



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

CONTENTS

- A. General description of small-scale programme of activities (SSC-PoA)
- B. Duration of the small-scale programme of activities
- C. Environmental Analysis
- D. Stakeholder comments
- E. Application of a baseline and monitoring methodology to a typical small-scale CDM Programme Activity (SSC-CPA)

Annexes

Annex 1: Contact information on Coordinating/managing entity and participants of SSC-PoA

Annex 2: Information regarding public funding

Annex 3: Baseline information

Annex 4: Monitoring plan

NOTE:

- (i) This form is for the submission of a CDM PoA whose CPAs apply a small scale approved methodology.
- (ii) At the time of requesting registration this form must be accompanied by a CDM-SSC-CPA-DD form that has been specified for the proposed PoA, as well as by one completed CDM-SSC-CPA-DD (using a real case).



SECTION A. General description of small-scale programme of activities (PoA)

A.1 Title of the small-scale programme of activities (PoA):

>>

Title of the PoA: Energy efficiency program through introducing 3WCF technique at ammonia manufactories in Yunnan, China

Current version of the document: 01

Date of the document was completed: 04/12/2009

A.2. Description of the small-scale programme of activities (PoA):

>> The following information shall be included here:

1. General operating and implementing framework of PoA
2. Policy/measure or stated goal of the PoA
3. Confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity.

1. General operating and implementing framework of PoA

The proposed programme of activities (PoA), involves activities of using a three-waste co-combustion furnace (hereinafter referred to as 3WCF) technique to reduce GHG emissions at ammonia manufactories across Yunnan province, China. Each small-scale CDM programme activity (SSC-CPA) will be implemented in geographically distinct areas across Yunnan. The PoA will be implemented and managed by Yunnan Sun Valley Energy Conservation Industry Development Co., Ltd. (hereinafter referred to as SVEC). Each CPA to be involved in the proposed PoA will be implemented by the owner of individual manufactory.

2. Policy/measure or stated goal of the PoA

The goal of the PoA is to improve the energy efficiency and to reduce the GHG emission at ammonia manufactories, by returning the three wastes (gas, sludge, fly ash) that are generated by the steam consumers to the local heat generation plant, and utilize the three wastes to reduce the consumption of coal and/or coke used to generate steam. By conducting this new eco-friendly technique, the program will abate GHG emissions through reducing fossil fuel usage, and save individual ammonia manufactories' money on their fossil fuel bills.

3. Confirmation that the proposed PoA is a voluntary action by the coordinating/managing entity.

The proposed PoA is a voluntary and coordinated action conducted by SVEC. There are no mandatory requirements in China forcing the use of 3WCF technique to reduce the fossil fuel consumption at ammonia plants.

In addition, the contribution of the PoA to sustainable development is significant.

Contribution to the sustainable development:

- The proposed PoA will improve product efficiency. It will reduce the energy consumption and waste discharged. So the owner can improve the level of resource utilization and overall economic benefits by the proposed project.
- The proposed PoA will change the situation that the owner is only dependent on coal. It will not only save energy but also mitigate pollution, which will contribute to achievement on the goal of emission reduction in China's 11th five-year plan.



A.3. Coordinating/managing entity and participants of SSC-POA:

>> The following information shall be included here:

1. Coordinating or managing entity of the PoA as the entity which communicates with the Board
2. Project participants being registered in relation to the PoA. Project participants may or may not be involved in one of the CPAs related to the PoA.

The coordinating/managing entity of the proposed PoA is SVEC. SVEC will be responsible for communication with the Board. SVEC is one project proponent; Tepia Corporation Japan is another project proponent, being as the purchaser of the proposed PoA.

The participants involved in the proposed project are shown in Table A.1.

Table A.1 Project participants

Name of Party involved (*) ((host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
P. R. China (host)	Yunnan Sun Valley Energy Conservation Industry Development Co., Ltd.	No
Japan	Tepia Corporation Japan Co., Ltd.	No

A.4. Technical description of the small-scale programme of activities:

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A.4.1. Location of the programme of activities:

>>

A.4.1.1. Host Party(ies):

>>

P. R. China

A.4.1.2. Physical/ Geographical boundary:

>> Definition of the boundary for the PoA in terms of a geographical area (e.g., municipality, region within a country, country or several countries) within which all small-scale CDM programme activities (SSC-CPAs) included in the PoA will be implemented, taking into consideration the requirement that all applicable national and/or sectoral policies and regulations of each host country within that chosen boundary;

The proposed PoA is located in Yunnan province, P. R. China (Fig A.1).



