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# Validation Report

**Climate Change Capital Limited (Consultant)**

VALIDATION OF THE CDM-PROJECT:

JIDONG CEMENT PANSI CO., LTD. 15 MW CEMENT  
WASTE HEAT RECOVERY PROJECT

REPORT NO. 1054657

**15 October 2009**

TÜV SÜD Industrie Service GmbH

Carbon Management Service  
Westendstr. 199 - 80686 Munich – GERMANY

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<b>Subject:</b> Validation of a CDM Project	
<b>Accredited TÜV SÜD Unit:</b> TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich Germany	<b>TÜV SÜD Contract Partner:</b> TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 80686 Munich Germany
<b>Project Participant:</b> Climate Change Capital Carbon Managed Account Limited 3 More London Riverside SE1 2AQ London The United Kingdom	<b>Project Site(s):</b> People's Republic of China, Jilin Province Province, Niuxin town of Panshi city, geographical coordinates: 126°08'31"E, 42°52'22"N
<b>Project Title:</b> Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project	
<b>Applied Methodology / Version:</b>	<b>Scope(s):</b> 1,4 <b>Technical Area(s):</b> 1.2, 4.2
<b>First PDD Version:</b> Date of issuance: 18-01-2008 Version No.: 02 Starting Date of GSP 24-01-2008 <b>Repeat PDD Version:</b> Date of issuance: 17-08-2008 Version No.: 03 Starting Date of GSP 29-08-2008	<b>Final PDD version:</b> Date of issuance: 15-10-2009 Version No.: 06
<b>Estimated Annual Emission Reduction:</b> 91,006 tCO <sub>2</sub> e	
<b>Assessment Team Leader:</b> Dr. Sven Kolmetz	<b>Further Assessment Team Members:</b> Paula Auer Ruifeng Li Du Baohai Jiming Zhang

**Summary of the Validation Opinion:**

- ☒ The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology(ies) or the applied methodology version respectively.
- ☐ The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.

## Abbreviations

<b>ACM</b>	Approved Consolidated Methodology
<b>AM</b>	Approved Methodology
<b>AMS</b>	Approved Methodology Small scale
<b>BM</b>	Build Margin
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CDM EB</b>	CDM Executive Board
<b>CER</b>	Certified Emission Reduction
<b>CM</b>	Combined Margin
<b>CMP</b>	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
<b>CR / CL</b>	Clarification Request
<b>DNA</b>	Designated National Authority
<b>DOE</b>	Designated Operational Entity
<b>EF</b>	Emission Factor
<b>EIA / EA</b>	Environmental Impact Assessment / Environmental Assessment
<b>ER</b>	Emission Reduction
<b>FAR</b>	Forward Action Request
<b>FSR</b>	Feasibility Study Report
<b>GHG</b>	GreenHouse Gas(es)
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IRL</b>	Information Reference List
<b>IRR</b>	Internal Rate of Return
<b>KP</b>	Kyoto Protocol
<b>MP</b>	Monitoring Plan
<b>NGO</b>	Non Governmental Organisation
<b>OM</b>	Operational Margin
<b>PDD</b>	Project Design Document
<b>PP</b>	Project Participant
<b>TÜV SÜD</b>	TÜV SÜD Industrie Service GmbH
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VVM</b>	Validation and Verification Manual

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## 1 INTRODUCTION

### 1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM Executive Board (CDM-EB). The ultimate decision on the registration of a proposed project activity rests at the CDM-EB and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:

Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

### 1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- Ø The Kyoto Protocol, in particular § 12 and modalities and procedures for the CDM
- Ø Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Ø Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Ø Decisions and specific guidance by the EB published under <http://cdm.unfccc.int>
- Ø Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- Ø Baselines and monitoring methodologies (including GHG inventories)
- Ø Management systems and auditing methods
- Ø Environmental issues relevant to the sectoral scope applied for
- Ø Applicable environmental and social impacts and aspects of CDM project activity
- Ø Sector specific technologies and their applications
- Ø Current technical and operational knowledge of the specific sectoral scope and information on best practice

The validation is not meant to provide any consulting towards the project participant (PP). However, stated requests for clarifications, corrective actions and/or forwards actions may provide input for improvement of the project design.

Once TÜV SÜD receives a first PDD version, it is made publicly available at the UNFCCC webpage and at TÜV SÜD's webpage for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP could be repeated) and the final PDD will form the basis for the final evaluation as presented in this report. Information on the first and the final PDD version is presented in page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

## 2 METHODOLOGY

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the “Clean Development Mechanism Validation and Verification Manual” version 01. The work starts with appointment of team covering the technical scope(s)/area(s), sectoral scope(s) and relevant host country experience for evaluating the CDM project activity. Once the project is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up actions, resolution of issues identified and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control by the CB “climate and energy” before submission to the CDM-EB.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. . TÜV SÜD developed methodology-specific checklists and protocol customised for the project. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

It organises, details and clarifies the requirements a CDM project is expected to meet;

It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation and any adjustment made to the project design.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

The completed validation protocol is enclosed in Annex 1 to this report.

Validation Protocol Table 1: Conformity of Project activity and PDD				
Checklist Topic / Question	Reference	Comments	PDD in GSP	Final PDD
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further sub-divided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any <b>Request</b> has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (p), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>Clarification Request (CR)</b> is used when the validation team has identified a need for further clarification. <b>Forward action request</b> to highlight issues related to project implementation that require review during the first verification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.</i>



Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective requests	Ref. to table 1	Summary of project owner response	Validation team conclusion
<i>If the conclusions from table 1 are either a Corrective Action, a Clarification or a Forward action Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the issue is explained.</i>	<i>The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the discussion on and revision to project documentation together with the validation team's responses and final conclusions. The conclusions should be reflected in Table 1, under "Final PDD".</i>

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	Id. of CAR/CR 1	Explanation of the Conclusion for Denial
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion with a clear reference to the requirement which is not complied with.</i>

## 2.1 Appointment of the Assessment Team

According to the technical scopes/ area(s) and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body (CB) ensuring that the required skills are covered by the team. The CB TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Ø Assessment Team Leader (ATL)
- Ø Greenhouse Gas Auditor (GHG-A)
- Ø Greenhouse Gas Auditor Trainee (T)
- Ø Experts (E)

It is required that the sectoral scope/area linked to the methodology has to be covered by the assessment team.

Name	Qualification	Coverage of technical scope/area	Coverage of sectoral expertise	Host country experience
Dr. Sven Kolmetz	ATL	p	p	p
Paula Auer	GHG-A	p	p	

Ruifeng Li	GHG-A		p	p
Du Baohai				p
Jiming Zhang	GHG-A	p	p	p

**Dr. Sven Kolmetz** is physicist and ATL at the department “TÜV Carbon Management Service” located in the head office of TÜV SÜD Industrie Service GmbH in Munich, Germany. Furthermore he is officially authorized expert in the verification of GHG emissions in the framework of the European Emission Trading Scheme. Before entering TÜV SÜD he worked as energy consultant for industrial companies and as consultant for the German Federal Government on instruments for the reduction of GHG emissions.

**Ms. Paula Auer** is an environmental engineer and auditor for green house gas emissions at the department “TÜV Carbon Management Service” located in the head office of TÜV SÜD in Munich. Paula Auer specializes in the assessment of CDM / JI projects in the sector of manufacturing Industries, waste handling and disposal as well as renewable energies.

**Mr. Ruifeng Li** is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He is based in Beijing. In his position he is responsible for the implementation of validation, verification and certifications audits for management systems. He has received training in the CDM validation process and participated already in various CDM project assessments as a GHG auditor.

**Mr. Baohai Du** works for TÜV Industrie Service GmbH, Beijing office in the field of validation and verification. He holds a Master Degree in EcoMBA from Sheffield University and has technical background in renewable energies. He has been involved in GHG realm since 2006, starting as a consultant for the development of CDM projects. He has received training in terms of CDM validation and verification processes.

**Mr. Jiming Zhang** is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He is based in Beijing. In his position he is responsible for the implementation of validation, verification and certifications audits for management systems. He has received training in the CDM validation process and participated already in several CDM project assessments.

## 2.2 Review of Documents

A first version of the PDD was submitted to the DOE in September 2007. The first PDD version submitted by the PP and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility and interpretation of the presented information, furthermore a cross check between information provided and information from other sources (if available) have been done as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

## 2.3 Follow-up Interviews

From 30<sup>th</sup> January 2008 TÜV SÜD performed interviews, telephone conferences and physical site inspection with project stakeholders to confirm relevant information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

Name	Organisation
Ms. Liu Wei	Hebei Tangshan Jidong Cement Co., Ltd.

Mr. Meskes Berkouwer	CVDT Consulting
Mr. Zhang Hongzhi	Jidong Cement Jilin Co., Ltd
Mr. Liu Jianzhong	Jidong Cement Jilin Co., Ltd
Ms. Zhao Yaonghong	Gansu Tonghe Investment Project Consulting Co., Ltd

## 2.4 Further cross-check

During the validation process, the team makes reference to available information related to similar projects or technologies as the CDM project activity. The documentation has also been reviewed against the approved methodology/ies applied to confirm the appropriateness of formulae and correctness of calculations.

## 2.5 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD's conclusion on the project design. The CARs and CRs raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are documented in more detail in the validation protocol in annex 1.

The final PDD version that was submitted in July 2009 serves as the basis for the final assessment presented herewith. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM, i.e. to achieve a reduction of anthropogenic GHG emissions and to contribute to a sustainable development.

## 2.6 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the CB "climate and energy", i.e. each report has to be finally approved either by the head of the CB or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform.

### 3 SUMMARY

The assessment work and the main results are described below in accordance with the VVM reporting requirements. The reference documents indicated in this section and Annex 1 are stated in Annex 2.

#### 3.1 Approval

The project participants are Jidong Cement Panshi Co., Ltd. of People's Republic of China, Climate Change Capital Carbon Managed Account Limited and Climate Change Capital Fund II S.a.r.l. of United Kingdom of Great Britain and Northern Ireland. The host Party China and further participant Parties United Kingdom of Great Britain and Northern Ireland meet the requirements to participate in the CDM. The DNA of the United Kingdom has issued LoAs (IRL 50, 51) on 9 June 2009 authorizing Climate Change Capital Carbon Managed Account Limited (C4MA) and Climate Change Capital Fund II S.a.r.l. (C4F2) as a project participants. The DNA of China has also issued a LoA (IRL 21) in July 2008 authorizing Jidong Cement Panshi Co., Ltd as a project participant. TÜV SÜD received these letters from the project participants directly and considers the provided letters as authentic.

The China LoA has further been double-checked with the CDM project webpage sponsored by the Department of Climate Change, NDRC (<http://cdm.ccchina.gov.cn>), which further confirms the approval of this CDM project.

Furthermore, after checking the provided LoAs, TÜV SÜD confirms that both letters refer to the precise proposed CDM project activity title in line with the title in the PDD "Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project".

Both letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project project is voluntary. The Chinese LoA also confirms that the proposed CDM project activity contributes to the sustainable development of China (host country). Based on the information given in these letters, TÜV SÜD considers the approval as unconditional with respect to these items.

Both LoAs have been issued by the respective Party's DNA, National Development and Reform Commission of the People's Republic of China and Department of Energy and Climate Change, respectively.

TÜV SÜD considers the requirements of the VVM (§§ 45-48) to be complied with.

The LoA does not specify a version number of the PDD or validation report. The corresponding references included to LoA, PDD and validation report are consistent.

#### 3.2 Participation

The participants of the project activity have been approved by the corresponding Parties, which is confirmed by the issued LoAs.

The means of validation were equivalent to those described in section 3.1 in regard to the approval process of the project activity.

#### 3.3 Project design document

The PDD is compliant with relevant form and guidance as provided by UNFCCC.

The most recent version of the PDD form was used.

TÜV SÜD considers that the guidelines for the completion of the PDD in their most recent version have been followed. Relevant information has provided by the participants in the applying PDD sections. Completeness was assessed through the checklist included to Annex 1 of this report.

### **3.4 Project description**

The following description of the project as per PDD was verified during the on-site audit:

The objective of the proposed project is to generate electricity by utilizing the waste heat from two clinker production lines (one 3200t/d and one 4000t/d) in Jidong Cement Panshi Co., Ltd. The project introduces energy recovery technology to replace the traditional way of releasing heat unused into the atmosphere.

The power generated replaces electricity which would have been purchased by the North East China Grid in the absence of the project activity.

The project will install 4 waste heat recovery (WHR) boilers, two at the pre-heater stage (one for 3200 t/d and one for 4000t/d production line) and two more at the clinker cooler stage ((one for 3200 t/d and one for 4000t/d production line). The steam produced by the boilers will be used to power a steam turbine with an installed capacity of 15 MW. Annual power generation amounts to 96,480 MWh. After deduction of auxiliary power consumption (8% of total generated electricity), the expected net annual supply to cement production facility is 88,760 MWh.

The project will contribute to sustainable development by Improving energy efficiency of the cement industry in Jilin Province, reducing global emissions of greenhouse gases and creating employment opportunities for local residents.

The information presented in the PDD on the technical design is consistent with the actual planning and implementation of the project activity as confirmed by:

- review of data and information (see annex 2), cross check the same with other sources if available.
- An on-site visit has been performed and relevant stakeholder and personnel with knowledge of the project were interviewed, in case of doubt further cross checks through additional interviews have been done.
- Finally information related to similar projects or technologies as the CDM project activity have been used if available to confirm the accuracy and completeness of the project description.

In light of the above, TÜV SÜD confirms that the project description as included to the PDD is sufficiently accurate and complete in order to comply with the requirements of the CDM.

### **3.5 Baseline and monitoring methodology**

#### **3.5.1 Applicability of the selected methodology**

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology ACM0012 Version 03.1 has been demonstrated.

The assessment was carried out for each applicability criteria and included among others the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures. This assessment also included the review of secondary sources which sustain that applicability conditions are complied with.

The Methodology specific protocol included to the Annex 1 documents the assessment process, including the steps taken. The results on the compliance check as well as the relevant evidence are explicitly presented in annex 1.

TÜV SÜD confirms that the chosen baseline and monitoring methodology is applicable to the project activity.

Emission sources which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified.

### 3.5.2 Project boundary

The project boundary was assessed in the context of physical site inspection, interviews and based on the secondary evidence received on the design of the project.

The project boundary includes the facility where waste heat is generated (Jilin clinker production line), the facility where electricity is generated (Heat recovery system) and the facility where the electricity is used (Jilin clinker production facility).

Jilin clinker production facility is connected to the North East China Power Grid, hence all power plants connected physically to the electricity grid that the project will affect are also included in the boundary.

Relevant documentation assessed to confirm the project boundary are as follows:

- Design and Equipment Purchase Contract (IRL 13)
- Construction contract (IRL 18)
- The business license of Jidong Cement Panshi Co., Ltd (IRL 19)

This was also confirmed during the validation process. Details and/or observations, if applicable, are listed in Annex 1..

Hence TÜV SÜD confirms that the identified boundary and the selected sources and gases as documented in the PDD are justified for the project activity.

### 3.5.3 Baseline identification

The PDD defines the following baseline scenario:

scenario	Baseline options		description
	Power generation	Waste heat use	
1.	P6	W2	Waste Heat is released into the atmosphere and electricity is sourced from grid connected power plants.

The information presented in the PDD has been validated by a first document review of all the data, further confirmation based on the on-site visit and a final step by cross checking the information with similar relevant projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was cross-checked based on verifiable and credible sources, such as:



- Energy Efficiency Improvement Potential & Opportunities in China's Cement Industry (IRL 27)
- EIA approval of Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project (IRL 9)

TÜV SÜD has determined that no reasonable alternative scenario has been excluded.

Based on the validated assumptions on calculations TÜV SÜD considers that the identified baseline scenario is reasonable.

