solutions Limited, (GCSL) , the CME of the POA.[Insert CPA specific info: The name and role of the CPA Implementer, if any]. [InsertCPA specific info: The name and role of the Partner Organizations, if any]

[Insert CPA specific info: Technical description of the CPA including the minimum of the following

i. Description of production technology,
ii. Process diagram and description
iii. General Layout of kiln and/or the brick project

]

SECTION B. Application of a baseline and monitoring methodology and standardized baseline

B.1. Reference of methodology(ies) and standardized baseline(s)

Methodology to be applied:

AMS-III.Z. Fuel Switch, process improvement and energy efficiency in brick manufacture --- Version 6.0

Associated Methodologies and/or Tools that the selected methodology refers:

- Tool to calculate project or leakage CO2 emission from fossil fuel combustion, Version 02
- Tool to calculate baseline, project and/or leakage emissions from electricity consumption, Version 01

B.2. Applicability of methodology(ies) and standardized baseline(s)

Justification of the choice of the methodology and why it is applicable to a SSC-CPA:

Each CPA operates under *AMS-III.Z* and is required to satisfy the following criteria:

Clause # AMS III Z	Applicability Criteria as described in AMS IIIZ	Demonstration of compliance
1	The methodology comprises one or more technology/measures listed below in brick[11] production facilities: • Shift to an alternative brick production technology/process; or • Complete/partial substitution of high carbon fossil fuel switch low carbon fossil fuels.[12]	Each CPA will demonstrate that all CPA Participants included in that CPA uniformly applies one or more technology/measures listed in the Methodology Criteria 1.
2	The measures may replace, modify, retrofit[6] or add capacity to systems in existing facilities or be installed in a new facility	Each CPA will demonstrate that measures applied in the CPA will be installed in a new facility by complying with the CPA inclusion Criteria 1 .
3	New facilities (Greenfield projects) and project activities involving capacity additions are only eligible if they comply with the requirements for Greenfield projects and capacity increase projects specified in the "General Guidelines for SSC CDM methodologies"	Each CPA (Greenfield project) is selected which will comply with the requirements in the General Guidelines for SSC methodologies.
4	In the case of project activities involving changes in raw materials (including additives) it shall be demonstrated that additive materials are abundant in the country/region, according to the following procedures:	CPA involving changes in raw material shall be demonstrated that additive materials

[11] Brick in the context of this methodology includes solid bricks and blocks as well as hollow blocks used in building construction.

[12] For example from anthracite coal to natural gas

	Step 1: using relevant literature and/or interviews with experts, a list of raw materials to be utilized is prepared based on the historic and/or present consumption of such raw materials. **Step 2:** the current supply situation for each type of raw material to be utilized is assessed and their surplus availability is demonstrated using one of the approaches below: • Approach 1: demonstrate that the raw materials to be utilized, in the region of the project activity, are not fully utilized. For this purpose, demonstrate that the quantity of material is at least 25% greater than the demand for such materials or the availability of alternative materials for at least one year prior to the project implementation; • Approach 2: demonstrate that suppliers of the raw materials to be utilized, in the region of the project activity, are not able to sell all of their supply of these materials. For this purpose, project participants shall demonstrate that a representative sample of suppliers of the raw materials to be utilized, in the region, had a surplus of materials (e.g. at the end of the period during which the raw material is sold) that they could not sell and that is not utilized.	are abundant in the region according to the procedure mentioned in the methodology
5	This methodology is applicable under the following conditions: (a) The service level of project brick shall be comparable to or better than the baseline brick, i.e. the bricks produced in the brick production facility during the crediting period shall meet or exceed the performance level of the baseline bricks (in terms of, for example dry compressive strength, wet compressive strength, density). An appropriate national standard shall be used to identify the strength class of the bricks; bricks that have compressive strengths lower than the lowest class bricks in the standard are not eligible under this methodology. Project bricks are tested in nationally approved laboratories at six-month intervals (at a minimum) and test certificates on compressive strength are made available for verification; (b) Measures are limited to those that result in emission reductions of less than or equal to 60 kt CO_2 equivalent annually.	a) Project bricks will be tested in a nationally approved laboratory at least every six (6) months and certificates of these tests will be available for verification. The unburnt bricks produced in the brick production facility during the crediting period shall meet or exceed the performance level of the baseline bricks (e.g., dry compressive strength) b) Each CPA-DD section will provide ER calculation in CPA-DD section D.7
6	This methodology is not applicable if local regulations require the	The CPA shall

	use of the proposed technologies or raw materials for the manufacturing of bricks unless widespread non compliance (i.e. less than 50% of brick production activities in the country comply) of the local regulation evidenced.	demonstrate that technology used in the CPA has a market share of less than 50% of total brick production in the country.

The following Scenario and/or Technology/Measure is not Included in the PoA-DD

- Complete/Partial substitution of fossil fuels with renewable biomass[2] (including solid biomass residues such as sawdust and food industry organic liquid residues)
- The measures may replace, modify, retrofit[6] or add capacity to systems in existing facilities

Hence Clause 2, 5, 6,7,8,9, 11(b) of the latest version of the methodology AMS IIIZ, version 4 are not considered as Methodology applicability criteria and hence demonstration of compliance for the clauses is not discussed here,

Small Scale Project Type:

Each CPA emission reduction per year will remain within the small-scale threshold of 60,000 tCO2e, as defined by Type III methodologies[13]. Hence each CPA qualifies as Small Scale Type III during every year of the crediting period in accordance with applicable provisions for project activity eligibility in the Project standard.