Fig. A.1 Geographical location of Yunnan province in P. R. China.

A.4.2. Description of a typical small-scale CDM programme activity (CPA):

>>

A.4.2.1. Technology or measures to be employed by the SSC-CPA:

>>

The 3WCF technique is a new boiler technique specifically designed for ammonia plants with recovery of coal and coke as raw materials, by returning the three wastes (gas, sludge, fly ash) that are generated by the steam consumers to the local heat generation plant, and utilize the three wastes to reduce the consumption of coal and/or coke used to generate steam.

The co-combustion furnace consists of two layers, a bottom layer for combusting waste sludge and fly ash, and an upper layer for burning waste gas. The bottom layer utilizes a common fluid-bed furnace technique, which can combust the waste sludge, fly ash together with low-quality coal and/or coke and make the energy using more effective.

This technology has made a breakthrough and innovative contribution to ammonia plants in term of energy-saving for more than a decade. The first-generation product can only recall blowing heat, known as "blown recovery furnace", now it has developed into a third-generation "3WCF", which has been listed as a key energy-saving technology in China. Several ammonia plants have conducted the technique and realized the withdrawal of coal consumption at steam boiler. The energy-saving results are quite remarkable.

The process of the whole system consists of a 3WCF co- combustion furnace, a combined dust catcher, a super stream boiler, a waste heat boiler, an economizer, an air pre-heater, an electric-bag dust catcher, and a chimney, which is shown in Fig. A.2.

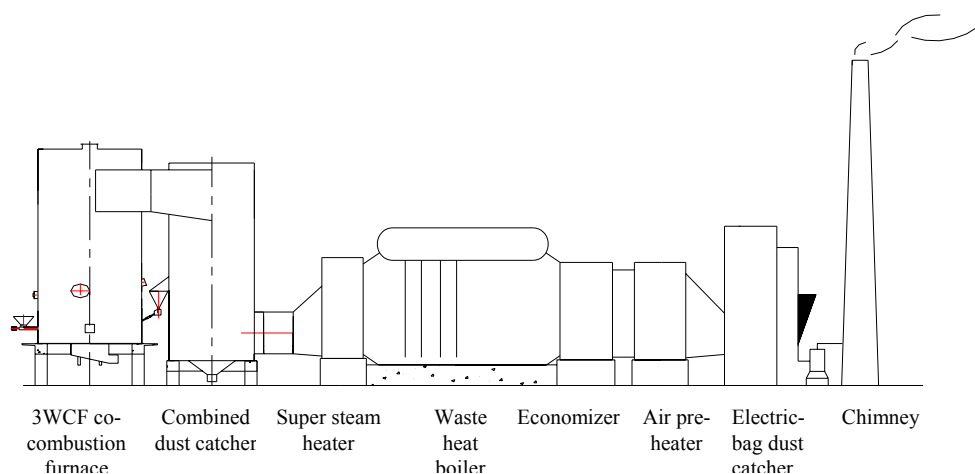


Fig. A.2 Scheme of the 3WCF technique.

A.4.2.2. Eligibility criteria for inclusion of a SSC-CPA in the PoA:

>> Here only a description of criteria for enrolling the CPA shall be described, the criteria for demonstrating additionality of CPA shall be described in section E.5

This CDM SSC project activity is applicable to energy efficiency technologies that by returning the three wastes (gas, sludge, fly ash), which are generated by the steam consumers to the local heat generation plant, and utilize the three wastes to reduce the consumption of coal used to generate steam.

The CPA which can be included in the proposed PoA should have the following characteristics:

1. The CPA to be included in this PoA should meet the applicability requirements of the methodology AMS-II.D..
2. The coordinating/managing entity of the CPA to be included in this PoA should be SVEC.
3. The CPA is implemented in Yunnan province and the physical/geographical boundary of the CPA does not exceed the physical/geographical boundary of the proposed PoA.