TÜV SÜD confirms that all relevant CDM requirements, including relevant and / or sectoral policies and circumstances, have been identified correctly taken into account in the definition of the baseline scenario.

A verifiable description of the baseline scenario has been included to the PDD.

In regard to item 86 of VVM, TÜV SÜD confirms that:

1. All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
2. All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
3. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
4. Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
5. The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

### **3.5.4 Algorithm and/or formulae used to determine emission reductions**

TÜV SÜD has assessed the calculations of project emissions, baseline emissions, leakage, and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets. The parameters and equations presented in the PDD, as well as other applicable documents, have been compared with the information and requirements presented in the methodology and respective tools. The equation comparison has been made explicitly following all the formulae presented in the calculation files.

The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD.

The values presented in the PDD are considered reasonable based on the documentation and references reviewed, as well as, the result of the interviews.

The baseline methodology has been correctly applied according to requirements.

The estimate of the baseline emissions can be confirmed as the same that have been replicated by the audit team using the information provided.

Detailed information on the verification of the parameters used in the equations can be found in Annex 1. The algorithms for the determination of the baseline, project, and leakage are discussed in the following sections.

### 3.5.4.1 Baseline Emissions

According to the methodology baseline emissions for the year  $y$  are calculated as:

$$BE_y = BE_{En,y} + BE_{flst,y}$$

With:

$BE_y$  the total baseline emissions during the year  $y$  in tons of CO<sub>2</sub>;  
 $BE_{En,y}$  are baseline emissions from energy generated by the project activity during the year  $y$  in tons of CO<sub>2</sub>, and;  
 $BE_{flst,y}$  are baseline emissions from generation of steam, if any, using fossil fuel, that would have been used for flaring the waste gas in absence of the project activity (tCO<sub>2</sub>e per year).

The project does not use waste gas for energy production; hence

$$BE_{flst,y} = 0$$

Scenario 1 has been correctly identified for the baseline emissions. Hence the following calculations are applicable:

$$BE_{En,y} = BE_{Elec,y} + BE_{Ther,y}$$

With:

$BE_{Elec,y}$  baseline emissions from electricity during the year  $y$  in tons of CO<sub>2</sub>, and;  
 $BE_{Ther,y}$  baseline emissions from thermal energy (due to heat generation by element process) during the year  $y$  in tons of CO<sub>2</sub>.

The project does not involve the use of waste energy resource to provide heat, hence

$$BE_{Ther,y} = 0$$

The project has correctly been identified as a type 1 activity. Hence the following calculation is applicable:

$$BE_{Elec,y} = f_{cap} * f_{wcm} * \sum_j \sum_i (EG_{i,j,y} * EF_{Elec,i,j,y})$$

With:

$BE_{Elec,y}$  baseline emissions due to displacement of electricity during the year  $y$  in tons of CO<sub>2</sub>;  
 $EG_{i,j,y}$  the quantity of electricity supplied to the recipient  $j$  by generator, which in the absence of the project activity would have been sourced from  $i^{th}$  source ( $i$  can be either grid or identified source) during the year  $y$  in MWh;  
 $EF_{Elec,i,j,y}$  the CO<sub>2</sub> emission factor for the electricity source  $i$  ( $i=gr$  (grid) or  $i=is$  (identified source)), displaced due to the project activity, during the year  $y$  in tons of CO<sub>2</sub>/MWh;  
 $f_{wcm}$  the fraction of total electricity generated by the project activity using the waste energy resource (in the case of the proposed project activity, waste heat). This fraction is 1 if the electricity generation is purely from use of the waste energy resource (in the case of the proposed project activity, waste heat), without the additional firing of additional fossil fuels.  
 $f_{cap}$  is energy that would have been produced in project year  $y$  using waste energy generated in base year expressed as a fraction of total energy produced using waste source in year  $y$ .



Due to technical limitations to directly measure waste heat, method 3 case 1 has been chosen to calculate  $f_{cap}$ .

The theoretical available electrical power supply has been calculated based on the available waste heat in the clinker production line. Based on the available heat, the potential maximum electrical power supply has been calculated. This theoretical maximum electricity output is calculated based on design specifications of the equipment provided by the equipment supplier, a standard load factor of 0.85, and standard losses & auxiliary consumption (together 8%), which are all reasonable and have all been submitted to TÜV SÜD.

The calculation of the baseline emissions followed the procedures described in the methodology ACM0012 Version 3.1. The North East China Power Grid is considered to be the project boundary. The operating margin emission factor ( $EF_{OM}$ ) was determined based on the simple OM method. The ex-ante option was chosen for this calculation. The calculation of the build margin emission factor ( $EF_{BM}$ ) was based on modified methods agreed by the EB, because plant specific data are not available in China. The emission factor of the thermal power plants was calculated by the proportion of the emissions of coal, gas and oil times the emission factor of the best available coal, gas and oil power plant as defined and published by the Chinese DNA. The new thermal capacity installation that exceeded 20% in the last years, for which data was available, was finally assessed with this factor.

In line with the published values of the Chinese DNA (August 2008) in time of the repeat GSP start, the following Emission Factors have been chosen:

$EF_{OM,y}$ , of the North East China Power Grid is 1.2561 tCO<sub>2</sub>e/MWh;

$EF_{BM,y}$ , of the North East China Power Grid is calculated as 0.7946 tCO<sub>2</sub>e/MWh;

The value for the combined margin emission factor ( $EF_{CM}$ ) of 1.0253 tCO<sub>2</sub>e/MWh was determined using the weighted average of the  $EF_{BM}$  and  $EF_{OM}$  using the default values for the factors as described in the methodology (i.e. 0.5 for Waste Heat Projects). As per the methodology, the project does not need to consider leakage or project emissions. As a result, the annual emission reductions equal the annual baseline emissions.

In the time of the first GSP (24.01.2008) published values from 2007 have been available to calculate the Emission Factors. In that time the Project Participant calculated the following values:

$EF_{OM,y}$ , of the North East China Power Grid is 1.2561 tCO<sub>2</sub>e/MWh;

$EF_{BM,y}$ , of the North East China Power Grid is calculated as 0.7946 tCO<sub>2</sub>e/MWh;

The  $EF_{BM,y}$  and  $EF_{OM,y}$  were even slightly lower than the value published by the NDRC (1.2402 tCO<sub>2</sub>e/MWh and 0.8632 tCO<sub>2</sub>e/MWh). Hence the value taken for the Emission Reduction calculation had been considered conservative.

The combined emission factor was:  $EF_{CM,y} = 1.0515$  tCO<sub>2</sub>e/MWh

There have been difficulties within the methodology regarding the calculation of  $f_{cap}$  (please refer to paragraph 3.6.1 of the report). For that reason the project re-started the GSP on 29th August 2008 under version 3 of the Methodology. In August 2008 new published values to calculate the Emission Factors had been available. Due to changes in the energy supply mix of the North China Power Grid the Emission Factor has slightly changed to a lower value ( $EF_{CM} = 1.0253$  tCO<sub>2</sub>e/MWh).

The “tool to calculate the emission factor for an electricity system” mentions the following:

“...the **build margin emission factor** ex-ante based on the most recent information available on units already built for sample group m **at the time of CDM-PDD submission to the DOE for validation.**”

It is the understanding of the audit team that the emission factor at the time the validation started should be used. Which in the case of the proposed project were the emission factors of the first GSP ( $EF_{CM,y} = 1.0515 \text{ tCO}_2\text{e/MWh}$ ).

In Request for registration INCOMPLETE on 13<sup>th</sup> October 2009 the UNFCCC secretariat asked the PP and the DOE to use the Emission factors of the repeat GSP ( $EF_{CM} = 1.0253 \text{ tCO}_2\text{e/MWh}$ ).

The PDD and the Validation report have been adjusted to comply with this request.

### 3.5.5 Project emissions

Project Emissions include emissions due to combustion of auxiliary fuel to supplement waste gas and electricity emissions due to consumption of electricity for cleaning of gas before being used for generation of heat/energy/electricity.

$$PE_y = PE_{AF,y} + PE_{EL,y} + PE_{EL,Import,y}$$

$PE_y$	Project emissions due to project activity.
$PE_{AF,y}$	Project activity emissions from on-site consumption of fossil fuels by the cogeneration plant(s), in case they are used as supplementary fuels, due to non-availability of waste energy to the project activity or due to any other reason.
$PE_{EL,y}$	Project activity emissions from on-site consumption of electricity for gas cleaning equipment or other supplementary electricity consumption (as per Table 1: Summary of gases and sources included in the project boundary)
$PE_{EL,Import,y}$	Project activity emissions from import of electricity replacing captive electricity generated in the absence of the project activity for Type II project activities

There is no captive electricity generation on-site (Type I project), hence project emissions from import of electricity replacing captive electricity generated in the absence of project activity are not generated.

$$PE_{EL,Import,y} = 0$$

No auxiliary fuel is consumed due to the project activity. Hence

$$PE_{AF,y} = 0$$

No gas will be cleaned as the proposed project utilizes waste heat. Hence

$$PE_{AF,y} = 0$$

### 3.5.6 Leakage

As per the methodology, the project does not need to consider project.

### 3.5.7 Emission Reductions

In summary, the calculation of the baseline emissions; project emissions, leakage and the emission reductions, respectively, can be considered as correct.

### 3.6 Additionality

The additionality of the project has been presented in the PDD by applying the first, second and fourth step as indicated in the “Tool for the demonstration and assessment of additionality” (Version 5.2).

The approach use in the PDD has been assessed first based on a document review, where following relevant documents have been reviewed:

- Project Design Document for CDM project “Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project “ (IRL 1)
- IRR calculation sheets (IRL 22)

On site the additionality has been discussed principally with: Ms. Liu Wei. Further documents have been reviewed on-site (Annex 2). Finally, the data, rationales, assumptions, justifications, and documentation provided have been verified using local knowledge as well as sectoral and financial expertise. This information was also confirmed through the following documentation:

- Feasibility Study Report for “Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project” (IRL 6)
- Approval of Feasibility Report (IRL 7)
- Design and Equipment Purchase Contract (IRL 13)
- Questionnaire for stakeholder comments (IRL 14)
- Demonstration of efficiency of main equipment (IRL 31)

Based on this validation steps we can confirm that the documentation assessed is appropriate for this project.

#### 3.6.1 Prior consideration of the clean development mechanism

The starting date of the project activity is determined by 15/10/2007 which was the day when the construction started. In order to corroborate this information the assessment team has reviewed the following documents:

- Construction Start contract of Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project (IRL 18)

additionally the assessment team verified this information with Ms. Liu Wei, Project Manager of Hebei Tangshan Jidong Cement Co., Ltd.

The starting date of the project activity is determined to be 15/10/2007, which is before 02 August 2008 and also before the GSP. The PPs have presented to the assessment team following documents:

- The Design and Equipment purchase contract (IRL 13)
- Construction Start contract, issued by Jidong Cement Panshi Co., Ltd. (IRL 18)
- Bank loan promise (IRL 10)

The original of the documentation presented has been reviewed and cross checked based on interviews with Ms. Liu Wei. hence the document can be considered appropriate to confirm the prior consideration. Additionally in order to confirm that the PPs have taken real actions to continue the activity as CDM, following timeline has been reviewed against the respective documents presented in the table below:

Date	Activity	Document	Auditor conclusion
August 2006	Board Meeting of Jidong Cement Ltd.	Board Meeting Minutes with respect to CDM (IRL 16)	Jidong Cement got into contact with CDM
July 2007	Feasibility Study Report issued	Feasibility Study Report for CDM project "Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project", issued by Hebei construction and material industry design institute (IRL6)	An investment analysis of the proposed project has been prepared.
August 2007	Board Meeting of Jidong Cement	the "21 <sup>st</sup> Session of the 2 <sup>nd</sup> Board meeting"(IRL 17)	The board agreed to invest in the project activity, in case the project is supported by CDM.
August 2007	Signed Letter of of Exclusivity with CCC	Letter of Exclusivity counter signed by CCC and Jidong Panshi Company Limited (IRL30)	Jidong Cement signed Emission Reduction Purchase Agreement with CCC
October 2007	Construction Started	Construction Start contract (IRL 18)	First real action to be taken, hence it can be considered as the project starting date.
October 2007	Equipment Purchase Contract was signed	Design and Equipment purchase contract, with Kawasaki (IRL 13)	The implementation of the project activity started.
November 2007	CDM Stakeholder consultation meeting	Questionnaire for stakeholders' comments (IRL 14)	The people affected by the project activity have been informed.
January 2008	First GSP start	First GSP under Methodology ACM0012 version 2	
March 2008	Installation of Mechanical Equipment started		The implementation of the project continued
July 2008	LoA from Chinese DNA was obtained	LoA of China (IRL21)	The project got approved as a CDM project by the Chinese government. The requirement for the implementation of a CDM project Chinese is fulfilled.
Aug. 2008	Second PDD	Second GSP under Methodology ACM0012 version 3	Methodology ACM0012 vers. 2 had problems regarding the measurement of Waste heat for the calculation of $f_{CAP}$ . Hence

			project needed a restart under version 3.
November 2008	First Cement Line Starts operating		

Hence the project complies with the requirements to demonstrate the prior consideration of the CDM.

### 3.6.2 Identifications of alternatives

The output of the project is electricity.

The list of alternatives to supply the outputs mentioned above, which is presented in the PDD includes the project activity undertaken without being registered as CDM project. The rest of the alternatives presented do include all plausible scenarios taking into account the local and sectoral situations for the outputs mentioned. Hence the list of alternatives is considered to be complete.

### 3.6.3 Investment analysis

The PP uses the investment analysis to demonstrate the additionality. The financial returns of the proposed project are insufficient to justify the investment.

The parameters used in the financial calculations have been validated based on a review of the sources presented in the PDD, inter alia: The Feasibility Study was the same that was confirmed verbally on-site. Furthermore, the period of time between the finalization of the FSR and the investment decision is only three months, therefore it can be confirmed that it is unlikely that the input values have significantly changed. Additionally, confirmation with

- Department of Commence of Jilin Provincial on power prices (IRL 12), evidencing that the officially approved tariff is slightly lower than the one assumed in the FSR. Hence the applied value for the IRR calculation can be considered conservative.
- Demonstration of efficiency of main equipment in the WHR projects of Tangshan Jidong Cement Co., Ltd (IRL 31), evidencing that the assumed operational hours are reasonable.
- Cement WHR power generation system, issued by Luoyang Mining Machinery Engineering Design Institute (IRL 32), evidencing that the assumed operational hours are in an acceptable range and cannot increase due to the restricted availability of waste heat
- Purchasing contract of AQC boiler, PH boiler, turbine and generator (IRL 13), evidencing that the equipment named in the PDD is purchased. As the same project owner invests in another WHR project (Matishan-Matoushan Cement WHR project, which is also under validation with TÜV SÜD) the existing purchase contracts are combining both projects, which make it difficult to compare them to values in the FSR

The total investment costs have been cross checked with actual invoices from similar projects in a different province in China. The costs assumed in this project are in an acceptable range.

Furthermore the total investment costs have been cross checked with "Reference Document on Best Available Techniques (BAT) in the Cement and Lime Manufacturing Industries" issued by the Integrated Pollution Prevention and Control (IPPC) (IRL53). The costs assumed in this project are in an acceptable range.

- The total operational and maintenance costs have been cross checked with actual invoices from similar projects in a different province in China. The costs assumed in this project are in an acceptable range (IRL53).

Furthermore the total investment costs have been cross checked with "Reference Document on BAT in the Cement and Lime Manufacturing Industries" issued by IPPC. The costs assumed in this project are in an acceptable range.

show that the parameters are plausible and can be considered acceptable under the project situation.