B.3. Sources and GHGs

	Source	Gas	Included?	Justification /explanation
Baseline	Emissions from fossil fuels/NRB utilized or fossil fuels/NRB that would be utilized for obtaining safe drinking water displaced due to project activity	CO_2	Yes	Major source of emissions
		CH_4	No	Minor source of emissions
		N_2O	No	Minor source of emissions
Project Emission	Emissions from consumption of fossil fuels and/or electricity for the operation of the project activity	CO_2	Yes	Major source of emissions
		CH_4	No	Minor source of emissions
		N_2O	No	Minor source of emissions

B.4. Description of baseline scenario

According to AMS.III.Z the baseline scenario is the following:

The baseline emissions are the fossil fuel consumption related emissions (fossil fuel consumed multiplied by an emissions factor) associated with the system(s), which were or would have otherwise been used, in the brick production facility(ies) in the absence of the project activity.

[13]Page 17, clause 81(c), Clean development project standard, Version 03.0

(a) For projects that involve replacing, modifying or retrofitting systems in existing facilities, the average of the immediately prior three-year historical fossil fuel consumption data, for the existing facility, shall be used to determine an average annual baseline fossil fuel consumption value. Similarly, prior three-year historical production data (excluding abnormal years) for the existing facility, shall be used to determine an average annual historical baseline brick production rate in units of weight or volume. For calculating the emission factor for fossil fuel, reliable local or national data shall be used. IPCC default values shall be used only when country or project specific data are not available or demonstrably difficult to obtain;

(b) For projects involving the installation of systems in a new facility or a capacity addition in an existing system, the average annual baseline fossil fuel consumption value and the baseline brick production rate shall be determined as that which would have been consumed and produced, respectively, under an appropriate baseline scenario. If the baseline scenario identification as per paragraph 4 above results in more than one alternative technologies with different levels of energy consumption, the alternative with the least emissions intensity should be chosen for determining the baseline emissions of the facility.

The baseline emissions are the fossil fuel consumption related emissions (fossil fuel consumed multiplied by an emissions factor) associated with the clamps, which were or would have otherwise been used, in the brick production facility(ies) in the absence of the project activity.

Technology Baseline

Currently, the brick making sector in Bangladesh uses four types of technologies which are described in greater detail in Annex 3[14]: Fixed Chimney Kilns (FCK), Bull's Trench Kilns (BTK), Zigzag Kilns, and traditional Hoffman Kilns. Prior to 2004, most of the kilns in Bangladesh used the BTK design, a relatively primitive design that is over 150 years old. It is highly polluting and exceedingly inefficient in terms of fuel use because its poor design results in crevices forming in the kiln walls. These leaks allow excessive air intake, which results in poor combustion; moreover, there is considerable heat loss through the kiln walls.

The market share for BTKs, in 1995, was 95%. After promulgation of the Brick Burning (Control) Act in 2004, almost all of the BTKs were converted to FCKs. This is due, in part, to the requirement that brick kilns must have a fixed chimney with a minimum height of 120 feet. The FCK design is slightly more energy efficient than the BTK whilst particulate emissions are similar.

Zigzag or Hebla kiln was slowly gaining popularity is the early stage of this decade. It costs same as FCK and initial stage was expected to be slightly energy efficient than FCKs. However due to dependency on Indian experts and informal dispersion of the technology after a decade the market share of Zigzag kiln is merely 4.8%. Moreover many Zigzag kilns operating in Bangladesh have not been constructed according to the design standard and several zigzag designs exists in the sector as the entrepreneurs had to rely on their own experts and interventions. So there is no specific zigzag type kiln which could consider as model zigzag for comparingemission and energy consumption standard with other type of kilns.

There are less than 30 Hoffman gas kilns, which is essentially a gas fired version of the HHK, in Bangladesh, for several reasons: lack of gas availability in areas where brickfields are located; high cost to finance these kilns; and government policies discouraging the use of gas for the brick industry in order to use it for power generation. The 2006 market share of the different brick kiln

[14] Based on UNDP Project Document, titled "Bangladesh - Improving Kiln Efficiency in the Brick Making Sector", August 2006) Page 2

technologies in Bangladesh is presented in Table 1 below which shows that the FCK market share is about 76%[15].

Table 1: 2006 Market Share of different Technologies in the Brick Making Sector

Kiln type	Number	Percentage of total	Annual brick production (billions)	Percentage of total production
FCK	3,123	75.4	9.4	75.8
BTK	794	19.2	2.0	16.1
Zigzag	197	4.8	0.7	5.7
Hoffmann Gas	26	0.6	0.3	2.4
Total	**4,140**	**100**	**12.4**	**100**

According to the latest information available at the database of Department of Environment, Ministry of Environment and Forest, Government of Bangladesh, the current market share of different brick technologies are as follows:

Table 3: 2010 Market Share of different Technologies in the Brick Making Sector[16]

Kiln Type	Number (Range)	Use of Technology as Percentage of Total
FCK	≤ 4500	92.21%
BTK	N/A	0.00%
Zigzag	≤ 150	3.07%
Hoffman – gas	≤ 20	0.41%
HHK	≤ 10	0.20%
Others	≤ 200	4.10%
Total	≤ 4880	100%

Source: Department of Environment, Bangladesh Government-Memo no: DOE/Enforcement/37,

Therefore, the FCK has been selected as the baseline technology since it is most common practice and meets legal requirements.