A.4.3. Description of how the anthropogenic emissions of GHG by sources are reduced by a SSC-CPA below those that would have occurred in the absence of the registered PoA (assessment and demonstration of additionality):

>> The following shall be demonstrated here:

- (i) The proposed PoA is a voluntary coordinated action;

The proposed PoA is a voluntary and coordinated action conducted by SVEC. There are no mandatory requirements in China forcing the use of 3WCF technique.

- (ii) If the PoA is implementing a voluntary coordinated action, it would not be implemented in the absence of the PoA;

Because the energy saving rate of ammonia manufactories is low and the investment on introducing 3WCF is high, for each CPA, the energy saving project is economically infeasible



in business as usual. However, the operating costs related to the PoA will be covered by revenues from each CPA in terms of CERs. Each CPA under the PoA can not be achieved without the CER revenues, and the PoA will also be operated and managed by using these revenues.

Therefore, the proposed PoA is a voluntary action.

- (iii) If the PoA is implementing a mandatory policy/regulation, this would/is not enforced;

Not applicable.

- (iv) If mandatory a policy/regulation is enforced, the PoA will lead to a greater level of enforcement of the existing mandatory policy/regulation.

Not applicable.

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

A.4.4.1. Operational and management plan:

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

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

The responsibilities of each party concerning the project operation and monitoring implementation have been agreed between SVCL and Yunnan Provincial Energy Conversation Service Center. SVCL is responsible for supervising and managing the whole CDM project operation in the following 10 years, as well as preparing monitoring reports periodically and submitting it to DOE. SVCL's responsibilities include: supplying the necessary equipment and devices for 3WCF, selecting and contracting ammonia manufactures to be added in each CPA, establishing project management offices at manufacture levels, providing technical service to manufactures and organizing them to perform monitoring work, collecting recorded monitoring data from manufactures and file it.

A.4.4.2. Monitoring plan:

>> The following information shall be provided here:

- (i) Description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the amount of reductions of anthropogenic emissions by sources or removals by sinks of greenhouse gases achieved by CPAs under the PoA.
- (ii) In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA (whether in groups or not, with different or identical verification periods) a transparent system is to be defined and described that ensures that no



double accounting occurs and that the status of verification can be determined anytime for each CPA;

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

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

PoA record keeping procedures will prevent double counting across CPAs. The data-set corresponding to each CPA will be mutually exclusive of the data-set of another CPA under the PoA. Project sample group and project cross-check group for each CPA will be unambiguously identified and assigned to a CPA, and their data will be used for the calculation of emission reductions for that CPA only. Similarly, the list of manufactories that participate in the exchange of light bulbs for each CPA cannot contain any duplicate entries. This duplication rule applies within each CPA and between CPAs.

Verification of each CPA will occur at the end of each monitoring period. The project database will record the start and end dates of each monitoring period, and record the emission reductions attributable to each monitoring period. Appropriate record keeping procedures will be implemented to ensure that each monitoring period data set can be transparently attributed to its corresponding CPA, preventing any occurrences of double counting. An audit of the project database will be able to determine the current status of each CPA - the duration of previous monitoring periods, the households and sample groups delivering monitoring data, and current verification activities.

A.4.5. Public funding of the programme of activities (PoA):

>>

No public funding from Annex 1 countries is provided for the proposed PoA.

SECTION B. Duration of the programme of activities (PoA)

B.1. Starting date of the programme of activities (PoA):

>>

01/07/2010

B.2. Length of the programme of activities (PoA):

>>

28 years.

SECTION C. Environmental Analysis

C.1. Please indicate the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken. Justify the choice of level at which the environmental analysis is undertaken:

1. Environmental Analysis is done at PoA level



Not applicable.

2. Environmental Analysis is done at SSC-CPA level

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

>>

The analysis is done at CPA level, however there is no significant environmental impact by introducing and operating the 3WCF systems.

C.3. Please state whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA):

>>

The host country of the proposed PoA is P. R. China. Environmental impact assessment will be implemented according to the requirements of Ministry of and approved by relevant government departments.

SECTION D. Stakeholders' comments

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

1. Local stakeholder consultation is done at PoA level
2. Local stakeholder consultation is done at SSC-CPA level

Note: If local stakeholder comments are invited at the PoA level, include information on how comments by local stakeholders were invited, a summary of the comments received and how due account was taken of any comments received, as applicable.