The benchmark used for the financial comparison is an internal benchmark used for Tangshan Jidong Cement Co., Ltd. And is based on the Weighted Cost of Capital and calculated as 15.58% at the time of the investment decision making. This WACC can be collaborated by a WACC calculated by Bloomberg, which is a New York-based financial software services, news and data company. Based on their long range data they assessed the WACC of Jidong for 2008, Bloomberg calculate a WACC of 15.34%. Unfortunately Bloomberg does not keep historical WACC data for Jidong (e.g.2006 the time of the investment decision) but this provides support to the WACC calculated by the Project Participants

In assessing the benchmark used in the investment analysis, TÜV SÜD has followed a 3-step approach:

Step 1: Assessment of the eligibility of the project participant to use WACC

According to "The guidelines on the Assessment of Investment Analysis, WACC should only be used in cases where there is only one possible project developer and should be demonstrated to have been used for similar projects, developed by the same company.

The project owner is Tangshan Jidong Cement Co., Ltd. They are the only project developer, as the project is located at their plant side.

The project participant provided the DOE with an overview of the company investments since 2003. For all projects (from 2003 to 2006) mentioned in the PDD, the FSR has been checked and verified by TÜV SÜD. All investments have crossed the announced benchmark of 15.58%.

The PP invests in five other CDM projects (Jidong Cement Fengrun District 12MW Cement Waste heat Recovery Project, Tangshan Jidong Cement Guye District 8 MW Cement Waste Heat Recovery, Tangshan Jidong Cement Guye District 12MW Cement Waste Heat Recovery, Tangshan Jidong Cement Matishan-Matoushan 12MW Cement Waste heat, Jidong Cement Jilin Co., Ltd 6 MW Cement Waste Heat Recovery Project). For all these projects the above mentioned WACC has been used as the benchmark.

In the past Tangshan Jidong Cement Co., Ltd. has implemented one waste heat recovery project.

The FSR of the project, developed by an independent and certified third party, indicates an IRR after tax of 33.73% which is higher than the benchmark of 15,58%. Nevertheless, the risk connected to the project (e.g. supply constrains) have been too high for the project owner. To overcome the risk perception Jidong decided not to implement this project as a pure WHR project, but rather to implement it as a combined coal-fired / WHR project (IRR of 24.88%). This shows that without the additional supply of coal, the project would not have been implemented.

Step 2: Assessment of the formulae used to calculate WACC

The formula has been taken from Wharton Business School and has been crosschecked with other financial definitions (e.g. Rechard P. and Bill N. (2003) "Corporate Finance (fourth edition)", Prentice Hall).



The formula can be considered as valid and applicable. The WACC is tax adjusted and it is appropriate to be used as a benchmark for after tax IRR.

### Step 3: Assessment of the Input values to WACC calculation

The client has taken two approaches to calculate the WACC of Jidong.

Given that the investment decision for the Jidong projects was taken in mid-2006, it is necessary to calculate and demonstrate the WACC for Jidong in 2006. The client has demonstrated WACC for Jidong based on information that was publically available and most recently available before the investment decision in mid-2006. The key calculation is to evaluate the cost of equity for Jidong in mid-2006 and there are several methods by which this can be done. For the Jidong project the P/E method has been chosen which seems to be the most applicable one for this project. The value of 15.58% is used as the benchmark. This method is explained further below.

The client also investigated the WACC value with Bloomberg, an independent third party. But Bloomberg does not keep historical WACC data for Jidong and so a 2006 Bloomberg value is not available. Additionally, Bloomberg does not retain all of the input values, particularly the risk premiums, to recreate the calculation that they would have performed in 2006. However a value for 2008 of 15.34% is available based on 2008 input values which have been chosen according to the internal data system of Bloomberg. The calculations have been checked by the audit team and the value of 15.34% is correct.

There are several methods to calculate the cost of the equity.

The most popular of these methods is the Capital Asset Pricing Model (CAPM).

In the case of Jidong the CAPM model for cost of equity requires the estimation of factor including the Market Risk Premium and measuring the systematic risk, or “ $\beta$ ” of Jidong. Bloomberg is an objective third party source of this data but they do not retain these values for 2006. Objective third party data from 2006 is not available. The audit team can confirm that based on our local and sectoral experiences.

Other approaches are based on discounted cash flow models and include the Gordon's Growth Model and the P/E model. The input data for these two models can be supported by available third party data. These two models are related and one can be derivate from the other. Considering that the growth rate has to relate to the relevant cash flow, therefore the growth for Gordon Growth Model is a real dividend growth rate whereas for the P/E method it is a future growth rate of earnings.

In the case of Jidong the P/E model is the most appropriate because the dividend payments have remained constant and have not kept pace with or reflect the earnings of the company.

Jidong uses the following formulae for the cost of the equity.

The audit team confirms that it is in line with the above named P/E model.

$$r_e(L) = ((b(1+g))/(P/E)) + g$$

Where

b Dividend payout ratio

Based on historic Earnings per Share and Dividend payout as reported in Jidong audited financial statements from 2001 to 2005 inclusive. (IRL 45, 49). The PP uses average Dividend payout, which is a conservative approach.

g	Estimate of growth of future earnings	Based on historic and future forecast net earnings data taken from analyst reports from four securities companies published in 2006 (IRL 41~44). The fact that the PP uses historic values in the average expected growth is very conservative.
P/E	Share Price/Earnings per Share	Based on 2005 Audited Financial Statements and Jidong share price as publically reported on 30.06.06. (IRL 47)

The resulting WACC for 2006 is 15.58%.

The benchmark used is adequate and excludes a subjective profitability expectation or risk profile of the project developer.

Further assumptions presented in the financial analysis inter alia

- Regulations on Collecting and Using Local Education Added Expenses in Jilin Province (IRL 34)
- Education Added Expenses and Local Education Added Expenses (IRL 33)

have also been reviewed and were found to be appropriate. This confirms that the underlying assumptions are appropriate for this project.

The IRR indicated in the PDD submitted for registration is lower (12.69%) than the one in the GSP PDD (15.82%).

This is due to the fact that the IRR in the GSP PDD has been calculated on a before tax basis, while in the PDD submitted for registration the IRR has been calculated on an after tax basis. The after tax approach is appropriate, as the WACC benchmark is also calculated on an after tax basis.

Furthermore additional taxes for Education and Maintenance and construction fee have been considered in the PDD submitted for registration. This is in line with the Chinese regulation and acceptable.

All other input values (total investment, tariff, electricity generation, etc) are the same in the PDD used for GSP and the one submitted for registration.

The sensitivity analysis was analyzed in detail and TÜV SÜD confirms that the underlying assumptions, parameters and chosen values are appropriate and that the calculations have been performed correctly.

The financial calculations have been verified and no mistakes have been found. This confirms that the calculations are correct.

### 3.6.4 Barrier analysis

The project participants have used (also) the barrier analysis in order to demonstrate the additionality of the project. The presented barriers are:

- Financial Barrier

The assessment team checked first if any barrier has a clear impact on the financial returns which can be expressed with reasonable certainty in monetary terms. The final PDD does include only barriers without such impact on the financial returns.

The Financial Barrier has been assessed against official documents such as



- Announcement of the State Council on Structural Adjustments in Industries with Production Overcapacity (IRL 48), evidencing that Cement Companies experiences difficulties obtaining loan
- The Bank loan promise (2007-08), issued by China Agriculture bank Tangshan branch bank, evidencing that approved with specific reference to the availability of additional revenues to the project through CDM, (IRL 10)

The result of this assessment clearly shows that the barrier presented in the PDD can be considered real.

This barrier would prevent the project activity but would not prevent the baseline of the project. This is confirmed through the documentation review, interviews, and the local and sectoral expertise of the assessment team.

Taken into account the description of the validation of the barriers presented above, the assessment team can confirm with reasonable certainty that the barriers are credible and correctly presented to demonstrate the additionality of the project.

### 3.6.5 Common practice analysis

The region for the common practice analysis has been defined as the North East China Grid System. The project activity's technology can be found in different country regions, where different situations can appear. Hence the region has been defined taking into account the kind of technology and the industry type.

The assessment team has reviewed the approach presented in the PDD and can confirm that the relevant parameters as location, infrastructure, economical situation and development have been taken into account in order to define the region to be used for the common practice. Hence the presented region can be considered appropriate for the common practice analysis.

The assessment team has reviewed official sources as "Overview on Cement WHR Projects in China", issued by Tianjing Cement Institute (IRL 23). This information confirms that the list of similar projects presented in the PDD is complete. Additionally the team made a further cross check of the information based on the interviews.

All the similar projects are applying for CDM or have still been under construction at the time of the investment decision. Projects have been checked firstly by a review of all documentation available (See annex 2), furthermore the essential distinctions between these projects and the CDM project under validation have been confirmed using information from the official web pages of "Beijing Cement Plant".

Hence it can be confirmed that the proposed CDM activity is not a common practice in the defined region.

### 3.7 Monitoring plan

The monitoring plan presented in the PDD complies with the requirement of the methodology. The assessment team has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant for the project activity have been found in the plan.

The procedures have been reviewed by the assessment team through document review and interviews with the relevant personnel; this information together with a physical inspection allows the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The major parameters to be monitored have been discussed with the PPs especially regarding the

location of the meters, the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project.

The project will measure the electricity produced by the power generation set, the electricity supplied by the project activity and the electricity consumed by the project activity. The ammeters have an accuracy class of 1, which is in line with the Chinese requirements (DSSD536).

All meters have a back-up meter.

The measurement equipment is going to be calibrated each year.

Therefore, we find that the PP's will be able to implement the monitoring plan and the emission reductions achieved can be reported ex-post and verified.

### **3.8 Sustainable development**

The LoA of the Host country clearly present a statement that the project contributes to the sustainable development of the host Party.

### **3.9 Local stakeholder consultation**

The relevant local stakeholders have been invited via questionnaires. The evidence of these invitations is IRL 14. The assessment team has reviewed the documentation in order to validate the inclusion of relevant stakeholders and using the local expertise can confirm that the communication method used to invite the stakeholders can be considered appropriate. The summary of comments presented in the PDD has been cross checked with the documentation of the stakeholder consultation and it is found to be complete.

The relevant comments presented by the local stakeholders have been taken due account by the PP, the same has been cross checked with the information obtained during the interviews.

Hence the local stakeholder consultation has been adequately performed according to the CDM requirements.

### **3.10 Environmental impacts**

The project participants undertook an environmental impact assessment (EIA). The assessment team reviewed the documentation of the presented information. The IRL 8, EIA of Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project, issued by the State environmental Protection Bureau confirms the correctness of the approach used by the PPs. We conclude that the PPs followed the requirements of the host country in regards to environmental impacts.

## 4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

<b>Webpage first global stakeholder consultation process:</b>	
<a href="http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4740&amp;Ebene1_ID=26&amp;Ebene2_ID=1314&amp;mode=1">http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4740&amp;Ebene1_ID=26&amp;Ebene2_ID=1314&amp;mode=1</a>	
<b>Webpage repeat global stakeholder consultation process:</b>	
<a href="http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=5394&amp;Ebene1_ID=26&amp;Ebene2_ID=1671&amp;mode=1">http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=5394&amp;Ebene1_ID=26&amp;Ebene2_ID=1671&amp;mode=1</a>	
<b>Starting date of the first global stakeholder consultation process:</b>	
2008-01-24	
<b>Starting date of the repeat global stakeholder consultation process:</b>	
29-08-2008	
<b>Comment submitted by:</b>	<b>Issues raised:</b>
None	-
<b>Response by TÜV SÜD:</b>	
-	

## 5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:

Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

Standard auditing techniques have been used for the validation of the project. Methodology-specific checklists and protocol customised for the project have been prepared to carry out the audit and present the outcome in a transparent and comprehensive manner.

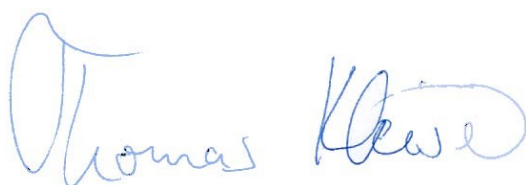
The review of the project design documentation, the subsequent follow-up interviews and the further cross check of references have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria in the protocol. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed following the VVM requirements. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

Munich, 15-10-2009

Munich, 15-10-2009



Certification Body "climate and energy"  
TÜV SÜD Industrie Service GmbH



Assessment Team Leader

## **Annex 1: Validation Protocol**

The first GSP for the proposed project activity has been submitted under version 2 of ACM0012.

There have been difficulties within the methodology regarding the calculation of fcap (please refer to paragraph 3.6.1 of the report). For that reason the project re-started the GSP on 29<sup>th</sup> August 2008 under version 3 of the methodology.

Following the explanation above, there are two protocols attached. The first one is for the first GSP under version 1 and the second one is for the re-start project under version 3.

# Validation Protocol

Project Title: Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

Date of Completion: 15/10/2009

Number of Pages: 60



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>A. General description of project activity</b>				
<b>A.1. Title of the project activity</b>				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1 2	Yes, the project title of Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project, enables to identify the unique CDM activity clearly.	p	p
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1 2	Yes, the version number of the PDD is 2.0.	p	p
A.1.3. Is this consistent with the time line of the project's history?	1 2	Yes, it is consistent with the time line of the project's history.	p	p
<b>A.2. Description of the project activity</b>				
A.2.1. Is the description delivering a transparent overview of the project activities?	1 2	<p>The project and the project activities have been transparently described. The proposed project is half an old captive power plant (installed 2003, 3200 t/d capacity) and half a new captive power plant (4000 t/d capacity), all the electricity generated by the proposed project activity will satisfy the energy demand for the cement production partially. This has been proven by the auditor.</p> <p><b>Corrective Action Request No. 1:</b></p> <p>The name of different boilers should be clarified. For production stages for dry process cement production, the boilers' name are SP and AQC. For Waste heat recovery stage, the boilers' name are PH and AQC.</p> <p>All together there are 4 WHR boilers (2 at the 3000 t/d production line, 2 at the 4000 t/d production line), this should be mentioned in this section of the PDD.</p>	CAR1	p

## Validation Protocol

Project Title: Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

Date of Completion: 15/10/2009

Number of Pages: 60



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1 2 5 6 7 8	<p>The planning is described in the feasibility study. The project activity is the displacement of electricity generated by thermal power plants with electricity generated by Waste Heat Recovery. The following documents are verified on site for the project activity:</p> <ul style="list-style-type: none"> <li>- Feasibility study report for CDM project "Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project"</li> <li>- Feasibility Study Report for Cement production chamotte technics</li> <li>- EIA and its approval</li> </ul> <p><b><u>Clarification Request No. 1</u></b></p> <p>Please deliver the approval of both feasibility study reports to DOE</p>	CR1	p
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1 2	Yes, it is.	p	p
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1 2	Yes, it is.	p	p
<b>A.3. Project participants</b>				
A.3.1. Is the form required for the indication of project participants correctly applied?	1 2	The form is correctly applied as Jidong Cement Panshi Co., Ltd. and Climate Change Capital Carbon Managed Account Limited & Climate Change Capital Carbon Fund II s.à.r.l. are the project participants	p	p
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1 2	<p><b><u>Open Issue</u></b></p> <p>The LoA of UK and of China have not been presented to the DOE yet.</p>	Open issue	p

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		The MoC has not been provided to the DOE yet.		
A.3.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1 2	Yes, Jidong Cement Panshi Co., Ltd. and Climate Change Capital Carbon Managed Account Limited & Climate Change Capital Carbon Fund II s.à.r.l. are the project participants.	p	p
<b>A.4. Technical description of the project activity</b>				
<i>A.4.1. Location of the project activity</i>				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1 2 5	The project's site location's approximate coordinates are east longitude of 126°08'31" and north latitude of 42°52'22".	p	p
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1 2 5	The power plant is under constructing, the main equipments have been commissioned. These have been proved during the onsite audit.	p	p
<i>A.4.2. Category(ies) of project activity</i>				
A.4.2.1. To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1 2	The project falls into Scope 1—Energy Industries. It is correctly identified and indicated in the PDD. <b><u>Corrective Action Request No. 2:</u></b> The applied methodology refers to two sectoral scopes: Scope 1 (Energy Industries) and scope 4 (Manufacturing Industries). Scope 4 needs to be indicated in the PDD.	CAR2	p
<i>A.4.3. Technology to be employed by the project activity</i>				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1 2	Yes, the technical design of the project activity reflects current good practice, all the equipments are domestically made.	p	p