Energy baseline

Coal for brick making has until most recently, been imported into Bangladesh from coalmines in the Indian state of Assam, Meghalaya and West Bengal, mainly through Hilli, Haluaghat, Srimongal and Burimari border land ports. It is sold to brick manufacturers directly from the border land ports or brought to major coal distribution centres such as Dhaka and Bhairab. Current information on Indian Coal data shows that the Calorific Value of coal from Meghalaya is in the range of 6,500 to 7,500 KCal/Kg[17] and coal from Assam is in the range of 5,240 to 7,950 KCal/Kg.[18]

A UNIDO study in 1980 and an SDC-SCAT study in 1991 on the brick making Sector in Bangladesh established Specific fuel consumption as 0.25 kg coal per brick and Calorific Value

[15] Refer to report titled: Clean Development Mechanism Project Opportunities in Bangladesh, Pre Feasibility Report on a Brick Manufacturing Fuel Substitution CDM Project, Bangladesh University of Engineering, December 2002, Table A, pg 3, which discusses kiln types: http://pubs.pembina.org/reports/cdm_bangladesh_brickkilns.pdf

[16] Department of Environment, Bangladesh Government-Memo no: DOE/Enforcement/37

[17] http://meghalaya.nic.in/industry/opens.htm

[18] http://db.nedfi.com/content/coal-deposits-assam

(heat value) as 24.2 MJ/brick. It also showed the Specific Energy Consumption as 6.05 MJ/brick[19]. From these data Specific Energy Consumption per Kg brick production can be derived as 2.1 MJ/ Kg-brick for conventional sized bricks of 2.9 Kg/brick.

However, to update the present energy Baseline, further review of the baseline was undertaken for the Project.

Coal consumption figures for FCK are based on the following studies undertaken between 2002 and 2009:

⇒ In 2002, Bangladesh University of Engineering and Technology (BUET) prepared the "Clean Development Mechanism Project Opportunities in Bangladesh, Pre Feasibility Report" on a Brick Manufacturing Fuel Substitution CDM Project, including a survey of coal consumption of different brick making technologiesin Bangladesh. The survey showed consumption of 22-26 tons for production of 100,000 bricks. .

⇒ In 2006, the UNDP-GEF project was initiated to transform the brick industry towards cleaner technologies and practices[20]. Under the project, a survey of coal consumption of FCK was carried out. The survey established specific fuel (coal) consumption as 24 tons of coal per 100,000 bricks, which affirmed the coal use of 22-26 ton per 100,000 bricks reported in the previous 2002 BUET Study.

Calorific Value of coal and Specific Energy Consumption figures for FCK are based on the following studies undertaken between 2002 and 2009:

⇒ Both the BUET report in 2002 titled as "Clean Development Mechanism Project Opportunities in Bangladesh, Pre Feasibility Report" and the UNDP-GEF project report in 2006 used the default IPCC data for Calorific value to calculate the baseline emission.Using 24 ton coal consumption per 100,000 bricks and the default IPCC value for Indian coal at 4,000 kcal/kg[21], the UNDP –GEF project reported a lower specific energy consumption figure than the Baseline established under FAO report.

⇒ In 2008 and 2009, upon becoming aware that higher calorific values were being reported for Indian Coal, the calorific values of coal, used by FCK was laboratory tested by the project.[22] The results indicated a calorific value of 6,400 kcal/kg coal, which is close to the values stated in the websites of Indian Coal suppliers[23]. This result justifies the use of high calorific value rather than using the IPCC default value. The specific energy consumption of FCKs, using 6,400 Kcal/Kg and 24 ton coal per 100,000 bricks is thus raised to 2.21 MJ/kg-brick or 6.4 MJ/brick for a 2.9 kg conventional sized brick.

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[19] Refer to report titled : Status and development issues of the brick industry in Asia, FAO Field Document no.35, Table 1.7, page 10, which discussed energy input in bricks: http://144.16.93.203/energy/HC270799/RWEDP/acrobat/fd35.pdf

[20] Improving Kiln Efficiency for the Brick Making Industry - PDF B Phase (UNDP-GEF-BGD/04/014) Emission Baseline Report for the IKEMBI Project

[21] Emission Baseline Report for the IKEMBI Project (PDF-B Phase BGD/04/14) by the Louis Berger Group, WashingtonDC, June 2006

[22] Coal calorific tests conducted by BUET, BSCIR and Powertech Labs, Surrey Canada. Results showed that in 2008, the FCK operating primarily used Indian coal imported from Meghalaya with a calorific value measured at 6,400 kcal/kg. In 2009, a number of these FCK businesses switched coal supplies from India to Boropukuria (near Dinajpur in northwestern Bangladesh). Coal measured from Boropukuria has a value of 6,135 kcal/kg.

[23] Refer to the following websites:http://meghalaya.nic.in/industry/opens.htm;http://db.nedfi.com/content/coal-deposits-assam

Though Indian Coal has a high calorific value (5,240 K.Cal/Kg to 7,950 K.Cal/Kg), it also has a high sulphur content. Consequently, the Bangladesh Ministry of Environment and Forest and Ministry of Commerce, is promoting less import of Indian coal[24] and promoting the use of the high quality Bangladesh Barapukuria Coal, which is now in surplus. Consequently, domestic coal from the Barapukuria coal mine in north western Bangladesh near Dinajpur is now being used for brick making. The calorific value of this coal is laboratory tested at 6,135 kcal/kg[25].