D.2. Brief description how comments by local stakeholders have been invited and compiled:

>>

Not applicable.

D.3. Summary of the comments received:

>>

Not applicable.

D.4. Report on how due account was taken of any comments received:

>>

Not applicable.

SECTION E. Application of a baseline and monitoring methodology

This section shall demonstrate the application of the baseline and monitoring methodology to a typical SSC-CPA. The information defines the PoA specific elements that shall be included in preparing the PoA specific form used to define and include a SSC-CPA in this PoA (PoA specific CDM-SSC-CPA-DD).



E.1. Title and reference of the approved SSC baseline and monitoring methodology applied to a SSC-CPA included in the PoA:

>>

NOTE: The approved SSC baseline and monitoring methodology should be approved for use in a PoA by the Board.

Baseline and monitoring methodology

Approved SSC baseline and monitoring methodology AMS-II.D.: “Energy efficiency and fuel switching measures for industrial facilities” --- Version 11 as valid from November 02, 2007.

For more information regarding the methodology please refer to UNFCCC website:

<http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>.

E.2. Justification of the choice of the methodology and why it is applicable to a SSC-CPA:

>>

NOTE: In the case of CPAs which individually do not exceed the SSC threshold, SSC methodologies may be used once they have first been reviewed and, as needed, revised to account for leakage in the context of a SSC-CPA.

Table E.1 Justification of the choice of the methodology.

Requirements	Justification
This category comprises any energy efficiency and fuel switching measure implemented at a single industrial or mining and mineral production facility.	The proposed project substitutes steam boilers for heating oil boiler, so the heat supplying efficiency has been improved. Switch fuel from coal to biomass residues, save energy and mitigate pollution.
This category covers project activities aimed primarily at energy efficiency.	The main purpose of this project is to improve the efficiency by substituting the steam boiler for heating oil boiler. From the technical point of view, energy efficiency improvement is more difficult than fuel switching. From the investment point of view, the payment of energy efficiency is greater than the payment of fuel switching. So energy efficiency is the main purpose, at the same time the purpose of fuel switching can be achieved.
The measures may replace, modify or retrofit existing facilities or be installed in a new facility.	The proposed project removes the old steam boilers and installs a new heating oil boiler.
The aggregate energy savings of a single project may not exceed the equivalent of 60 GWh _e per year. A total saving of 60 GWh _e per year is equivalent to a maximal saving of 180 GWh _{th} per year in fuel input.	The aggregate energy saving of each CPA is smaller than 180 GWh _{th} per year in fuel input.
This category is applicable to project activities where it is possible to directly measure and record the energy use within the project boundary.	Consumption of the proposed project has two parts: Waste bark produced by the owner in the processing, the owner will record its usage regularly. Bran coat bought from local farmers, the owner will also record its usage and check it with the invoice.
This category is applicable to project activities	Before and after the implementation of the



where the impact of the measures implemented (improvements in energy efficiency) by the project activity can be clearly distinguished from changes in energy use due to other variables not influenced by the project activity (signal to noise ratio).	proposed project, there is no change in the need of heat. So the impact of heating oil system can be clearly distinguished from changes in energy use due to other variables not influenced by it.
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E.3. Description of the sources and gases included in the SSC-CPA boundary

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The geographical extent project boundary shall include the following:

- (1) The industrial facility where waste energy is generated, including the part of the industrial facility where the waste gas was utilized for generation of captive electricity prior to implementation of the project activity);
- (2) The facility where process heat in the element process/steam/electricity/mechanical energy is generated (generator of process heat/steam/electricity/mechanical energy). Equipment providing auxiliary heat to the waste energy recovery process shall be included within the project boundary; and The facility(ies) where the process heat in the element process/steam/electricity/ mechanical energy is used (the recipient plant(s)) and/or grid where electricity is exported, if applicable.

Table E.2 Summary of gases and sources included in the project boundary and justification / explanation where gases and sources are not included.

	Source	Gas	Included?	Justification / Explanation
Baseline	Supplemental fossil fuel consumption at the old combustion furnace	CO2	Included	Main emission source
		CH4	Excluded	Excluded for simplification. This is conservative.
		N2O	Excluded	Excluded for simplification. This is conservative.
Project Activities	Supplemental fossil fuel consumption at the 3WCF	CO2	Included	Main emission source
		CH4	Excluded	Excluded for simplification. This is conservative.
		N2O	Excluded	Excluded for simplification. This is conservative.