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A.4.3.2.Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1 2	Yes, the project activity comprises the use of waste heat for electricity generation. There is no doubt that this technology will reduce the GHG emissions significantly.	p	p
A.4.3.3.Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(ies)?	1 2 9 10	There is no technology transfer. Project owner signed a turnkey equipment contract with Kawasaki company. The detailed equipment manufacture is listed as follows: The main generators are made by Nanjing Turbine and Electric Machinery (Group ) Co., Ltd. and the AQC boiler is made by Nantong Wanda Boiler Joint-stock Co., Ltd. and the PH boiler is made by Yancheng Boiler Manufacturing Co., Ltd. All three manufactures are Chinese.  <b><u>Corrective Action Request No. 3:</u></b> The type of two boilers and the model of the two generators were not delivered to DOE on-site. Please give the evidence to prove that type and model are consistent with in the PDD.	CAR3	p
A.4.3.4.Is the technology implemented by the project activity environmentally safe?	1 2	As the project activity is the installation of a waste heat recovery reducing the regional air pollution without additional negative side effects the project can be considered to be environmentally safe.	p	p
A.4.3.5.Is the information provided in compliance with actual situation or planning?	1 2	Yes, the information provided in the PDD is in compliance with the actual situation and planning.	p	p
A.4.3.6.Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1 2 9 10	As the equipments are newly commissioned it is state of the art and improves the common practice in China where the waste heat is normally vented to the air.  <b><u>Clarification Request No. 2</u></b> The PDD states, that the project will produce 15MW. But the turbine and boilers are built to produce 18MW. It needs to be evidenced, that the project will only produce 15 MW.	CR2	p

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A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1 2 9 10	As the equipment has been newly commissioned and the life time is longer than the crediting period it can be expected that there will be no substitution. <b><u>Corrective Action Request No. 4:</u></b> The operational lifetime of the main project equipment should be mentioned in the PDD. <b><u>Clarification Request No. 3</u></b> When has the second clinker line production started? Is it before the validation?	CAR4 CR3	p
A.4.3.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1 2 14	During the audit it has been found that training is necessary because waste heat recovery is not common practice in the cement industry in China. Training documents have already been delivered to the DOE.	p	p
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1 2 14	See A4.3.8	p	p
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1 2	The main equipments have been purchased in Sept. 2007, and the construction work will be finished in October 2008. The risk of delay is low. <b><u>Corrective Action Request No. 5:</u></b> Project participants are requested to provide in the PDD a timetable for the implementation of the project activity. This timetable should clearly indicate the starting date of construction and operation, the date of the feasibility study and the date when CDM was the first time considered. For a better transparency add the information about equipment purchase and construction end in Table B.7	CAR5	p

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<b>A.4.4. Estimated amount of emission reductions over the chosen crediting period</b>				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1 2	The project emission reductions are shown in the table A3 of chapter A.4.4 in the PDD. The starting date will be 1/9/2008.	p	p
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1 2	See A4.4.1	p	p
<b>A.4.5. Public funding of the project activity</b>				
A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1 2 12	There is no public funding necessary; all costs are covered by the private equity. The China Agriculture Bank has signed a letter of commitment with project owner. The document has been re-viewed by the auditor.	p	p
A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1 2	The statements both in this chapter and Annex 2 are consistent.	p	p
<b>B. Application of a baseline and monitoring methodology</b>				
<b>B.1. Title and reference of the approved baseline and monitoring methodology</b>				
B.1.1 Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1 2	The approved methodology ACM0012 version2 and the related Tool to calculate the emission factor for an electricity system (version1), and Tool for the Demonstration and Assessment of Additionality (Version 04) is clearly indicated.	p	p
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	1 2	Yes, based on the GSP-PDD version it is.	p	p
<b>B.2. Justification of the choice of the methodology and why it is applicable to the project activity</b>				
B.2.1 Is the applied methodology considered the	1	Yes, ACM0012 is the only approved methodology that is applica-	p	p

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most appropriate one?	2	ble.										
B.2.2 Criterion 1: The applicability is limited to project activities that utilize waste gas and/or waste heat as an energy source for: - cogeneration or - generation of electricity or - direct use as process heat source or - for generation of heat in element processes (e. g. steam, hot water, hot oil, hot air)  and that also use waste pressure: - to generate electricity.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>  The project activity utilizes waste heat as an energy source for the generation of electricity.	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.3. Criterion 2: Cogeneration of energy is from combined heat and power and not from combined cycle mode of electricity generation.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table> This applicability condition is not relevant, as the project activity does not involve co-generation.	Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.4. Criterion 3: Waste gas/heat/pressure is a by-product of machines and/or technical processes for which no useful application is found, which has not been used prior to and would not be used in absence of the CDM project activity.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>No</td></tr><tr><td>Compliance provable?</td><td>No</td></tr><tr><td>Compliance verified?</td><td>No</td></tr></table> <b><u>Corrective Action Request No. 6:</u></b> Please mentioned this criterion in PDD	Applicability checklist	Yes / No	Criterion discussed in the PDD?	No	Compliance provable?	No	Compliance verified?	No	CAR6	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	No											
Compliance provable?	No											
Compliance verified?	No											

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B.2.5. Criterion 4: The project activity is use of waste pressure to generate electricity and the electricity generated using waste gas pressure should be measurable.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table> <p>This applicability condition is not relevant, as the project activity does not involve the use of waste pressure.</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.6. Criterion 5: The energy/electricity generated in the project activity - may be used within the industrial facility or - exported outside the industrial facility or - may be exported to the grid.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>Energy generated in the project activity will be used within the industrial facility.</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.7. Criterion 6: The energy in the project activity can be generated - by the owner of the industrial facility producing the waste gas/heat or - by a third party within the industrial facility.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>No</td></tr><tr><td>Compliance provable?</td><td>No</td></tr><tr><td>Compliance verified?</td><td>No</td></tr></table> <p>See B2.4</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	No	Compliance provable?	No	Compliance verified?	No	CAR6	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	No											
Compliance provable?	No											
Compliance verified?	No											
B.2.8. Criterion 7: Before implementing the project activity no regulations constrained the industrial facility to generate waste gas from using fossil fuels.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table> <p>This applicability condition is not relevant, as the project activity</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											

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		does not utilize waste gas										
B.2.9. Criterion 8: If capacity expansion of an existing facility is planned the added capacity must be treated as a new facility.	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.10. Criterion 9: Either one of the following proofs shall be given if the waste gas/pressure utilized in the project activity was flared or released into the atmosphere in absence of the project at an existing facility: <ul style="list-style-type: none"><li>direct measurements of energy content and amount of the waste gas for at least 3 years prior to the start of the project activity or</li><li>energy balance of relevant sections of the plant to indicate that the waste gas/heat was not a source of energy before the implementation of the project activity or</li><li>energy bills to demonstrate that all the energy required for the process has been procured commercially</li><li>significant manufacturer's documents from the construction of the facility for estimating quantity and energy content of waste gas/heat produced for rated plant capacity/per unit of product pro-</li></ul>	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table> <p>This applicability condition is not relevant, as the project activity does not utilize waste gas or waste pressure (s. Chapter B.2. of the PDD).</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											

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duced <ul style="list-style-type: none"><li>onsite check by the DOE that no equipment for waste gas recovery and use has been installed prior to the implementation of the project activity.</li></ul>														
B.2.11. Criterion 10: The credits are claimed by the generator of energy using waste gas/heat/pressure in consideration of: <ul style="list-style-type: none"><li>energy exported to other facilities (recipients) which shall not claim the emission reductions for using a zero-emission energy source or</li><li>facilities and recipients included in the project boundary generated energy on site prior to implementation of the project activity which can claim credits for the remaining lifetime of equipments currently used and credit period.</li></ul>	1 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>The credits are claimed by the generator of the electricity.</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p		
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Compliance verified?	Yes													
B.3. Description of the sources and gases included in the project boundary														
B.3.1. Source: electricity generation, grid or captive source Description of Source: main emission Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table> <p><b>Corrective Action Request No. 7:</b> In the PDD it is stated that the required emission sources are</p>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	CAR7	p
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													

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			highlighted. This is not done in the current version. This needs to be corrected.													
B.3.2.	Source: fossil fuel consumption in boiler for thermal energy Description of Source: main emission Gas(es): CO2 Type: Baseline Emissions	1 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.3.	Source: fossil fuel consumption in co-generation plant Description of Source: main emission Gas(es): CO2 Type: Baseline Emissions	1 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.4.	Source: emissions from generation of steam used in the flaring process Description of Source: main emission Gas(es): CO2 Type: Baseline Emissions	1 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.5.	Source: supplemental fossil fuel consumption at the project plant Description of Source: main emission Gas(es): CO2 Type: Project Emissions	1 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															



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B.3.6.	Source: supplemental electricity consumption Description of Source: main emission Gas(es): CO2 Type: Project Emissions	1	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
		Boundary checklist		Yes / No											
		Source and gas(es) discussed in the PDD?		Yes											
		Inclusion / exclusion justified?		Yes											
		Explanation / Justification sufficient?		Yes											
		Consistency with monitoring plan?		Yes											
2															
B.3.7.	Source: emissions from cleaning of gas Description of Source: only in case waste gas cleaning is required and leads to emissions related to the energy requirement of the cleaning Gas(es): CO2 Type: Project Emissions	1	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
		Boundary checklist		Yes / No											
		Source and gas(es) discussed in the PDD?		Yes											
		Inclusion / exclusion justified?		Yes											
		Explanation / Justification sufficient?		Yes											
		Consistency with monitoring plan?		Yes											
2															
B.3.8.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1	The project boundary defined in the PDD includes the proposed activity, and Northeast China Grid to which the project activity is connected. This has been proven by the auditor.	p	p										
		2													
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario															
B.4.1.	Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete (Step 1)?	1	Baseline options and combinations which should be considered: <table><tr><td>Defined and discussed in PDD?</td><td>Yes / No</td></tr><tr><td>industrial facility where waste gas/heat/pressure is generated</td><td>Yes</td></tr><tr><td>facility where the energy is produced</td><td>Yes</td></tr><tr><td>facility where the energy is consumed</td><td>Yes</td></tr></table>	Defined and discussed in PDD?	Yes / No	industrial facility where waste gas/heat/pressure is generated	Yes	facility where the energy is produced	Yes	facility where the energy is consumed	Yes	p	p		
		Defined and discussed in PDD?		Yes / No											
		industrial facility where waste gas/heat/pressure is generated		Yes											
		facility where the energy is produced		Yes											
		facility where the energy is consumed		Yes											
		2													

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD															
B.4.2.	Does the project identify correctly and exclude those options not in line with regulatory or legal requirements?	1 2	Yes, project participants provided evidence and supporting documents to exclude those options not in line with regulatory and legal requirements.	p	p															
B.4.3.	Have applicable regulatory or legal requirements been identified?	1 2	Yes, Regulation and legal requirement has been identified: <i>Meier (2002)</i> , Economic and Financial Analysis of the China Renewable Energy Scale-up Programme (CRESP),	p	p															
B.4.4.	Does the project participants exclude baseline options that depend on fuels (used for generating heat and/or power), that are not available at the project site?	1 2	Yes, P2, P3, P7 and P8 have not included, because they are irrelevant.	p	p															
B.4.5.	Have all realistic and credible alternatives been discussed for the use of waste gas and the exclusion of options justified (Step 1, W1 – 4)?	1 2	<div>Alternative(s) may include, inter alia:</div> <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>W1</td><td>Waste gas is directly vented to atmosphere without incineration;</td><td>Yes</td></tr><tr><td>W2</td><td>Waste gas is released to the atmosphere after incineration or waste heat is released to the atmosphere (waste pressure energy is not utilized);</td><td>Yes</td></tr><tr><td>W3</td><td>Waste gas/heat is sold as an energy source;</td><td>Yes</td></tr><tr><td>W4</td><td>Waste gas/heat/pressure is used for meeting energy demand.</td><td>Yes</td></tr></table>	Categories		Yes / No	W1	Waste gas is directly vented to atmosphere without incineration;	Yes	W2	Waste gas is released to the atmosphere after incineration or waste heat is released to the atmosphere (waste pressure energy is not utilized);	Yes	W3	Waste gas/heat is sold as an energy source;	Yes	W4	Waste gas/heat/pressure is used for meeting energy demand.	Yes	p	p
Categories		Yes / No																		
W1	Waste gas is directly vented to atmosphere without incineration;	Yes																		
W2	Waste gas is released to the atmosphere after incineration or waste heat is released to the atmosphere (waste pressure energy is not utilized);	Yes																		
W3	Waste gas/heat is sold as an energy source;	Yes																		
W4	Waste gas/heat/pressure is used for meeting energy demand.	Yes																		

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B.4.6.	Have all realistic and credible alternatives been discussed for power generation and the exclusion of options justified (Step 1, P1 – 8)?	1	<div>Alternative(s) may include, inter alia:</div> <table> <tr> <th colspan="2">Categories</th> <th>Yes / No</th> </tr> <tr> <td>P1</td> <td>Proposed project activity not undertaken as a CDM project activity;</td> <td>Yes</td> </tr> <tr> <td>P2</td> <td>On-site or off-site existing/new fossil fuel fired cogeneration plant;</td> <td>Yes</td> </tr> <tr> <td>P3</td> <td>On-site or off-site existing/new renewable energy based cogeneration plant;</td> <td>Yes</td> </tr> <tr> <td>P4</td> <td>On-site or off-site existing/new fossil fuel based existing captive or identified plant;</td> <td>Yes</td> </tr> <tr> <td>P5</td> <td>On-site or off-site existing/new renewable energy based existing captive or identified plant;</td> <td>Yes</td> </tr> <tr> <td>P6</td> <td>Sourced Grid-connected power plants;</td> <td>Yes</td> </tr> <tr> <td>P7</td> <td>Captive Electricity generation from waste gas (if project activity is captive generation with waste gas, this scenario represents captive generation with lower efficiency than the project activity.);</td> <td>Yes</td> </tr> <tr> <td>P8</td> <td>Cogeneration from waste gas (if project activity is cogeneration with waste gas, this scenario represents cogeneration with lower efficiency than the project activity).</td> <td>Yes</td> </tr> </table>		Categories		Yes / No	P1	Proposed project activity not undertaken as a CDM project activity;	Yes	P2	On-site or off-site existing/new fossil fuel fired cogeneration plant;	Yes	P3	On-site or off-site existing/new renewable energy based cogeneration plant;	Yes	P4	On-site or off-site existing/new fossil fuel based existing captive or identified plant;	Yes	P5	On-site or off-site existing/new renewable energy based existing captive or identified plant;	Yes	P6	Sourced Grid-connected power plants;	Yes	P7	Captive Electricity generation from waste gas (if project activity is captive generation with waste gas, this scenario represents captive generation with lower efficiency than the project activity.);	Yes	P8	Cogeneration from waste gas (if project activity is cogeneration with waste gas, this scenario represents cogeneration with lower efficiency than the project activity).	Yes	p	p
		Categories			Yes / No																												
		P1			Proposed project activity not undertaken as a CDM project activity;	Yes																											
		P2			On-site or off-site existing/new fossil fuel fired cogeneration plant;	Yes																											
		P3			On-site or off-site existing/new renewable energy based cogeneration plant;	Yes																											
		P4			On-site or off-site existing/new fossil fuel based existing captive or identified plant;	Yes																											
		P5			On-site or off-site existing/new renewable energy based existing captive or identified plant;	Yes																											
		P6			Sourced Grid-connected power plants;	Yes																											
		P7			Captive Electricity generation from waste gas (if project activity is captive generation with waste gas, this scenario represents captive generation with lower efficiency than the project activity.);	Yes																											
		P8			Cogeneration from waste gas (if project activity is cogeneration with waste gas, this scenario represents cogeneration with lower efficiency than the project activity).	Yes																											
2																																	
B.4.7.	Have all realistic and credible alterna-	1			p	p																											