In summary, for purposes of establishing an energy baseline, the calorific value of Barapukuria coal which is 6,135 kcal/kgwith a specific coal consumption of 24 tonnes per 100,000 bricks is used. Using these values the Specific energy consumption (for conventional size FCK bricks) is as follows:

Table 4: Energy Consumption of FCK Technology

Calorific value of coal	6,135 Kcal/Kg
Coal consumption per 100,000 bricks (conventional size)	24 tonnes
Specific Fuel Consumption per brick	0.24 kg coal / brick
Specific Energy consumption per brick (conventional size)	6.16 MJ/brick
Specific energy consumption per kg brick (conventional size)	2.125 MJ/kg-brick

Note: Specific energy consumption per kg brick is calculated for conventional sized brick of 2.9 Kg/brick

The energy baseline established above according to the current scenario has strong resemblance to the FAO report.

Emission baseline

The emissions baseline is the historic fuel consumption times the CO_2emission coefficient for the fuel displaced. As discussed above, for existing brick fields in Bangladesh, the coal used is sourced either from India or from the Boropukuria coal mine in northwestern Bangladesh and these coals are bituminous type coal. The Inter-governmental Panel on Climate Change (IPCC) default value for the carbon emission factor for Bituminous coal is 25.8 tonnes C/TJ and this value is used in the calculations.

To derive CO_2 emissions per kiln, the data shown in Table 4 have been used.

Table 2: Parameters used to derive CO_2 emissions per FCK kiln

Calorific value of coal	6,135 Kcal/Kg
Coal consumption per 100,000 bricks (conventional size)	24 tonnes
Specific energy consumption	2.125 MJ/kg-brick or 6.16 MJ/brick
Carbon emission factor for fuel	25.8 tonnes tC/TJ
Carbon to CO_2 conversion factor	3.66 t CO2/ tC

[24] http://www.bizbangladesh.com/business-news-2436.php

[25] www.bcmcl.org.bd

B.5. Demonstration of eligibility for a generic CPA

Each SSC CPA must meet the eligibility criteria and such confirmation has to be documented with evidence before inclusion of the CPA in the Program.

A list of eligibility criteria for each CPA, along with a demonstration of how that criteria is met, is provided in the PoA-DD, section B.2.

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

Clean development mechanism project standard, version 03.0 para 155 states that "The coordinating/managing entity shall consider that a full additionality assessment is not required in the context of CPA. Instead, the confirmation of additionality for CPAs should be conducted by means of the eligibility criteria. Hence, the assessment of additionality of each SSC-CPA to this PoA shall be evaluated on the basis that if the proposed SSC-CPA meets anyone of the following combination of eligibility criteria

a) Eligibility Criteria no 2(1) , 3 and 7(1); or
b) Eligibility Criteria no, 2(1) , 3 and 7 (2)

The criteria are detailed in POA-DD Section B.2 of part I.

B.6. Estimation of emission reductions of a generic CPA

B.6.1. Explanation of methodological choices

Emissions reductions will be calculated as:

ERy = BEy – PEy– Ly

Where

ERy = Emission Reduction in Year y
BEy = Baseline Emission in Year y
PEy = Project Emission in Year y
L y = Leakage

Baseline Emission:

$$BE_y = \sum_{n} (EF_{BL} \times EF_{PJ,y})$$

Where:
BEy = The annual baseline emissions from fossil fuels displaced by the project activity in t CO2e in year *y* (of the crediting period)
EF_{BL} = The annual production specific emission factor for year *y*, in tCO2/kg or m3
$EF_{PJ,y}$, = The annual net production of the facility in year *y*, in kg or m3
n = number of kilns included in the CPA

$$EF_{BL} = \sum_{n} (EF_{BL,FF} \times FF_{n} \times NCV_{FF,n}) \div P_{n,y}$$

Where:

$FC_{i,j,y}$ = Average annual baseline fossil fuel consumption value for fuel type *j* combusted in the process *i*, using volume or weight units8

NCVj = Average net calorific value of fuel type *j* combusted, TJ per unit volume or mass unit

EFCO2,j = CO2 emission factor of fuel type *j* combusted in the process *i* in tCO2/TJ

$Q_{y,i}$ = Average annual historical baseline brick production rate in accordance with paragraph 14(a), in units of weight or volume, kg or m3

$Q_{y,i}$= 4,000,000 bricks/years × 2.9 Kg per bricks
= 11,600,000 Kg bricks

$FC_{i,j,y}$= Annual average production of bricks in FCK × Coal consumption per bricks
= 4,000,000 bricks/years × 24 ton coal per 100000 bricks
= 4,000,000 × (24/1000) / 1000000 Kg coal per year in a average FCK
= 960,000 Kg Coal per year per FCK

NCVj = 6135 (Kcal/Kg) × 4.186 (KJ/Kcal) /1000000000
= 2.56811× 10^{-5} TJ/Kg coal

EFCO2,j = 99.7 t CO2/TJ

EFBL = [960,000 Kg Coal × *2.56811*× 10^{-5} TJ/Kg coal × *99.7 t CO2/TJ]* ÷ 11,600,000 Kg bricks
= 0.000212 t CO2/Kg bricks

Project Emission

The Project emissions shall be calculated as follows:

$$PE_y = \sum_{fff} (FC_{i,j,y} + FC_{biomass,y})$$

Where,

PE_y =Project emissions during the year *y* in (tCO2e)
$PE_{fossil\ fuel,y}$ = Project emissions due to fossil fuel consumption in year *y*
$P_{PJ,y}$, = The annual net production of the facility in year *y*, in kg or m3
N = number of kilns included in the CPA

$$FC_{fossil\ fuel,y} = \sum_{j} FC_{i,j,y} \times NCV_{i,y} \times EF_{CO2,i,y}$$

Where,

$FC_{i,j,y}$ = quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)

$NCV_{i,y}$ = weighted average net calorific value of the fuel type i in year y (GJ/mass or volume unit)