E.4. Description of how the baseline scenario is identified and description of the identified baseline scenario:

>>

For AMS-II.D – Energy efficiency and fuel switching project, following are the plausible alternatives available:

1. Implement the project measure without consideration of CDM benefits;
2. Implement conventional steam boiler with lower efficiency at business as usual.

Option 1: Implement the project without consideration of CDM benefits

The proposed project needs large-scale investment, so it becomes financially unfeasible. This project can be implemented only with additional investment so it will face investment barrier without consideration of CDM benefits. The baseline scenario 1 is not applicable.

Option 2: Continue the implement of conventional steam boiler with lower efficiency.



Although the use of conventional steam boiler will consume coal that will lead to a small increase in operation cost, continue to use conventional steam boiler will not need large-scale investment. So it can get better economic returns than the use of heating oil boiler.

Thus, based on the above arguments, it is concluded that “option 2” – “Continue the implement of conventional steam boiler with lower efficiency” is the most plausible baseline option.

E.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the SSC-CPA being included as registered PoA (assessment and demonstration of additionality of SSC-CPA):

E.5.1. Assessment and demonstration of additionality for a typical SSC-CPA:

>> Here the PPs shall demonstrate, using the procedure provided in the baseline and monitoring methodology applied, additionality of a typical CPA.

According to Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities, project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

- Investment barrier:
- Technological barrier:
- Barrier due to prevailing practice:
- Other barriers

For the CPAs of the PoA, investment barrier is chosen to demonstrate the additionality by using following steps. In step 3, the benchmark analysis should be conducted.

Step 1: Clarify the investment decision criteria for energy saving projects of the CPA implementer, and list up examples of previous investment decisions applying the criteria by the CPA implementer.

Step 2: Calculate FIRR of the CPA in the absence of CER revenues in accordance with “Guidance on the Assessment of Investment Analysis, EB39, Annex 35”.

Step 3: Compare financial attractiveness of the CPA in the absence of CER revenues (using FIRR or payback period) with the investment decision criteria of the CPA implementer. If the FIRR does not satisfy the criteria, the CPA is additional.

Step 4: A sensitivity analysis should be conducted to determine in which scenarios the project activity would pass the investment decision criteria of the CPA implementer or become more favourable than the alternative. The sensitivity analysis should at least cover a range of +10% and –10% of initial cost and energy savings.

E.5.2. Key criteria and data for assessing additionality of a SSC-CPA:

>> Here the PPs shall provide the key criteria for assessing additionality of a CPA when proposed to be included in the registered PoA. The criteria shall be based on additionality assessment undertaken in E.5.1 above. The project participants shall justify the choice of criteria based on analysis in above section. It shall be demonstrated how these criteria would be applied to assess the additionality of a typical CPA at the time of inclusion.



NOTE: Information provided here shall be incorporated into the PoA specific CDM-SSC-CPA-DD that shall be included in documentation submitted by project participants at registration of PoA.

The key criteria and data for assessing additionality for each CPA is shown as in Table E. 3

Table E.3 Key criteria and data for assessing additionality.

Key data	Criteria
FIRR or payback period of the CPA	The calculated IRR or payback period do not satisfy the investment decision criteria of the CPA implementer

E.6. Estimation of Emission reductions of a CPA:

E.6.1. Explanation of methodological choices, provided in the approved baseline and monitoring methodology applied, selected for a typical SSC-CPA:

>>

Approved SSC baseline and monitoring methodology AMS-II.D.: “Energy efficiency and fuel switching measures for industrial facilities” --- Version 11 as valid from November 02, 2007.

For more information regarding the methodology please refer to UNFCCC website:
<http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>.