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS		PDD in GSP	Final PDD																														
tives been discussed for heat generation and the exclusion of options justified (Step 1, H1 – 9)?		2	Alternative(s) may include, inter alia:																																	
			<table> <tr> <th colspan="2">Categories</th> <th>Yes / No</th> </tr> <tr> <td>H1</td> <td>Proposed project activity not undertaken as a CDM project activity;</td> <td>N/A</td> </tr> <tr> <td>H2</td> <td>On-site or off-site existing/new fossil fuel based cogeneration plant;</td> <td>N/A</td> </tr> <tr> <td>H3</td> <td>On-site or off-site existing /new renewable energy based cogeneration plant;</td> <td>N/A</td> </tr> <tr> <td>H4</td> <td>An existing or new fossil fuel based boilers;</td> <td>N/A</td> </tr> <tr> <td>H5</td> <td>An existing or new renewable energy based boilers;</td> <td>N/A</td> </tr> <tr> <td>H6</td> <td>Any other source such as district heat;</td> <td>N/A</td> </tr> <tr> <td>H7</td> <td>Other heat generation technologies (e.g. heat pumps or solar energy);</td> <td>N/A</td> </tr> <tr> <td>H8</td> <td>Steam/ Process heat generation from waste gas, but with lower efficiency;</td> <td>N/A</td> </tr> <tr> <td>H9</td> <td>Cogeneration from waste gas, but with lower efficiency.</td> <td>N/A</td> </tr> </table>				Categories		Yes / No	H1	Proposed project activity not undertaken as a CDM project activity;	N/A	H2	On-site or off-site existing/new fossil fuel based cogeneration plant;	N/A	H3	On-site or off-site existing /new renewable energy based cogeneration plant;	N/A	H4	An existing or new fossil fuel based boilers;	N/A	H5	An existing or new renewable energy based boilers;	N/A	H6	Any other source such as district heat;	N/A	H7	Other heat generation technologies (e.g. heat pumps or solar energy);	N/A	H8	Steam/ Process heat generation from waste gas, but with lower efficiency;	N/A	H9	Cogeneration from waste gas, but with lower efficiency.	N/A
			Categories				Yes / No																													
			H1	Proposed project activity not undertaken as a CDM project activity;			N/A																													
			H2	On-site or off-site existing/new fossil fuel based cogeneration plant;			N/A																													
			H3	On-site or off-site existing /new renewable energy based cogeneration plant;			N/A																													
			H4	An existing or new fossil fuel based boilers;			N/A																													
			H5	An existing or new renewable energy based boilers;			N/A																													
			H6	Any other source such as district heat;			N/A																													
			H7	Other heat generation technologies (e.g. heat pumps or solar energy);			N/A																													
H8	Steam/ Process heat generation from waste gas, but with lower efficiency;	N/A																																		
H9	Cogeneration from waste gas, but with lower efficiency.	N/A																																		
B.4.8.	Has a baseline scenario matrix been developed?	1 2	Yes, see chapter B.4. in the PDD.		p	p																														
B.4.9.	Has the fuel been identified and justified which were used in the baseline scenario (Step 2)?	1 2	N/A, because both alternative combinations identified in Step I do not give rise to the selection of a fuel		p	p																														
B.4.10.	Has the latest approved version of the	1	Yes, based on the GSP-PDD date.		p	p																														

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD																																	
“Tool for the demonstation and as- sessment of additionality” been used to eliminate non feasible baseline options (Step 3)?		2																																				
B.4.11.	Is it demonstrated that the option with the lowest baseline emissions is con- sidered as the most likely baseline scenario, if more than one feasible al- ternative remain (Step 4)?	1 2	N/A	p	p																																	
B.4.12.	Follows the identified baseline scenario one of the two project scenarios result- ing from combinations of baseline op- tions and scenarios applicable to ACM0012?	1 2	<div>Applicability criteria of ACM0012:<table><tr><th colspan="5">Project Scenario: Cogeneration of energy</th></tr><tr><th rowspan="2">Scenario</th><th colspan="3">Baseline options</th><th rowspan="2">Yes / No</th></tr><tr><th>Waste gas</th><th>Power</th><th>Heat</th></tr><tr><td>1</td><td>W2</td><td>P4 or P6</td><td>H4</td><td>N/A</td></tr><tr><td>2</td><td>W2</td><td>P2</td><td>H2</td><td>N/A</td></tr></table><div>Project Scenario: Generation of Electricity or Heat only<table><tr><th rowspan="2">Scenario</th><th colspan="2">Baseline options</th><th rowspan="2">Yes / No</th></tr><tr><th>Waste gas</th><th>Power/Heat</th></tr><tr><td>1</td><td>W2</td><td>P4 or P6/H4</td><td>Yes</td></tr></table></div></div>	Project Scenario: Cogeneration of energy					Scenario	Baseline options			Yes / No	Waste gas	Power	Heat	1	W2	P4 or P6	H4	N/A	2	W2	P2	H2	N/A	Scenario	Baseline options		Yes / No	Waste gas	Power/Heat	1	W2	P4 or P6/H4	Yes	p	p
Project Scenario: Cogeneration of energy																																						
Scenario	Baseline options			Yes / No																																		
	Waste gas	Power	Heat																																			
1	W2	P4 or P6	H4	N/A																																		
2	W2	P2	H2	N/A																																		
Scenario	Baseline options		Yes / No																																			
	Waste gas	Power/Heat																																				
1	W2	P4 or P6/H4	Yes																																			
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):																																						
B.5.1.	Has CDM been considered before the starting date of the project activity and which evidence has been delivered?	1 2	<u>Clarification Request No. 4</u> CDM consideration from directorate should be delivered to DOE	CR4	p																																	

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B.5.2. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1 2	Yes, 3 analysis methods are identified appropriately in the PDD and only the Option III is applied.	p	p
B.5.3. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1 2	Not applicable.	p	p
B.5.4. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1 2	Not applicable.	p	p
B.5.5. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1 2	<p>Yes, the IRR is identified clearly as the most suitable financial indicator.</p> <p><b><u>Clarification Request No. 5</u></b></p> <p>The benchmark is chosen 19.5% as internal benchmark. This is in accordance with the "Tool for the demonstration and assessment of additionality" version 4. Jidong Group includes 28 subsidiary companies in which more than 10 cement companies. Project participants should show the evidence that all of cement subsidiary companies have chosen the internal benchmark as their benchmark and deliver the finance analysis document.</p> <p><b><u>Corrective Action Request No. 8:</u></b></p> <p>IRR of before CDM revenue is quite close to FSR. However, the IRR table of after CDM revenue is different to FSR. This needs to be explained.</p>	CR5 CAR8	p

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B.5.6. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1 2	Yes, but see B5.5	CR5 CAR8	p
B.5.7. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1 2	Yes, but see B5.5	CR5 CAR8	p
B.5.8. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1 2 16	<b><u>Corrective Action Request No. 9:</u></b> Project participant should deliver a statistics sheet to the auditor to evidence the “first-of-its kind barrier” 1, the statistic sheet should be included in the PDD. 2, Project participant should deliver the evidence that there is an authorization from design institution or approval from the Chinese government that can prove the statistics sheet.	CAR9	p
B.5.9. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1 2 16	Yes, but see CAR9	CAR9	p
B.5.10. In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1 2	Yes, alternative 2 is not baffled by the barriers discussed.	p	p
B.5.11. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?	1 2	Yes, but see CAR9	CAR9	p
B.5.12. If similar activities are occurring: Is it	1	Yes, it has appropriately explained that the approval of the project	CAR9	p

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demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?	2	activity would obviously help to overcome the economic and financial hurdles and other identified barriers, such as, improving the main financial indicator, It also would improve the project IRR by selling CERs. But see CAR9		
<b>B.6. Emissions reductions</b>				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1 2	The calculation of Fcap and the emission reduction is applied according to the steps described in ACM0012: <ul style="list-style-type: none"> <li>- Calculation of the Fcap</li> <li>- Calculation of the Operating Margin Emission Factor</li> <li>- Calculation of the Build Margin Emission Factor</li> <li>- Calculation of the Combined Baseline Emission Factor</li> </ul> These steps are described in a transparent manner. The EF factors published by NDRC have been used.	p	p
B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	1 2	Yes, the applied Fcap parameter from FSR and baseline is grid power imports, the emission factor is calculated as Tool to calculate the emission factor for an electricity system (Version 1), and it's inline with the situation verified on-site.	p	p
B.6.1.3. Are the formulae required for the determination of <b>baseline</b> emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1 2	Yes, it uses the baseline emission formulae and enables to use and monitor the parameters.	p	p
B.6.1.4. Are the formulae required for the determination of <b>project</b> emissions correctly presented, enabling a complete	1 2	Yes, the formulae to calculate the project emissions are correctly presented. The project emissions do not have to be considered in this project activity because there is no additional gas needed, the	p	p



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identification of parameter to be used and / or monitored?		project emission is zero.								
B.6.1.5.Are the formulae required for the determination of emission reductions correctly presented?	1 2	Yes, the formulae required for determination of emission reductions are correctly presented.	p	p						
<i>B.6.2. Data and parameters that are available at validation: The calculation of baseline emissions (<math>BE_{En,y}</math>) depends on the identified baseline scenario. Scenario 1 represents the situation where the electricity is obtained from a specific existing power plant or from the grid and heat from a fossil fuel based element process. Scenario 2 represents the situation where the recipient plant(s) obtain electricity and/or heat generated by a fossil fuel based existing/new cogeneration plant.</i>										
B.6.2.1.Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1 2	Yes, a list of parameters is presented in Chapter B6.2. <b><u>Corrective Action Request No. 10</u></b> The parameters below should be included in the list. $n_{Plant,j}$ overall efficiency of the existing plant that would be used by recipient $n_{EP,i,j}$ efficiency of the element process that would have been supplied heat to the recipient $n_{Cogen}$ efficiency of cogeneration plant using fossil fuel Emission factor of the grid (CM) Emission factor of the grid (OM) Emission factor of the grid (BM)	CAR10	p						
<i>Integrate the required amount of sub-checklists for monitoring parameter and <b>comment</b> on any line answered with “No”.</i>										
B.6.2.2.Parameter Title: $f_{wg}$ fraction of total electricity generated by the project activity using waste gas	1 2	See B6.2.1 <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	p	p
Data Checklist	Yes / No									
Title in line with methodology?	N/A									
Data unit correctly expressed?	N/A									

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		Appropriate description of parameter?	N/A																				
		Source clearly referenced?	N/A																				
		Correct value provided?	N/A																				
		Has this value been verified?	N/A																				
		Choice of data correctly justified?	N/A																				
		Measurement method correctly described?	N/A																				
		The objective of the project activity is to utilize waste heat for generating electric power.																					
B.6.2.3.Parameter Title: $f_{cap}$ fraction of total energy produced using waste gas	1 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	p	p
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
Appropriate description of parameter?	N/A																						
Source clearly referenced?	N/A																						
Correct value provided?	N/A																						
Has this value been verified?	N/A																						
Choice of data correctly justified?	N/A																						
Measurement method correctly described?	N/A																						
B.6.2.4.Parameter Title: $\eta_{Plant, j}$ overall efficiency of the existing plant that would be used by recipient	1 2	See B6.2.1 <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	CAR10	p
Data Checklist	Yes / No																						
Title in line with methodology?	No																						
Data unit correctly expressed?	No																						
Appropriate description of parameter?	No																						
Source clearly referenced?	No																						
Correct value provided?	No																						
Has this value been verified?	No																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						

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B.6.2.5.Parameter Title: $f_{WG}$ fraction of total heat generated by the project activity electricity using waste gas	1 2		p	p
		Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
B.6.2.6.Parameter Title: $\eta_{EP, I, j}$ efficiency of the element process that would have been supplied heat to the recipient	1 2	See B6.2.1	CAR10	p
		Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
B.6.2.7.Parameter Title: $\eta_{Cogen}$ efficiency of cogeneration plant using fossil fuel	1 2	See B6.2.1	CAR10	p
		Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		

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		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
B.6.2.8.Parameter Title: $Q_{WG,y}$ quantity of waste gas used for energy generation during year	1 2	Data Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.9.Parameter Title: $\eta_{Boiler, fl}$ efficiency of the boiler that would have been used to generate the steam	1 2	Data Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.10. Parameter Title: $Q_{WG, Fl, B}$ amount of waste gas flared using steam prior to the implementation of the project activity	1 2	Data Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		

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		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.11. Parameter Title: $Q_{st, fl, B}$ steam used to flare the waste gas prior to the implementation of the project activity	1 2	Data Checklist Title in line with methodology? Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?		p	p
B.6.2.12. Parameter Title: $NCV_i$ net calorific value annual average for each consumed fuel and the waste gas/heat	1 2	Data Checklist Title in line with methodology? Data unit correctly expressed? Appropriate description of parameter? Source clearly referenced? Correct value provided? Has this value been verified? Choice of data correctly justified? Measurement method correctly described?		p	p
B.6.2.13. Parameter Title: $Q_{WG, BL}$ quantity of waste gas generated prior to the start of the project activity	1 2	Data Checklist Title in line with methodology? Data unit correctly expressed?		p	p

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		Appropriate description of parameter?	Yes			
		Source clearly referenced?	Yes			
		Correct value provided?	Yes			
		Has this value been verified?	Yes			
		Choice of data correctly justified?	Yes			
		Measurement method correctly described?	Yes			
B.6.2.14. Parameter Title: $Q_{BL, product}$ production by process that most logically relates to waste gas generation in baseline	1 2				p	p
		Data Checklist	Yes / No			
		Title in line with methodology?	Yes			
		Data unit correctly expressed?	Yes			
		Appropriate description of parameter?	Yes			
		Source clearly referenced?	Yes			
		Correct value provided?	Yes			
		Has this value been verified?	Yes			
		Choice of data correctly justified?	Yes			
		Measurement method correctly described?	Yes			
B.6.2.15. Parameter Title: $q_{wg, product}$ amount of waste gas/heat/pressure the industrial facility generates per unit of product generated by the process that generates waste gas/heat/pressure	1 2				p	p
		Data Checklist	Yes / No			
		Title in line with methodology?	Yes			
		Data unit correctly expressed?	Yes			
		Appropriate description of parameter?	Yes			
		Source clearly referenced?	Yes			
		Correct value provided?	Yes			
		Has this value been verified?	Yes			
		Choice of data correctly justified?	Yes			
		Measurement method correctly described?	Yes			

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B.6.2.16. Parameter Title: Annual electricity supplied to the grid prior to retrofit (applicable only for retrofit and modification activities)	1		p	p																		
	2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A
	Data Checklist	Yes / No																				
	Title in line with methodology?	N/A																				
	Data unit correctly expressed?	N/A																				
	Appropriate description of parameter?	N/A																				
	Source clearly referenced?	N/A																				
	Correct value provided?	N/A																				
	Has this value been verified?	N/A																				
	Choice of data correctly justified?	N/A																				
Measurement method correctly described?	N/A																					
B.6.2.17. Parameter Title: Emission factor of the grid (CM)	1	See B6.2.1	CAR10	p																		
	2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No
	Data Checklist	Yes / No																				
	Title in line with methodology?	No																				
	Data unit correctly expressed?	No																				
	Appropriate description of parameter?	No																				
	Source clearly referenced?	No																				
	Correct value provided?	No																				
	Has this value been verified?	No																				
	Choice of data correctly justified?	No																				
Measurement method correctly described?	No																					