$EF_{,CO2,i,y}$ = weighted average CO_2 emission factor of fuel type i in year y (tCO_2/GJ)

$FC_{fossil,y} = \sum_{i} FC_{i,j,y} \times NCV_{i,y} \times (1 + OXID_{i,y})$

Where,

$PE_{EC,y}$ = Project emissions from electricity consumption in year *y* (tCO_2/yr)
$EC_{PJ,j,y}$ = Quantity of electricity consumed by the project electricity consumption source *j* in year *y* (MWh/yr)
$EF_{EL,j,y}$ = Emission factor for electricity generation for source *j* in year *y* (tCO_2/MWh)
$TDL_{j,y}$ = Average technical transmission and distribution losses for providing electricity to source *j* in year *y*
j = Sources of electricity consumption in the project

B.6.2. Data and parameters fixed ex-ante

Data / Parameter	***EFBL***
Data unit:	in tCO 2 /Kg of produced brick
Description:	Baseline Emission Factor
Source of data:	Calculated in SectionB.6.1
Value(s) applied:	0.000212
Choice of data or Measurement methods and procedures:	Detailed calculation and justification is available in section B.6.1
Purpose of data	Baseline Emission Calculation
Additional comment	Value is fixed for the entire crediting period.

Data / Parameter	***FC BL,I,J***
Unit	Tonnes
Description	Average annual baseline fossil fuel consumption value for coal *(fuel type j)* combusted in the firing process *(process i),* using volume or weight units
Source of data	Calculated as per applicable methodology as shown in section B.6.1
Value(s) applied	960
Choice of data or Measurement methods and procedures	Detailed calculation and justification is available in section B.6.1
Purpose of data	Baseline Emission Calculation
Additional comment	Value is fixed for the entire crediting period.

Data / Parameter	***NCVj***
Unit	TJ/kg fuel (Terra Joule/kg coal)
Description	Net calorific value (energy content) per mass unit of a fuel
Source of data	www.bcmcl.org.bd
Value(s) applied	NCV for Coal is 6,135 Kcal/Kg or $6135\times 4.186 \times 10^{-9}$ TJ/Kg
Choice of data or Measurement methods and procedures	Country specific CV data of coal is available and therefore used
Purpose of data	Baseline Emission Calculation
Additional comment	Value is fixed for the entire crediting period.

Data / Parameter	***PH***
Unit	Tonnes
Description	Average annual historical baseline brick production rate in units of volume,m3
Source of data	Calculated as per applicable methodology as shown in section B.6.1
Value(s) applied	11,600
Choice of data or Measurement methods and procedures	Detailed calculation and justification is available in section B.6.1
Purpose of data	Baseline Emission Calculation
Additional comment	Value is fixed for the entire crediting period.

Data / Parameter	*EFCO2,j*
Unit	*t CO2/TJ*
Description	Baseline C02 emission factor
Source of data	IPCC Default value
Value(s) applied	*99.7*
Choice of data or Measurement methods and procedures	IPCC Default value
Purpose of data	Baseline Emission Calculation
Additional comment	Value is fixed for the entire crediting period.

Data / Parameter:	**$EF_{CO2,ELEC}$**
Data unit:	tCO2e/MWh
Description:	Grid emissions factor per MWh of power produced
Source of data used:	BPDB data from 2006 -2009
Value applied:	0.683
Choice of data or description of measurement methods and procedures	This is based on BPDB data as of 2009. Grid emission factor is not published
Purpose of data:	To Calculate Project Emission
Additional comment:	Calculated as a weighted (50:50) sum of the OM (0.7320 tCO2/MWh) and BM (0.6341 tCO2/MWh) emissions.

Data / Parameter:	**$NCV_{Diesel,, y}$**
Data unit:	*TJ/Kilolitre*
Description:	Weighted average net calorific value of Diesel (fuel type)in year *y(TJ/Kilolitre)*
Source of data to be used:	IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories
Value of data	NCV for HSD is 0.036509 TJ/Kilolitre or 36.509GJ/Kilolitre
Choice of data or description of measurement methods and procedures	Default data from IPCC is used in the absence of Values provided by the fuel supplier in invoices, Measurements by the project participants and Regional or national default values.
Purpose of data:	To calculate Project Emission
Additional comment:	In mass unit, the value is 43.3 TJ/Gg or 43.3 MJ/kg. The density used for the conversion is 0.8432 litre/kg.

Data / Parameter:	**$Density_{Diesel,, y}$**
Data unit:	*kg/litre*
Description:	Density value of Diesel (fuel type)in year *y*
Source of data to be used:	IPCC default values as provided in Table 11 (page 81) of Chapter Energy of the 2002 IPCC Background Papers on Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories
Value of data	0.8432
Choice of data or description of measurement methods and procedures	Default data from IPCC is used in the absence of Values provided by the fuel supplier in invoices, Measurements by the project participants and Regional or national default values.
Purpose of data:	To calculate Project Emission
Additional comment:	Density is mass unit = 1/Specific volume. The specific volume published by IPCC is 1186 kilolitre/Gg or 1.186 litre/kg.