E.6.2. Equations, including fixed parametric values, to be used for calculation of emission reductions of a SSC-CPA:

>>

Baseline emission calculation

$$BE_y = BE_{HG,y} \tag{eq.1}$$

BE_y baseline emission in the y year (tCO_2e)

$BE_{HG,y}$ emission from the fossil fuels combustion in the boiler in baseline case (tCO_2e)

There are two methods to calculate $BE_{HG,y}$. One method is ex-ante estimation, the result ($BE_{HG,history}$) is get according to historical consumption of standard coal; Another method is ex-post calculation, the result ($BE_{HG,estimated,y}$) is get according to the actual consumption of biomass residues in the y year. As conservative estimation, we choose a smaller value to be the final result.

$$BE_{HG,history} = EF_{FF,CO_2} \cdot FF_{history,coal} \cdot NCV_{coal} \tag{eq.2}$$

$BE_{HG,history}$ baseline emission calculated according to the fossil fuel consumption’s historical data (tCO_2e/yr)

EF_{FF,CO_2} emission factor of standard coal (tCO_2e/MJ)

$FF_{history,coal}$ historical consumption of standard coal (t)

NCV_{coal} Net calorie value of standard coal (MJ/t)



$$BE_{HG,estimated,y} = \frac{\sum_k BF_{PJ,k,y} \cdot NCV_k \cdot \eta_{oil}}{\eta_{steam}} \cdot EF_{FF,CO_2} \quad (eq.3)$$

$BF_{PJ,k,y}$ biomass k consumption in the y year (t)

NCV_k Net calorie value of biomass k (MJ/t)

η_{steam} old steam boiler's heat efficiency(%)

η_{oil} new heating oil boiler's heat efficiency(%)

EF_{FF,CO_2} emission factor of standard coal (tCO₂e /MJ)

$BE_{HG,estimated,y}$ baseline emission calculated according to the fossil fuel consumption's historical data (tCO₂e/yr)

$$BE_{HG,y} = MIN \{ BE_{HG,history}, BE_{HG,estimated,y} \} \quad (eq.4)$$

Project emission is:

$$PE_y = GWP_{CH_4} \cdot PE_{CH_4,BF,y} \quad (eq.5)$$

PE_y project emission in the y year (tCO₂e)

GWP_{CH_4} global warming potential value of methane

$$PE_{CH_4,BF,y} = EF_{CH_4,BF} \cdot \sum_k BF_{PJ,k,y} \cdot NCV_k \quad (eq.6)$$

$BF_{PJ,k,y}$ biomass k consumption in the y year (t)

NCV_k Net calorie value of biomass k (MJ/t)

$EF_{CH_4,BF}$ methane emission factor of biomass (tCH₄e /MJ)

$PE_{CH_4,BF,y}$ methane emission in the y year (tCH₄e)

Leakage is:

The proposed project will not transfer equipment from other places and will also not transfer equipment to other places, so there is no leakage.

$LE_y=0$

LE_y Leakage of the proposed project in the y year (tCO₂e)

Emission reduction:

$$ER_y = BE_y - PE_y - LE_y = BE_y - PE_y$$

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

Data / Parameter:	EF_{FF,CO_2}
Data unit:	Kg/TJ
Description:	CO ₂ emission factor of standard coal



Source of data used:	《IPCC2006》
Value applied:	95520
Justification of the choice of data or description of measurement methods and procedures actually applied :	From IPCC
Any comment:	

Data / Parameter:	$FF_{\text{hisotry, coal}}$
Data unit:	t
Description:	historical consumption of standard coal
Source of data used:	
Value applied:	See CDM-SSC-CPA-PDDs
Justification of the choice of data or description of measurement methods and procedures actually applied :	
Any comment:	

Data / Parameter:	NCV_{coal}
Data unit:	MJ/t
Description:	Net caloric value of standard coal
Source of data used:	State standard ¹
Value applied:	See CDM-SSC-CPA-PDDs
Justification of the choice of data or description of measurement methods and procedures actually applied :	
Any comment:	

Data / Parameter:	η_{steam}
Data unit:	%
Description:	Heat efficiency of old stem boiler
Source of data used:	
Value applied:	See CDM-SSC-CPA-PDDs

¹ <http://www.ydjjxx.gov.cn/more1.asp?id=11734>



Justification of the choice of data or description of measurement methods and procedures actually applied :	
Any comment:	

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

Data / Parameter:	$BF_{PJ, coal, y}$
Data unit:	t
Description:	Consumption of waste bark in the y year
Source of data to be used:	The owner will supply the record of consumption of waste bark.
Value of data	See CDM-SSC-CPA-PDDs
Description of measurement methods and procedures to be applied:	
QA/QC procedures to be applied:	
Any comment:	