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<b>B.6.2.18. Parameter Title: Operating margin (OM) emission factor of the grid</b>	1	<b>See B6.2.1</b>	<b>CAR10</b>	p
	2	Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
<b>B.6.2.19. Parameter Title: Build margin (BM) emission factor of the grid</b>	1	<b>See B6.2.1</b>	<b>CAR10</b>	p
	2	Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		

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		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		

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B.6.2.20. Parameter Title: fuel consumption of each power source	1			p	p
	2	Data Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.21. Parameter Title: emission coefficient of each fuel	1			p	p
	2	Data Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		

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		Measurement method correctly described?	Yes		

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B.6.2.22. Parameter Title: electricity generation of each power source	1			p	p
	2	Data Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.23. Parameter Title: fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)	1			p	p
	2	Data Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		

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B.6.2.24. Parameter Title: electricity imports	1		p	p																		
	2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes		
	Data Checklist	Yes / No																				
	Title in line with methodology?	Yes																				
	Data unit correctly expressed?	Yes																				
	Appropriate description of parameter?	Yes																				
	Source clearly referenced?	Yes																				
	Correct value provided?	Yes																				
	Has this value been verified?	Yes																				
	Choice of data correctly justified?	Yes																				
Measurement method correctly described?	Yes																					
B.6.2.25. Parameter Title: CO2 emission coefficient of fuels used in connected grids	1		p	p																		
	2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes						
	Data Checklist	Yes / No																				
	Title in line with methodology?	Yes																				
	Data unit correctly expressed?	Yes																				
	Appropriate description of parameter?	Yes																				
	Source clearly referenced?	Yes																				
	Correct value provided?	Yes																				
Has this value been verified?	Yes																					

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		Choice of data correctly justified?	Yes						
		Measurement method correctly described?	Yes						
B.6.3. Ex-ante calculation of emission reductions									
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1 2	Yes, the same procedures are used for future monitoring which only considers the baseline emission and no project emission or leakage.  The projection is achieved by multiplication of the baseline emission factor of the regional power grid of China times the estimated net electricity generation.		p	p				
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1 2	Yes, BE <sub>y</sub> =EG <sub>y</sub> *EF <sub>electricity,y</sub> =88760 *1.0515=93331 ton/year <b><u>Corrective Action Request No. 11</u></b> The project participant should explain why the EF is not chosen as consistent with NDRC.		CAR11	p				
B.6.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1 2	See B6.3.2		p	p				
B.6.3.4. Has the equation for calculating baseline emissions from electricity that is displaced by the project activity been used if project activity is use of waste pressure to generate electricity?	1 2	N/A		p	p				
B.6.3.5. Do the parameter of efficiency (n <sub>BL</sub> ) follow one of the stated demands?	1 2	<table><tr><th>Demand</th><th>Yes/No</th></tr><tr><td>i) Assume a constant efficiency of the <b>captive plant / element process / cogeneration plant</b> and determine the efficiency, as a conservative ap-</td><td>No</td></tr></table>		Demand	Yes/No	i) Assume a constant efficiency of the <b>captive plant / element process / cogeneration plant</b> and determine the efficiency, as a conservative ap-	No	p	p
Demand	Yes/No								
i) Assume a constant efficiency of the <b>captive plant / element process / cogeneration plant</b> and determine the efficiency, as a conservative ap-	No								



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		proach, for optimal operation conditions i.e. design fuel, designed steam extraction, optimal load, optimal oxygen content in flue gases, adequate fuel conditioning (temperature, viscosity, moisture, size/mesh etc), representative or favorable ambient conditions (temperature and humidity); or		
		ii) Highest of the efficiency values provided by two or more manufacturers for <b>power plants</b> / <b>element process</b> with specifications similar to that that would have been required to supply the recipient with electricity / heat / that it receives from the project activity; or Highest of the efficiency values provided by two or more manufacturers for <b>similar plants</b> , as used in the project activity; or	No	
		iii) Assume a captive power generation efficiency of 60% based on the net calorific values as a conservative approach ( <b>power plant</b> ); or Maximum efficiency of 100% ( <b>element process</b> ); or Maximum efficiency of 90%, based on net calorific values (irrespective of type of cogeneration system and type of heat generated) ( <b>cogeneration plant</b> ); or	Yes	
		iv) Estimated from load v/s efficiency curve(s) established for <b>equipment(s)</b> / <b>each element process</b> through measurement and described in Annex I; or Estimated from load v/s efficiency curve(s) estab-	No	

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		<p>lished through measurement of the <b>cogeneration plants</b> and described in Annex I.</p> <p>Follow international standards for estimation of efficiency of power plants / individual element process / cogeneration plants.</p>		
B.6.3.6.Are the baseline emissions capped following one of the two methods described in the methodology (ACM0012)? Which method has been applied?	1 2	The emission reductions will be calculated <i>ex post</i> on the basis of actual power supply to the grid, using the baseline emission factor presented above in Section B.6.1 in the PDD.	p	p
<b>B.6.4. Summary of the ex-ante estimation of emission reductions</b>				
B.6.4.1.Will the project result in fewer GHG emissions than the baseline scenario?	1 2	<p>Yes, the project will result in fewer GHG emissions than the baseline scenario from the formulae of <math>ER_y = BE_y - PE_y</math> where <math>PE_y</math> is considered as zero in this project activity.</p> <p>The emission reduction equals the baseline emission, the project will result in fewer GHG emissions than the baseline scenario.</p>	p	p
B.6.4.2.Is the form/table required for the indication of projected emission reductions correctly applied?	1 2	Yes, the form is correctly applied according to the PDD template.	p	p
B.6.4.3.Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1 2	Yes	p	p
B.6.4.4.Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1 2	Yes	p	p

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B.7. Application of the monitoring methodology and description of the monitoring plan																												
B.7.1. Data and parameters monitored																												
B.7.1.1.Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1 2	<b><u>Corrective Action Request No. 12</u></b> The list of parameters presented by chapter B.7.1. is considered not to be complete. <b>EC<sub>CP, y</sub></b> , <b>EG<sub>j, y</sub></b> , steam flow rate, pressure of steam, temperature of steam/hot water/hot oil, <b>n<sub>BL, t</sub></b> are the parameters that shall be monitored and recorded. Some parameters should be described completely.	CAR12	p																								
B.7.1.2.Parameter Title: <b>FF<sub>i, y</sub></b> , quantity of fossil fuel type i combusted to supplement waste gas in the project activity during the year y, in energy or mass units (project emissions)	1 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	N/A																											
Correct value provided for estimation?	N/A																											
Has this value been verified?	N/A																											
Measurement method correctly described?	N/A																											
Correct reference to standards?	N/A																											
Indication of accuracy provided?	N/A																											
QA/QC procedures described?	N/A																											
QA/QC procedures appropriate?	N/A																											
B.7.1.3.Parameter Title: <b>NCV<sub>i</sub></b> net calorific value of the fossil fuel i (project emissions)	1 2	See B7.1.1 <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	CAR12	p																		
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											

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		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.4.Parameter Title: $EF_{CO_2, i}$ CO2 emission factor per unit of energy or mass of the fuel type i (project emissions)	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.5.Parameter Title: $EC_{PJ, y}$ Additional electricity consumed in year y, for gas cleaning equipment, as a result of the implementation of the project activity. (project emissions)	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		

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		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.6.Parameter Title: <b>EF</b> <sub>CO2, EL, y</sub> CO2 emission factor for electricity consumed by the project activity in year y (project emissions)	1 2	See B7.1.1		CAR12	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	No		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.7.Parameter Title: <b>FC</b> <sub>EL, CP, k, y</sub> Quantity of fuel type k combusted in the captive power plant at the project site in year y where k are the fuel types fired in the captive power plant at the project site in year y (project emissions)	1 2			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		

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		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.8.Parameter Title: <b>NCV<sub>k</sub></b> Net calorific value of fuel type k where k are the fuel types fired in the captive power plant at the project site in year y (project emissions)	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.9.Parameter Title: <b>EF<sub>CO2, k</sub></b> Emission factor of fuel type k where k are the fuel types fired in the captive power plant at the project site in year y (project emissions)	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		

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		QA/QC procedures appropriate? N/A																												
B.7.1.10. Parameter Title: $EC_{CP, y}$ Quantity of electricity generated in the captive power plant at the project site in year y (project emissions)	1 2	See B7.1.1			CAR12	p																								
		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No		
Monitoring Checklist	Yes / No																													
Title in line with methodology?	No																													
Data unit correctly expressed?	No																													
Appropriate description of parameter?	No																													
Source clearly referenced?	No																													
Correct value provided for estimation?	No																													
Has this value been verified?	No																													
Measurement method correctly described?	No																													
Correct reference to standards?	No																													
Indication of accuracy provided?	No																													
QA/QC procedures described?	No																													
QA/QC procedures appropriate?	No																													
B.7.1.11. Parameter Title: $ws_{i, j}$ fraction of total heat that is used by the recipient j in the project that in absence of the project activity would have been supplied by the ith boiler (baseline emissions)	1 2	See B7.1.1			CAR12	p																								
		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	No	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A		
Monitoring Checklist	Yes / No																													
Title in line with methodology?	Yes																													
Data unit correctly expressed?	No																													
Appropriate description of parameter?	Yes																													
Source clearly referenced?	N/A																													
Correct value provided for estimation?	N/A																													
Has this value been verified?	N/A																													
Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													



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B.7.1.12. Parameter Title: <b>Q<sub>WG, y</sub></b> quantity of waste gas used for energy generation during year y (Nm3) (baseline emissions)	1 2			p	p
		Monitoring Checklist			
		Yes / No			
		Title in line with methodology?			
		Yes			
		Data unit correctly expressed?			
		Yes			
		Appropriate description of parameter?			
		Yes			
		Source clearly referenced?			
		Yes			
		Correct value provided for estimation?			
		Yes			
B.7.1.13. Parameter Title: <b>EF<sub>elec, i, j</sub></b> CO <sub>2</sub> emission factor for the electricity source i (i=gr (grid) or i=is (identified source)) , displaced due to the project activity, during the year y in tons CO2/MWh (baseline emissions)	1 2	See B7.1.1		CAR12	p
		Monitoring Checklist			
		Yes / No			
		Title in line with methodology?			
		Yes			
		Data unit correctly expressed?			
		Yes			
		Appropriate description of parameter?			
		Yes			
		Source clearly referenced?			
		Yes			
		Correct value provided for estimation?			
		Yes			
B.7.1.14. Parameter Title: <b>EF<sub>CO2, is, j</sub></b> CO <sub>2</sub> emission factor per unit of energy of the	1			p	p
		Monitoring Checklist			
		Yes / No			
		Title in line with methodology?			
		Yes			
		Data unit correctly expressed?			
		Yes			
		Appropriate description of parameter?			
		Yes			
		Source clearly referenced?			
		Yes			
		Correct value provided for estimation?			
		Yes			

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fossil fuel used in the baseline generation source i (i=is) providing energy to recipient j. (baseline emissions)	2	Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.15. Parameter Title: <b>EF<sub>CO2, COGEN</sub></b> CO <sub>2</sub> emission factor per unit of energy of the fuel that would have been used in the base-line cogeneration plant (baseline emissions)	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.16. Parameter Title: <b>EG<sub>i,j,y</sub></b> quantity of electricity supplied to the recipient j by generator, which in the absence of the project activity would have sourced from l th source /l can be either grid or identified	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		

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source) during the year y in MWh (baseline emissions)		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		
B.7.1.17. Parameter Title: <b>EG<sub>j,y</sub></b> quantity of electricity supplied to the recipient plant j by the project activity during the year y in MWh (baseline emissions)	1 2	See B7.1.1		CAR12	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.18. Parameter Title: <b>HG<sub>j,y</sub></b> net quantity of heat supplied to the recipient plant j by the project activity during the year y in TJ. In case of steam this is expressed as difference of energy content between the steam supplied to the recipient plant and the condensate returned by the recipient plant(s)	1 2			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		

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to element process of cogeneration plant. In case of hot water/oil this is expressed as difference in energy content between the hot water/oil supplied to and returned by the recipient plant(s) to element process of cogeneration plant) (baseline emissions)		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.19. Parameter Title: <b>EF</b> <sub>co2, i, j</sub> CO <sub>2</sub> emission factor per unit of energy of the baseline fuel used in ith boiler used by recipient j, in tCO2/TJ, in absence of the project activity (baseline emissions)	1 2			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.20. Parameter Title: <b>EF</b> <sub>co2, j</sub> CO <sub>2</sub> emission factor of fossil fuel (tCO2/TJ) that would have been used at facility 'j' for flaring the waste gas (baseline emissions)	1 2			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		

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		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.21. Parameter Title: $Q_{i,h}$ amount of individual fuel (waste gas and other fuel(s)) i consumed at the energy generation unit during hour h (baseline emissions)	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.22. Parameter Title: $EG_{tot,y}$ total annual energy produced at the cogeneration plants, with waste gas and fossil fuel (baseline emissions)	1 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		

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		QA/QC procedures appropriate?	N/A			
B.7.1.23.       Parameter Title: <b>Q<sub>WG, h</sub></b> quantity of waste gas used for energy generation per hour h (baseline emissions)	1			p	p	
	2					
	Monitoring Checklist					Yes / No
	Title in line with methodology?					Yes
	Data unit correctly expressed?					Yes
	Appropriate description of parameter?					Yes
	Source clearly referenced?					N/A
	Correct value provided for estimation?					N/A
	Has this value been verified?					N/A
	Measurement method correctly described?					N/A
	Correct reference to standards?					N/A
	Indication of accuracy provided?					N/A
QA/QC procedures described?	N/A					
QA/QC procedures appropriate?	N/A					
B.7.1.24.       Parameter Title: <b>NCV<sub>WG</sub></b> net Calorific Value of Waste Gas (baseline emissions)	1			p	p	
	2					
	Monitoring Checklist					Yes / No
	Title in line with methodology?					Yes
	Data unit correctly expressed?					Yes
	Appropriate description of parameter?					Yes
	Source clearly referenced?					N/A
	Correct value provided for estimation?					N/A
	Has this value been verified?					N/A
	Measurement method correctly described?					N/A
	Correct reference to standards?					N/A
	Indication of accuracy provided?					N/A
QA/QC procedures described?	N/A					
QA/QC procedures appropriate?	N/A					
B.7.1.25.       Parameter Title: <b>ST<sub>whr, y</sub></b> energy content of the steam generated in	1			p	p	
		Monitoring Checklist	Yes / No			

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waste heat recovery boiler fed to turbine via common steam header (baseline emissions)	2	Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.26. Parameter Title: <b>ST</b> <sub>other, y</sub> energy content of the steam generated in other boilers fed to turbine via common steam header (baseline emissions)	1			p	p
	2	Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.27. Parameter Title: <b>EF</b> <sub>heat, j, y</sub> CO2 emission factor of the heat source that would have supplied the recipient plant j in absence of the project activity, expressed in tCO2/TJ (baseline emissions)	1			p	p
	2	Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		

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		Source clearly referenced?	Yes		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.28. Parameter Title: steam flow rate	1 2	See B7.1.1		CAR12	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.29. Parameter Title: pressure of steam	1 2	See B7.1.1		CAR12	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		