Data / Parameter:	**$EF_{CO2, Diesel, y}$**
Data unit:	tCO2/TJ
Description:	Weighted average CO2 emission factor of fuel type *i* in year *y*
Source of data used:	IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories
Value applied:	74.07
Choice of data or description of measurement methods and procedures	Default data from IPCC is used in the absence of Values provided by the fuel supplier in invoices, Measurements by the project participants and Regional or national default values.
Purpose of data:	To Calculate Project Emission
Additional comment:	

Data / Parameter:	**$TDL_{i,y}$**
Data unit:	-
Description:	Average technical transmission and distribution losses for providing electricity to source *j* in year *y*
Source of data used:	[CPA Specific info: XXX]
Value applied:	[CPA Specific info: XXX]
Choice of data or description of measurement methods	As per “Tool to calculate baseline, project and/or leakage emissions from electricity consumption” version 01, Annex 7, EB 39

and procedures	[CPA Specific info: XXX]
Purpose of data:	To calculate Project Emission
Additional comment:	

B.6.3. Ex-ante calculations of emission reductions

$$BE_{BL} = \sum_{i} (AB_{BL,i} \times NCV_j \times EF_{CO2,j}) \div P_{BL}$$

Where:

$AB_{BL,i}$ = Average annual baseline fossil fuel consumption value for fuel type *j* combusted in the process *i*, using volume or weight units8

NCVj = Average net calorific value of fuel type *j* combusted, TJ per unit volume or mass unit

EFCO2,j = CO2 emission factor of fuel type *j* combusted in the process *i* in tCO2/TJ

P_{BL} = Average annual historical baseline brick production rate in accordance with paragraph 14(a), in units of weight or volume, kg or m3

P_{BL} = 4,000,000 bricks/years × 2.9 Kg per bricks
= 11,600,000 Kg bricks

$AB_{BL,i}$ = Annual average production of bricks in FCK × Coal consumption per bricks
= 4,000,000 bricks/years × 24 ton coal per 100000 bricks
= 4,000,000 × (24/1000) / 1000000 Kg coal per year in a average FCK
= 960,000 Kg Coal per year per FCK

NCVj = 6135 (Kcal/Kg) × 4.186 (KJ/Kcal) /1000000000
= 2.56811 × 10^{-5} TJ/Kg coal

EFCO2,j = 99.7 t CO2/TJ

EFBL = [960,000 Kg Coal × *2.56811* × 10^{-5} TJ/Kg coal × *99.7 t CO2/TJ]* ÷ 11,600,000 Kg bricks
= 0.000212 t CO2/Kg bricks

$$BE_y = \sum_{i} (AB_{BL,i} \times EF_{BL,i})$$

BEy = (0.000212 × 100000*300*80%*3.5) + (0.000212 × 100000*300*80%*3.5)+(0.000212 × 300000*300*80%*3.5)
= 89,034 tCO2

The Project emissions shall be calculated as follows:

$$PE_y = \sum_{i} (PE_{FC,i,y} + PE_{electricity,i,y})$$

$$PE_{Coal\ combustion} = \sum_{i} FC_{Coal\ i,y} \times NCV_{Coal,i} \times EF_{Coal\ i,CO2}$$

PE coal = (2880 +2880+8640) ton coal ×[6135 Kcal/Kg ×4.186 (KJ/Kcal)] × [99.7 tCO_2/TJ]

= 36870 tCO2

PE diesel = (42*5) kl ×36542 MJ/kl× 74.07 tCO2/TJ * 10^{-6}

= 568 tCO2

$$PE_{Electricity,y} = \sum_{i} EC_{PE,i,y} \times EF_{Grid,CO2,y} \times (1 + TDL_{j,y})$$

= [720 MWh × 0.68 tCO2/MWh× (1+20%)] × 5

= 2938 tCO2

PEy = 36870 tCO2+ 568 tCO2+ 2938 tCO2

= 40376 tCO2

ERy = BEy – Pey

= 89034 tCO2 - 40376tCO2

= 48,658 tCO2

B.7. Application of the monitoring methodology and description of the monitoring plan

B.7.1. Data and parameters to be monitored by each generic CPA

Data / Parameter:	$FC_{Coal\ i,y}$
Data unit:	Tonnes/year
Description:	Total consumption of coal for brick making in brick plant j in year y
Source of data:	Invoices from the Coal suppliers.
Value(s) applied:	[CPA Specific Info]
Measurement methods and procedures:	Total Purchase will indicate the amount of coal supplied and consumed in brick production. These invoices will be gathered in the project office. Data will be included in the monthly report. At the end of each year total consumption will be calculated.
Monitoring frequency:	Annual
QA/QC procedures:	Coal stock at the end of each verification period will be estimated and noted in the annual report and the coal stock register will be used to cross check brick production and raw material purchase.
Purpose of data:	Project Emission Calculation
Additional comment:	

Data / Parameter:	$NCV_{Coal\ i,\ y}$
Data unit:	Kcal/Kg
Description:	Net Calorific Value of coal used in y^{th} year in brick field j
Source of data:	As per the data provided by the supplier and independently verified by a credible Bangladesh laboratory.
Value(s) applied:	6135 Kcal/kg
Measurement methods and procedures:	A composite sample of 1 kg coal will be taken from each new consignment of coal. At the end of each quarter all the samples taken in that quarter will be crashed and mingled to produce a representative sample for that quarter and will be laboratory tested to determine the net calorific value of coal used for that particular quarter and the value will be reported in the quarterly report. The entire data will be monitored and will be archived on paper and electronically. Average of the Net calorific values of different quarters will be calculated at the end of each verification/crediting period and will be considered as the net calorific value of coal used by related brick company in that crediting period.
Monitoring frequency:	The bundling agent will cross check all the data including coal consumption data by inspecting the coal stock register and reports of calorific value tests at the end of each verification/ crediting period.
QA/QC procedures:	$NCV_{Coal\ i,\ y}$
Purpose of data:	Project Emission Calculation
Additional comment:	