Data / Parameter:	T_{gas}
Data unit:	
Description:	Temperature of hot flue gas
Source of data to be used:	Monitored by the meter
Value of data	
Description of measurement methods and procedures to be applied:	When the system operates in stable, a special worker takes the responsibility to read the meter and keep the record everyday.
QA/QC procedures to be applied:	Regularly maintain and calibrate the meter.
Any comment:	

Data / Parameter:	T
Data unit:	
Description:	Normal temperature
Source of data to be used:	Monitored by thermometer
Value of data	
Description of	Special worker takes the responsibility to record the normal temperature at the



measurement methods and procedures to be applied:	same time when he records the temperature of hot flue gas.
QA/QC procedures to be applied:	
Any comment:	If the thermometer is damaged, it should be replaced timely.

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

>>

Monitoring Methodology

All data collected as part of the monitoring plan should be archived electronically and be kept at least for 2 years after the end of the last crediting period.

1) Monitor Data

Consumption of coal ($BF_{PJ, coal, y}$), it was recorded monthly and aggregated yearly.

Temperature of hot flue gas (T_{gas}) and the normal temperature (T), both of them will be recorded daily and aggregated yearly. The results will be use to calculate the efficiency of heating oil boiler (η_{oil})²

2) Monitor operational and management scheme

The project operator plans to appoint a CDM project director and a monitoring manager and several monitoring engineers. The respective responsibilities are as follows :

CDM Project Director : Receive reports from the monitoring manager; manage the CDM project ; coordinate with the Chinese Government and stakeholders; submit the monitoring report to the DOE and deliver the CERs.

Monitoring Manager: Check the monitoring data supplied by monitoring workers, aggregate yearly, prepare the monitoring report, and be responsible for CDM Project Director.

Monitoring Workers: Record the consumption of coal. Record the temperature of hot flue gas and the normal temperature everyday. Archiving all of data.

The team members named in the above may be revised in the future.

² Calculation is based on <Standard method for thermal calculation of boiler unit>. The calculation process can be seen in the annex 4.

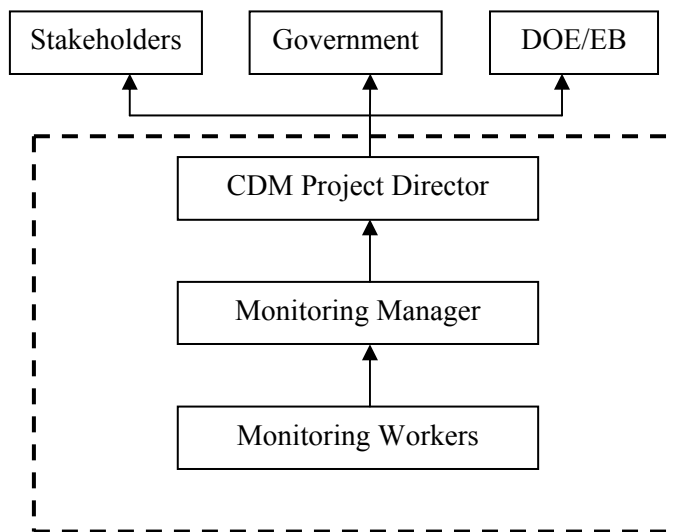


Fig. A.3 Operational and Management Scheme

3) Monitoring report prepared

Monitoring report is compiled by monitoring manager and is submitted to the relevant agencies by CDM project director.

4) Monitoring data archive

All monitoring data will be recorded and stored in a paper (hard copy) archives, and in parallel electronic record will be created for the archives. The relevant data will be kept during the crediting period and for two years after.

5) Recording Frequency

Consumption of waste bark and bran coat is recorded monthly and aggregated annually. Temperature is recorded everyday and aggregated annually

E.8 Date of completion of the application of the baseline study and monitoring methodology and the name of the responsible person(s)/entity(ies)

>>

Date of completion: 31/12/2009, Name of the responsible person(s)/entity



Annex 1

**CONTACT INFORMATION ON COORDINATING/MANAGING ENTITY and PARTICIPANTS
IN THE PROGRAMME of ACTIVITIES**

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Annex 2

INFORMATION REGARDING PUBLIC FUNDING

No public fund from Annex I Party is involved in PoA.

Annex 3

BASELINE INFORMATION

Annex 4

MONITORING INFORMATION