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		Correct value provided for estimation?	No			
		Has this value been verified?	No			
		Measurement method correctly described?	No			
		Correct reference to standards?	No			
		Indication of accuracy provided?	No			
		QA/QC procedures described?	No			
		QA/QC procedures appropriate?	No			
B.7.1.30. Parameter Title: temperature of steam/hot water/hot oil	1 2	See B7.1.1			CAR12	p
		Monitoring Checklist	Yes / No			
		Title in line with methodology?	No			
		Data unit correctly expressed?	No			
		Appropriate description of parameter?	No			
		Source clearly referenced?	No			
		Correct value provided for estimation?	No			
		Has this value been verified?	No			
		Measurement method correctly described?	No			
		Correct reference to standards?	No			
		Indication of accuracy provided?	No			
		QA/QC procedures described?	No			
		QA/QC procedures appropriate?	No			
B.7.1.31. Parameter Title: $n_{BL, t}$ efficiency of element process/captive power plant/cogeneration plant during time interval t where t is a discrete time interval during the year y (baseline emissions)	1 2	See B7.1.1			CAR12	p
		Monitoring Checklist	Yes / No			
		Title in line with methodology?	No			
		Data unit correctly expressed?	No			
		Appropriate description of parameter?	No			
		Source clearly referenced?	No			
		Correct value provided for estimation?	No			

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		Has this value been verified?	No			
		Measurement method correctly described?	No			
		Correct reference to standards?	No			
		Indication of accuracy provided?	No			
		QA/QC procedures described?	No			
		QA/QC procedures appropriate?	No			
B.7.2. Description of the monitoring plan						
B.7.2.1.Is the operational and management structure clearly described and in compliance with the envisioned situation?	1 2	Yes, the operational and management structure is clearly described in section B.7.2 of the PDD and the Monitoring & Quality Control Manual which are in compliance with the envisioned situation.			p	p
B.7.2.2.Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1 2	Yes, the responsibilities and institutional arrangements for data collection and archiving are clearly described in the PDD, it was verified on site.			p	p
B.7.2.3.Does the monitoring plan provide current good monitoring practice?	1 2	Yes, the monitoring plan provides current good monitoring practice. <b><u>Corrective Action Request No. 13</u></b> Please provide a diagram describing the arrangement of the meters, as well as a list to show all the technical information of the monitoring plan.			CAR13	p
B.7.2.4.If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1 2	A detailed description for Selection procedure, Tasks and responsibilities and Preparation of monitoring report have been mentioned in Annex4.			p	p
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)						
B.8.1.1.Is there any indication of a date when	1	Yes, the baseline and the monitoring study were completed on			p	p

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the baseline was determined?	2	18/01/2008.		
B.8.1.2.Is this consistent with the time line of the PDD history?	1 2	Yes, it is	p	p
B.8.1.3.Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1 2	Yes, the information on the entity responsible for the application of the baseline and monitoring methodology provided is consistent with the actual situation.  Mr. Meskes Berkouwer, Mr. Joost van Acht and Mr. Casper van der Tak from Caspervandertak Consulting.and Mr. Zhao Yong-hong and Ms. Jin Yuebing from Gansu Tonghe Investment Project Consulting Co., Ltd. are the persons responsible for the application of the baseline.	p	p
B.8.1.4.Is information provided whether this person / entity is also considered a project participant?	1 2	No, the persons are not considered as project participants.	p	p
<b>C. Duration of the project activity / crediting period</b>				
<b>C.1. Duration of the project activity</b>				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1 2	<b><u>Corrective Action Request No. 14</u></b>  According to starting work certificate, the project starting date should be 15/10/2007 when is not consistency with PDD	CAR14	p
<b>C.2. Choice of the crediting period and related information</b>				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1 2	Yes, the assumed crediting time is clearly defined as 10 years with 1 renewal.	p	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>D. Environmental impacts</b>				
<b>D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts</b>				
D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1 2 7 8	Yes, there is an environmental impacts analysis, such as air pollution control, noise pollution control, water pollution control, ecological environment control, land use and its impact to local residents are discussed on the PDD.	p	p
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1 2 7 8	Yes, EIA is a must in P. R. China. The EIA has been done and approved by Jilin EPB.	p	p
D.1.3. Will the project create any adverse environmental effects?	1 2 7 8	No. There are no adverse environmental effects for the project activity.	p	p
D.1.4. Were transboundary environmental impacts identified in the analysis?	1 2 7 8	No transboundary environmental impacts were identified.	p	p
<b>D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party</b>				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1 2	Not applicable.	p	p

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D.2.2. Does the project comply with environmental legislation in the host country?	1 2	Yes	p	p
<b>E. Stakeholders' comments</b>				
<b>E.1. Brief description how comments by local stakeholders have been invited and compiled</b>				
E.1.1. Have relevant stakeholders been consulted?	1 2 13	Yes. The auditor has checked the survey table of questionnaires collected from stakeholders. The stakeholder groups are as below: 1. Workers from the cement plant 2. Local residents	p	p
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1 2 13	To ensure wide participation of stakeholders for the formal stakeholder consultation newspaper and poster were the main channels.	p	p
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1 2 13	There are no regulations / laws in China for carrying out the stakeholder consultation process for this project activity.	p	p
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1 2 13	A survey table with questionnaires sent to stakeholders according to the plant staffs, and residents who live near to the project activity. All the identified stakeholders have been consulted and all of them had the opportunity to give comments.	p	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>E.2. Summary of the comments received</b>				
E.2.1. Is a summary of the received stakeholder comments provided?	1 2 13	Yes, there is a summary of the received stakeholder comments and a statistical analysis of the answers.	p	p
<b>E.3. Report on how due account was taken of any comments received</b>				
E.3.1. Has due account been taken of any stakeholder comments received?	1 2 13	No adjustments were necessary because no adverse comments have been received.	p	p
<b>F. Annexes 1 - 4</b>				
<b>F.1. Annex 1: Contact Information</b>				
F.1.1. Is the information provided consistent with the one given under section A.3?	1 2	Yes, it is consistent with the one given under section A3.	p	p
F.1.2. Is the information on all private participants and directly involved Parties presented?	1 2	Yes, it is	p	p
<b>F.2. Annex 2: Information regarding public funding</b>				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1 2	There is no public funding in this project.	p	p
F.2.2. If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1 2	Not applicable.	p	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>F.3. Annex 3: Baseline information</b>				
F.3.1. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1 2	Yes, it is.	p	p
F.3.2. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1 2	Yes, it is.	p	p
F.3.3. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1 2	Yes, it is.	p	p
F.3.4. Does the additional information substantiate / support statements given in other sections of the PDD?	1 2	Yes, it is.	p	p
<b>F.4. Annex 4: Monitoring information</b>				
F.4.1. If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?	1 2	Yes, it is.	p	p
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1 2	Yes, it is.	p	p
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1 2	Yes, it is.	p	p

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**Table 2 Resolution of Corrective Action and Clarification Requests**

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
<b><u>Open Issue</u></b> The LoA of UK and of China have not been presented to the DOE yet. The MoC has not been provided to the DOE yet.	A3.2		⊐ The LoAs and MoC have been submitted to DOE.
<b><u>Corrective Action Request No. 1:</u></b> The name of different boilers should be clarified. For production stages for dry process cement production, the boilers' name are SP and AQC. For Waste heat recovery stage, the boilers' name are PH and AQC. All together there are 4 WHR boilers (2 at the 3000 t/d production line, 2 at the 4000 t/d production line), this should be mentioned in this section of the PDD.	A2.1		⊐ The information has been mentioned in PDD.
<b><u>Corrective Action Request No. 2:</u></b> The applied methodology refers to two sectoral scopes: Scope 1 (Energy Industries) and scope 4 (Manufacturing Industries). Scope 4 needs to be indicated in the PDD.	A4.2.1		⊐ The scope 4 has been included in the PDD.
<b><u>Corrective Action Request No. 3:</u></b> The type of two boilers and the model of the two generators were not delivered to DOE	A4.3.3		⊐ The inconsistency has been revised.



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on-site. Please give the evidence to prove that type and model are consistent with in the PDD.			
<b><u>Corrective Action Request No. 4:</u></b> The operational lifetime of the main project equipment should be mentioned in the PDD.	A4.3.7		⌋ The lifetime has been mentioned in the PDD.
<b><u>Corrective Action Request No. 5:</u></b> Project participants are requested to provide in the PDD a timetable for the implementation of the project activity. This timetable should clearly indicate the starting date of construction and operation, the date of the feasibility study and the date when CDM was the first time considered. For a better transparency add the information about equipment purchase and construction end in Table B.7	A4.3.10		⌋ This issue will be closed in vers. 3 of the methodology.
<b><u>Corrective Action Request No. 6:</u></b> Please mentioned this criterion in PDD	B2.4		⌋ This issue will be closed in vers. 3 of the methodology.
<b><u>Corrective Action Request No. 7:</u></b> In the PDD it is stated that the required emission sources are highlighted. This is not done in the current version. This needs to be corrected.	B3.1		⌋ This issue will be closed in vers. 3 of the methodology.
<b><u>Corrective Action Request No. 8:</u></b> IRR of before CDM revenue is quite close to FSR. However, the IRR table of after CDM revenue is different to FSR. This needs to be explained.	B5.5		⌋ This issue will be closed in vers. 3 of the methodology.

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<b><u>Corrective Action Request No. 9:</u></b> Project participant should deliver a statistics sheet to the auditor to evidence the “first-of-its kind barrier” 1, the statistic sheet should be included in the PDD. 2, Project participant should deliver the evidence that there is an authorization from design institution or approval from the Chinese government that can prove the statistics sheet.	B5.8		<p>⌋ This issue will be closed in vers. 3 of the methodology.</p>
<b><u>Corrective Action Request No. 10</u></b> The parameters below should be included in the list. $n_{Plant, j}$ overall efficiency of the existing plant that would be used by recipient $n_{EP, i, j}$ efficiency of the element process that would have been supplied heat to the recipient $n_{Cogen}$ efficiency of cogeneration plant using fossil fuel Emission factor of the grid (CM) Emission factor of the grid (OM) Emission factor of the grid (BM)	B6.2.1		<p>⌋ This issue will be closed in vers. 3 of the methodology.</p>
<b><u>Corrective Action Request No. 11</u></b> The project participant should explain why the EF is not chosen as consistent with NDRC.	B6.3.2		<p>⌋ The inconsistency has been revised.</p>
<b><u>Corrective Action Request No. 12</u></b>	B7.1.1		<p>⌋ This issue will be closed in</p>

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The list of parameters presented by chapter B.7.1. is considered not to be complete. $EC_{CP,y}$ , $EG_{j,y}$ , steam flow rate, pressure of steam, temperature of steam/hot water/hot oil, $n_{BL,t}$ are the parameters that shall be monitored and recorded. Some parameters should be described completely.			vers. 3 of the methodology.
<b><u>Corrective Action Request No. 13</u></b> Please provide a diagram describing the arrangement of the meters, as well as a list to show all the technical information of the monitoring plan.	B7.2.3		⌋ This issue will be closed in vers. 3 of the methodology.
<b><u>Corrective Action Request No. 14</u></b> According to starting work certificate, the project starting date should be 15/10/2007 when is not consistency with PDD	C1.1		⌋ This issue will be closed in vers. 3 of the methodology.
<b><u>Clarification Request No. 1</u></b> Please deliver the approval of both feasibility study reports to DOE	A2.2		⌋ The approval FSR has been sent to DOE.
<b><u>Clarification Request No. 2</u></b> The PDD states, that the project will produce 15MW. But the turbine and boilers are built to produce 18MW. It needs to be evidenced, that the project will only produce 15 MW.	A4.3.6		⌋ The inconsistency has been revised.
<b><u>Clarification Request No. 3</u></b> When has the second clinker line production started? Is it before the validation?	A4.3.7		⌋ This issue will be closed in vers. 3 of the methodology.
<b><u>Clarification Request No. 4</u></b>	B5.1		⌋ This issue will be closed in

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CDM consideration from directorate should be delivered to DOE			vers. 3 of the methodology.
<b><u>Clarification Request No. 5</u></b> The benchmark is chosen 19.5% as internal benchmark. This is in accordance with the “Tool for the demonstration and assessment of additionality” version 4. Jidong Group includes 28 subsidiary companies in which more than 10 cement companies. Project participants should show the evidence that all of cement subsidiary companies have chosen the internal benchmark as their benchmark and deliver the finance analysis document.	B5.5		<p>⌋ This issue will be closed in vers. 3 of the methodology.</p>

**Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)**

Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>A. General description of project activity</b>				
<b>A.1. Title of the project activity</b>				
<b>A.2. Description of the project activity</b>				
A.2.1. Is the description delivering a transparent overview of the project activities.	1 2 38	The project and the project activities have been described transparently, the proposed project involves a capture and utilization of waste heat from two cement line and the utilization of this waste heat for the purpose of power generation. This has been proved by the auditor.	p	p
A.2.2. Are references to the baseline/project scenarios, emission sources and gases and the technology employed given? If yes, please name them.	1 2 38	<b><u>Corrective Action Request No. 1:</u></b> According to PDD Guideline of EB41, project participants are requested to state what the baseline scenario was existing prior to the implementation of the project activity? and discuss the baseline scenario and project scenario.(e.g. is the baseline scenario as same as the scenario existing prior to the start of implementation of the project activity?) A description of the scenario prior to the project activity is needed as well.	CAR1	p
A.2.3. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1 2 6 7 8 9 38	The planning is described in the feasibility study. The project activity is the displacement of electricity generated by thermal power plants with electricity generated by Waste Heat Recovery. The following documents are verified on site for the project activity: - Feasibility study - EIA - Approval of the project from local government	p	p
A.2.4. Is the information provided by these proofs consistent with the information pro-	1	Yes, it is. But see A2.2	CAR1	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
vided by the PDD?	2 6 7 8 9 38			
A.2.5. Is all information presented consistent with details provided by further chapters of the PDD, in particular chapters A.4.3 "Technology to be employed by the project activity", B.3 "Description of the sources and gases included in the project boundary" and B.4. "Identification of the baseline scenario"?	1 2 6 7 8 9 38	Yes, but see A2.2	CAR1	p
A.2.6. What scenario was existing prior to the implementation of the project activity?	1 2 38	See A2.2	CAR1	p
A.2.7. Does the project scenario, including a summary of the scope of activities/measures that are being implemented within the proposed project activity.	1 2 38	See A2.2	CAR1	p
<b>A.3. Project participants</b>				
<b>A.4. Technical description of the project activity</b>				
A.4.1. Location of the project activity				
A.4.2. Category(ies) of project activity				
A.4.3. Technology to be employed by the project activity				

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.3.1. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance (see A.2.)?	1 2 38	Yes, the project activity comprises the use of waste heat for electricity generation. There is no doubt that this technology will reduce the GHG emissions significantly.	p	p
A.4.3.2. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1 2 38	Yes, the technical design of the project activity reflects current good practice in crediting period.	p	p
A.4.3.3. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1 2 38	During the audit it has been found that training is necessary because waste heat recovery is not common practice in the cement industry in China. Training documents have already been delivered to the DOE.	p	p
A.4.3.4. Is information available on the demand and requirements for training and maintenance?	1 2 38	See A4.3.3	p	p
A.4.3.5. Is a schedule available for the implementation of the project and are there any risks for delays?	1 2 6 8 10 13 15 16 17 18 21	<p>The main equipments have been purchased in Oct. 2007, and the construction work was finished in Mar. 2008. There is no risk for delays.</p> <p><b><u>Corrective Action Request No. 2:</u></b></p> <p>An overview of key events table has been provided in Table B7. The basic parameters of IRR are from FSR which is financial decision of proposed project, the project participants are requested to explain why the key event that Jidong Cement Group decided to develop WHR projects under the CDM program prior to FSR? Please explain how is demonstrated that the CDM was seriously taken into account for the decision to start the project? What has been the basis for the investment decision?</p>	CAR2	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
	38 50 51 52			
A.4.3.6. Is information available on the equipment (s) and systems that would have been in place in the absence of the project activity / baseline scenario (see B.4. also)?	1 2 6 8 10 13 15 16 17 18 21 38 50 51 52	<b><u>Corrective Action Request No. 3:</u></b> No a concise description of the scenario existing prior to the start of the implementation of the project activity shall be included into the PDD.	CAR3	p
A.4.3.7. Is information available on the scenario existing prior to the start of the implementation of the project activity, with a list of equipment (s) and systems in operation at that time?	1 2 6 8 10 13	See A4.3.6	CAR3	p