Data / Parameter:	$DP_{Bricks,\ i}$
Data unit:	Bricks/Day
Description:	Daily production of bricks in Kiln i
Source of data:	On-site measurements by the kiln owner
Value(s) of data:	50,000
Measurement methods and procedures:	The daily production (units of bricks manufactured) will be noted in a log sheet which will be maintained in the project plant. Measurements will be noted by technicians in the plant in the log sheets every day. Supervisor will sign the log sheet at the end of each day and data will be provided to the CDM Monitoring and Compliance officer, who will maintain data gathered in the project office. Monthly Reports will be prepared periodically by the CDM Monitoring and Compliance officer and will be gathered in electronic and paper mode.
Monitoring frequency:	
QA/QC procedures:	The amount of bricks manufactured at the end of each crediting period will be cross checked with the invoices for the sale of bricks and the stock in the plant.
Purpose of data	
Additional comment:	The Total Production of bricks per year in plant i is calculated by adding up the daily production of operating days in the year. The data will be archived for up to two years after the end of the crediting period.

Data / Parameter:	$DMW_{Bricks,\ i}$
Data unit:	Kg
Description:	Daily Mean Weight of baked bricks in Kiln i
Source of data:	On-site weighing by the kiln owner
Value(s) of data:	3.5
Measurement methods and procedures:	The average weight of bricks will be calculated as per the General Guidelines for Sampling and Surveys for Small Scale CDM Project Activities (EB50, Annex 3) using Load cell /Weighing scale. At each production day, a sample size of 100 bricks will be taken as per the

	sampling plan described in Annex 4 and will be weighed separately and mean daily weight will be calculated.
Monitoring frequency:	
QA/QC procedures to be applied:	Calibration of load cell/ weighing scale every year. The calibration will be carried out by government accredited laboratory
Any comment:	The data will be archived for two years after the end of the crediting period.

Data / Parameter:	N
Data unit:	Number
Description:	Number of operational days of the kiln in a year
Source of data:	Recorded by the kiln owner
Value(s) applied	300
Measurement methods and procedures:	The kiln owner will keep a record of the number of operational days of the kiln during the year.
Monitoring frequency:	
QA/QC procedures:	The kiln owner will record the data.
Purpose of data	
Additional comment:	The data will be archived for up to two years after the end of crediting period.

Data / Parameter:	$FC_{Diesel, j, y}$
Data unit:	Kilolitre /yr
Description:	Quantity of diesel (fuel type)combusted in process *j* during the year *y*
Source of data:	Invoices from the suppliers
Value(s) applied	
Measurement methods and procedures:	Purchase will indicate the amount of diesel supplied. The entire purchase in a year will be considered consumed in brick production. These invoices will be gathered in the project office. Data will be included in the monthly report. At the end of each year total consumption will be calculated.
Monitoring frequency:	
QA/QC procedures:	The diesel stock at the end of each verification period will be estimated and noted in the annual report and the diesel stock register will be used to cross check brick production and raw material purchase.
Purpose of data	
Additional comment:	Continuous monitoring will be required.

Data / Parameter:	$EC_{i, y}$
Data unit:	MWh
Description:	Electricity Consumption in plant i per year
Source of data:	Electricity bill from the REB or the electricity supplier
Value(s) applied	
Measurement methods and procedures:	Monthly Electricity bill paid to Rural Electricity Board (REB) will be used to calculate the total electricity consumption of the month and will be noted in the monthly report
Monitoring frequency:	
QA/QC procedures:	This will be cross checked with the monthly noted meter reading
Purpose of data	
Additional comment:	

B.7.2. Description of the monitoring plan for a generic CPA

This section details the steps taken to monitor on a regular basis the GHG emissions reductions from this project.

The main components within the monitoring plan are:

1. Parameter to be monitored, and data collection procedures.
2. Management and Operational System/procedures
3. Quality assurance measures and responsibilities including data base management

If necessary, this Monitoring Plan can be updated and adjusted to meet operational requirements, provided that such modifications are approved by a Designated Operational Entity during the process of verification. The Program Manager, GCSL, will be responsible for the activities related to implementation of the procedures.

1. Parameter to be monitored and data collection procedures

Parameters to be monitored, and how data will be collected are described in Section B.7.1.

Continuously all the data to be monitored will be registered in the plant register either in electronic form or on paper worksheets or both. Data collected will be entered in electronic worksheets and stored.

Emission reductions calculations will be carried out by a competent manager using a MS Excel spread sheets. Backup of the data electronically will be conducted on a weekly basis, and hard copy data will be printed monthly and a Performance Report will be prepared quarterly.

All data will be kept for the full crediting period, plus two years.

2. Management and Operational System

The data relevant to the project are proposed to be monitored and recorded manually by the plant operators.

The plant owners (entrepreneurs) will monitor the data for their respective plants based on daily coal consumption, daily brick production and weight of the bricks. This data will be recorded daily in the plant registers and once a month this will be compiled and delivered to GCSL.

The coal supply of each consignment will be evidenced by suppliers invoice. The total coal consumption will be calculated by summing up the values stated in the Invoices. .A composite sample of 1 kg coal will be taken from each new consignment of coal. At the end of each quarter all the samples taken in that quarter will be crashed and mingled to produce a representative sample for that quarter and will be laboratory tested at the BRTC, Bangladesh University of Engineering & Technology (BUET)to determine the net calorific value of coal used for that particular quarter and the value will be reported in the quarterly report. The entire data will be monitored and will be archived on paper and electronically. Average of the Net calorific values of different quarters will be calculated at the end of each verification/crediting period and will be considered as the net calorific value of coal used by related brick company in that crediting period. The above data will be submitted to GCSL for checking and for archiving purposes.

Each plant owner will employ a competent person in his plant as CDM Monitoring and Compliance Officer whose responsibility will be to collect the monitoring data as described in Section B.7.1 from different departments/sections of the plant and compile the data in the Excel format provided to

them by GCSL, the bundling agent. The CDM Monitoring and Compliance Officer will also be responsible for monthly delivery of both hard copies and electronic version of the Monitoring Data. Monitoring Officer of GCSL will collect Data from each CPA Participants on a monthly basis and submit these reports to the Senior Project Associate/ Senior Officer to produce quarterly performance reports and annual Emission reports.

The monitoring operation will be conducted according to the following Table

Task and Area of Responsibility	***Method Used***	***Frequency***	***Responsible person***	***Contact details***
Operation of the monitoring equipment	Manual entry, data recording Electronic Recording	Daily Continuously	Operator in-charge Operator in-charge	Respective plant owner
Quality control of information	On a monthly basis monitoring reports will be checked On monthly basis these reports will be forwarded to Senior Project Associate	Data review monthly	Monitoring Officer Project Manager	CME
Data collection	Collection of Monitoring data from each CPA Participants in both hard copies and electronic workbook format provided to each CPA Participants by GCSL	Monthly	Monitoring Officer	CME
Calculation of the emission reductions and any deviations from projections	As per PDD/ monitoring plan with excel spreadsheets	Quarterly	Project Manager	CME
Storage of the data (measured calculated, estimated data)	Data collection from CPA Participantss and storage	Monthly Periodic Monitoring Reports	Monitoring Officer	CME
QA/QC	As per the OMP Weighing equipment (depends on type of scale)	Yearly Yearly	Monitoring Officer	CME Respective Brick Company
Kiln owner's staff training (CDM monitoring)	Training program as and when required	As and when required	Project Manager	CME
Signs off on monitoring reports and achieved ERs		Yearly	CEO	CME

3. Quality assurance measures and responsibilities including data base management

Program Manager, CME will be in charge of, and accountable for, the generation of the ERs, including monitoring, record keeping, computation of ERs, audits and verification. The Program Manager, GCSL will ultimately be responsible for ensuring that the monitoring system is established and implemented to the satisfaction of a DOE

GCSL may conduct onsite training and quality control programs as and when required to ensure that good management practices are ensured and implemented by all project operating personnel in terms of recordkeeping, equipment calibration, overall maintenance, and procedures for corrective action.

The following quality control measures will be adopted to increase the reliability of the data monitored:

- To improve the reliability of data recorded by the plant operators, CME or their consultants will carry out an audit of the plants on an annual basis. The audit will be carried out at least for three consecutive days, and GCSL nominated auditors (designated as Carbon Inspectors) will verify the data on brick production as well as fuel consumption. and

- The annual coal consumption data reported by the plant operators will be cross-checked against the data recorded in the coal purchase register of the plant, and the higher value after adjusting for the closing stock at the plant will be used to calculate annual coal consumption.

Appendix 1. Contact information of coordinating/managing entity and responsible person(s)/ entity(ies)

CME and/or responsible person/ entity	☒ CME ☒ Responsible person/ entity for application of the selected methodology(ies) and, where applicable, the selected standardized baseline(s) to the PoA
Organization	Greentech Carbon Solutions Ltd.
Street/P.O. Box	Road 9, Rupnagar R/A, Mirpur
Building	House 6
City	Dhaka
State/Region	Dhaka
Postcode	Dhaka- 1216
Country	Bangladesh
Telephone	+88-9014021
Fax	
E-mail	barman_shaymal@yaho..com; info@greentechcarbonbd.com
Website	www.greentechcarbonbd.com
Contact person	Shaymal Barman
Title	CEO
Salutation	Mr.
Last name	Barman
Middle name	

Appendix 2. Affirmation regarding public funding

Currently no public funding is used in this PoA

Appendix 3. Applicability of methodology(ies) and standardized baseline(s)

Please refer to Section D.1 for applicability of methodology and Standardized baseline(s)

Appendix 4. Further background information on ex ante calculation of emission reductions

Please refer to section D.6.3 for any further background information on ex-*ante* calculation in emission reductions

Appendix 5. Further background information on the monitoring plan

Please refer to section D.7.1 and D.7.2 for any further background information on the monitoring plan

Appendix 6. Summary of post registration changes

The project has not been submitted for registration. Hence this is not applicable.

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Document information

Version	*Date*	*Description*
04.0	9 March 2015	Revisions to: • Include provisions related to choice of start date of PoA; • Include provisions related to delayed submission of a monitoring plan; • Provisions related to local stakeholder consultation; • Add exception for generic CPA where technology is under positive lists; • Editorial improvement.
03.0	25 June 2014	Revisions to: • Include the Attachment: Instructions for filling out the programme design document form for small-scale CDM programme of activities (these instructions supersede the "Guideline: Completing the programme design document form for small-scale CDM programme of activities" (Version 03.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for the application of the methodology (ies) to the PoA in B.4 and Appendix 1; • Add general instructions on post-registration changes in paragraphs 2 and 3 of general instructions and **Error! eference source not found.**; • Change the reference number from *F-CDM-SSC-PoA-DD* to *CDM-SSC-PoA-DD-FORM*; • Editorial improvement.
02.0	13 March 2012	EB 66, Annex 13 Revision required to ensure consistency with the "Guidelines for completing the programme design document form for small-scale CDM programmes of activities".
01.0	27 July 2007	EB33, Annex43 Initial adoption.

Decision Class: Regulatory
Document Type: Form
Business Function: Registration
Keywords:programme of activities, project design document, SSC project activities