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
	15 16 17 18 21 38 50 51			
A.4.3.8. Is information available on the scope of activities in the project scenario, with a list of equipment (s) and systems that will be installed / modified?	1 2 13 38	<p>Yes, the information of WHR is available on the scope 1 and scope 4 in the project scenario.</p> <p>A list of equipment that is going to be installed is given in the PDD, including manufacturer data.</p> <p><b><u>Corrective Action Request No. 4:</u></b></p> <p>Include in the description information about the age of the installed equipment, the forecast load factors and efficiencies. The monitoring equipments and their location in the systems is of particular interest.</p>	CAR4	p
A.4.3.9. Does the description of the scenarios provide detailed, sufficient and transparent information about the technologies, systems, equipments, the GHG emission sources involved as well as the types and levels of services delivered?	1 2 13 38	<p>Yes, all information is described sufficiently and transparently.</p> <p><b><u>Corrective Action Request No. 5:</u></b></p> <p>The emissions sources and the greenhouse gases involved in the project activity and existing and forecast energy and mass flows and balances of the systems and equipments included in the project activity shall be included.</p> <p>The types and levels of services provided by the systems and equipments that are being installed under the project activity and their relation, if any, to other manufacturing/production equipments and systems outside the project boundary shall be explained. The</p>	CAR5	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		types and levels of services provided by those manufacturing/production systems and equipments outside the project boundary may also constitute important parameters of the description. The description should clearly explain how the same types and levels of services provided by the project activity would have been provided in the baseline scenario.		
<i>A.4.4. Estimated amount of emission reductions over the chosen crediting period</i>				
<i>A.4.5. Public funding of the project activity</i>				
<b>B. Application of a baseline and monitoring methodology</b>				
<b>B.1. Title and reference of the approved baseline and monitoring methodology</b>				
B.1.1 Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1 2 3 11 38 39	The approved methodology ACM0012 version3 and the related Tool to calculate the emission factor for an electricity system (version1)and Tool for the Demonstration and Assessment of Additionality (Version 05) is clearly indicated.	p	p
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	1 2 3 11 38 39	Yes, based on the GSP-PDD version it is.	p	p
B.1.3. Does the methodology refer to the following tools with its latest approved versions?	1 2	Yes, see B1.1	p	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD												
1) Tool to calculate the emission factor for an electricity system. 2) Tool for the demonstration and assessment of additionality.	3 11 38 39															
B.2. Justification of the choice of the methodology and why it is applicable to the project activity																
B.2.2 To which type of project activity is the proposed project belonging to?	1 2 38	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Type-1 (waste energy in identified WECM stream/s is or would be flared or released to atmosphere in the absence of the project activity at the existing or new facility)</td><td>Yes</td></tr><tr><td>Type-2 (an existing industrial facility, where the project activity is implemented, that captures and utilizes a portion of the waste gas stream(s) considered)</td><td>N/A</td></tr><tr><td>Type discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Type-1 (waste energy in identified WECM stream/s is or would be flared or released to atmosphere in the absence of the project activity at the existing or new facility)	Yes	Type-2 (an existing industrial facility, where the project activity is implemented, that captures and utilizes a portion of the waste gas stream(s) considered)	N/A	Type discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No															
Type-1 (waste energy in identified WECM stream/s is or would be flared or released to atmosphere in the absence of the project activity at the existing or new facility)	Yes															
Type-2 (an existing industrial facility, where the project activity is implemented, that captures and utilizes a portion of the waste gas stream(s) considered)	N/A															
Type discussed in the PDD?	Yes															
Compliance provable?	Yes															
Compliance verified?	Yes															
B.2.3. Type 1 Criteria: The applicability is limited to project activities that utilize waste energy which is an energy source for: - cogeneration or - generation of electricity or - direct use as process heat source or - for generation of heat in element processes (e. g. steam, hot water, hot oil, hot air) - for generation of mechanical energy.	1 2 38	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criteria discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criteria discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p				
Applicability checklist	Yes / No															
Criteria discussed in the PDD?	Yes															
Compliance provable?	Yes															
Compliance verified?	Yes															

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD								
B.2.4. For project activity that uses waste pressure is the waste pressure only used to generate electricity ?	1 2 38	N/A, the proposed project activity does not involve the use of waste pressure.	p	p								
B.2.5. Condition 1 applicable for both types: The project activity is use of waste pressure to generate electricity and the electricity generated using waste pressure should be measurable.	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>	Applicability checklist	Yes / No	Condition discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Condition discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.6. Condition 2 applicable for both types: The energy generated in the project activity - may be used within the industrial facility or - exported from the industrial facility.	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Condition discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.7. Condition 3 applicable for both types: The electricity generated in the project activity - may be exported to the grid or - used for captive purposes.	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>Electricity generated in the project activity will be used for captive purposes that waste heat will be used for electricity generation, it has been proven by FSR.</p>	Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Condition discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.8. Condition 4 applicable for both types: The waste energy in the project activity can be generated - by the owner of the industrial facility producing the waste energy or	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Condition discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

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- by a third party within the industrial facility.		Energy in the project activity will be generated by the owner of the industrial facility producing the waste energy.										
B.2.9. Condition 5 applicable for both types: Before implementing the project activity no regulations constrained the industrial facility to generate waste from using fossil fuels.	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>Regulations do not constrain the industrial facility that generates waste energy from using fossil fuels prior to the implementation of the project activity.</p>	Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Condition discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.10. Condition 6: applicable for both types If capacity expansion of an existing facility is planned the added capacity must be treated as a new facility.	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table> <p>The project activity involves a waste heat recovery project in a new facility.</p>	Applicability checklist	Yes / No	Condition discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Condition discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.11. Condition 7 applicable for both types: The emission reductions are claimed by the generator of energy using waste energy.	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>The emission reductions are claimed by the generator of the electricity.</p>	Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Condition discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.12. Condition 8 applicable for both types: In cases where the energy is exported to other facilities, an official agreement exists between the owners of the project energy gen-	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	p	p		
Applicability checklist	Yes / No											
Condition discussed in the PDD?	Yes											
Compliance provable?	Yes											

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eration plant (henceforth referred to as generator, unless specified otherwise) with the recipient plant(s) that the emission reductions would not be claimed by recipient plant(s) for using a zero-emission energy source.		<table><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Compliance verified?	Yes												
Compliance verified?	Yes																
B.2.13. Condition 9 applicable for both types: For those facilities and recipients included in the project boundary, that prior to implementation of the project activity (current situation) generated energy on-site (sources of energy in the baseline), the credits can be claimed for minimum of time period	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr><tr><td>The remaining lifetime of equipments currently being used</td><td>No</td></tr><tr><td>Credit period</td><td>No</td></tr></table> <p><b>Corrective Action Request No. 6:</b></p> <p>The remaining lifetime of equipments and credit period should be discussed with detailed information.</p>		Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	The remaining lifetime of equipments currently being used	No	Credit period	No	CAR6	p
Applicability checklist	Yes / No																
Condition discussed in the PDD?	Yes																
Compliance provable?	Yes																
Compliance verified?	Yes																
The remaining lifetime of equipments currently being used	No																
Credit period	No																
B.2.14. Condition 10 applicable for both types: Waste energy that is released under abnormal operation (for example, emergencies, shut down) of the plant shall not be accounted for.	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Condition discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>Waste gas/pressure energy that is released under abnormal operation (for example, emergencies, shut down) of the plant shall not be accounted for).</p>		Applicability checklist	Yes / No	Condition discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p				
Applicability checklist	Yes / No																
Condition discussed in the PDD?	Yes																
Compliance provable?	Yes																
Compliance verified?	Yes																
B.2.15. Is the waste gas/heat recovery project implemented in a single-cycle power plant to generate power? Is only heat generated?	1 2 38	The proposed project activity is not a single-cycle power plant.		p	p												

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B.2.16. Is the demonstration of use of waste energy in absence of CDM project activity clearly defined in the PDD for type 1 or type 2 projects?	1 2 38	According to the PDD, the Cement plant is a new facility. The equipment contract was in Nov.2006, the document and construction site has been proven by auditor.	p	p								
B.2.17. <u>For Type-1 projects:</u> Either one of the following proofs shall be given if the waste energy utilized in the project activity was flared or released into the atmosphere in absence of the project at an existing facility:  B.2.17.1. direct measurements of energy content and amount of the waste energy produced for at least 3 years prior to the start of the project activity or  B.2.17.2. energy balance of relevant sections of the plant provided to indicate that the waste energy was not a source of energy before the implementation of the project activity or  B.2.17.3. energy bills to demonstrate that all the energy required for the process has been procured commercially (not generated by waste energy and sold )  B.2.17.4. significant manufacturer's design specifications and layout diagrams from the facility for estimating quantity and energy content of	1 2 38	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Proof discussed in the PDD?</td><td>No</td></tr><tr><td>Compliance provable?</td><td>No</td></tr><tr><td>Compliance verified?</td><td>No</td></tr></table> <p>Project is installed at a new facility.</p>	Applicability checklist	Yes / No	Proof discussed in the PDD?	No	Compliance provable?	No	Compliance verified?	No	p	p
Applicability checklist	Yes / No											
Proof discussed in the PDD?	No											
Compliance provable?	No											
Compliance verified?	No											

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<div>B.2.17.5. waste energy produced for rated plant capacity/per unit of product produced</div> <div>on site check conducted by the DOE that no equipment for waste energy recovery and utilisation on the WECM stream recovered under the project activity has been installed prior to the implementation of the project activity.</div>												
<div>B.2.18. For Type-1 projects</div> <div>if waste energy recovery activities were already implemented in other streams of WECM prior to the implementation of the CDM project activity, the following should be demonstrated:</div> <div><div>- no decrease in energy generated from the waste energy recovered previous to the implementation of the CDM project activity; or</div><div>- decrease in energy generation from previously recovered waste energy due to a decrease in generation of waste energy on account of the factors not related to the project activity.</div></div>	<div>1</div> <div>2</div> <div>38</div>	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Situation discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>	Applicability checklist	Yes / No	Situation discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Situation discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
<div>B.2.19. For type 2 projects</div> <div>the amount of waste gas captured and utilized prior the implementation of the project activity is known and quantified by either one of the following measures:</div>	<div>1</div> <div>2</div> <div>38</div>	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Measure discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr></table>	Applicability checklist	Yes / No	Measure discussed in the PDD?	N/A	Compliance provable?	N/A	p	p		
Applicability checklist	Yes / No											
Measure discussed in the PDD?	N/A											
Compliance provable?	N/A											



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B.2.19.1.	By <b>direct measurements</b> of the waste gas captured and utilized; or		Compliance verified?	N/A	
B.2.19.2.	The energy efficiency of the electricity generation and the captive electricity generated for at least <i>three years</i> prior to the start of the project activity; or				
<b>B.2.19.3.</b>	<b>The energy balance</b> of relevant sections of the plant to prove the portion of waste gas that is utilized for electricity generation before the implementation of the project activity.				
B.2.19.4.	<b>Manufacturer's specifications</b> of electricity generation plant used prior to the project activity for its efficiency and rated electricity generation capacity.				
<b>B.3. Description of the sources and gases included in the project boundary</b>					
B.3.1.	Does the PDD present a flow diagram of the project boundary, physically delineating the project activity, based on the descriptions provided in section "A.4.3.	1 2 38	<b><u>Corrective Action Request No. 7:</u></b> Project participants are requested to present a flow diagram of the project boundary, physically delineating the project activity.	CAR7	p
B.3.2.	Does the flow diagram of the project boundary clearly indicate all the equipments, systems and flows of mass and energy, emissions sources and gases included in the project boundary and the monitoring va-	1 2 38	See B3.1	CAR7	p

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riables and is the geographical extent transparently described as well?														
B.3.3. Source: electricity generation, grid or captive source  Description of Source: main emission Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1 2 38	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
B.3.4. Source: fossil fuel consumption in boiler for thermal energy  Description of Source: main emission Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1 2 38	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
B.3.5. Source: fossil fuel consumption in cogeneration plant  Description of Source: main emission Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1 2 38	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	p	p
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													
B.3.6. Source: emissions from generation of steam used in the flaring process	1 2 38	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	p	p				
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													

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Description of Source: main emission Gas(es): CO2 Type: Baseline Emissions		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?	Yes		
B.3.7. Source: supplemental fossil fuel consumption at the project plant  Description of Source: main emission Gas(es): CO2 Type: Project Emissions	1 2 38	Boundary checklist	Yes / No	p	p
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		
		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?	Yes		
B.3.8. Source: supplemental electricity consumption  Description of Source: main emission Gas(es): CO2 Type: Project Emissions	1 2 38	Boundary checklist	Yes / No	p	p
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		
		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?	Yes		
B.3.9. Source: Electricity import to replace captive electricity, which was generated using waste gas in absence of project activity  Description: Only in case captive electricity in the baseline is replaced by import electricity Gas(es): CO2 Type: Project Emissions	1 2 38	Boundary checklist	Yes / No	p	p
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		
		Explanation / Justification sufficient?	Yes		
		Consistency with monitoring plan?	Yes		
B.3.10. Source: emissions from cleaning of gas  Description of Source: only in case waste gas cleaning is required and leads to emis-	1 2 38	Boundary checklist	Yes / No	p	p
		Source and gas(es) discussed in the PDD?	Yes		
		Inclusion / exclusion justified?	Yes		

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sions related to the energy requirement of the cleaning Gas(es): CO2 Type: Project Emissions		Explanation / Justification sufficient?	Yes														
		Consistency with monitoring plan?	Yes														
B.3.11. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1 2 38	The project boundary defined in the PDD includes the proposed activity, and Northeast China Grid to which the project activity is connected. This has been proven by the auditor.		p	p												
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario																	
B.4.1. Has the determination of the baseline scenario considered all realistic and credible alternatives?	1 2 38	<table><tr><td>Alternatives in absence of the proposed project</td><td>Yes / No</td></tr><tr><td>Waste energy use</td><td>Yes</td></tr><tr><td>Power generation</td><td>Yes</td></tr><tr><td>Steam/heat generation</td><td>Yes</td></tr><tr><td>Mechanical energy generation</td><td>Yes</td></tr><tr><td>Alternatives that would provide an output equivalent to the combined output of all the sub-systems in the project activity scenario</td><td>Yes</td></tr></table>		Alternatives in absence of the proposed project	Yes / No	Waste energy use	Yes	Power generation	Yes	Steam/heat generation	Yes	Mechanical energy generation	Yes	Alternatives that would provide an output equivalent to the combined output of all the sub-systems in the project activity scenario	Yes	p	p
Alternatives in absence of the proposed project	Yes / No																
Waste energy use	Yes																
Power generation	Yes																
Steam/heat generation	Yes																
Mechanical energy generation	Yes																
Alternatives that would provide an output equivalent to the combined output of all the sub-systems in the project activity scenario	Yes																
B.4.2. Does the project identify correctly and do the project participants exclude those baseline options not in line with regulatory or legal requirements?	1 2 38	Yes, project participants provided evidence and supporting documents to exclude those options not in line with regulatory and legal requirements.		p	p												
B.4.3. Have applicable regulatory or legal requirements been identified and checked?	1 2	Yes, Regulation and legal requirement has been identified: <i>Meier (2002)</i> , Economic and Financial Analysis of the China		p	p												

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	38	Renewable Energy Scale-up Programme (CRESP), this has been proven by the auditor.														
B.4.4. Do the project participants exclude baseline options that depend on fuels (used for generating heat, power or mechanical energy) that are not available at the project site?	1 2 38	Yes, for the use of waste heat resource, W1,W3,W5 and W6 are not applicable. For the power supply, P2, P3 and P8 have not included.	p	p												
B.4.5. Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete (Step 1)?	1 2 38	Baseline candidates which should be considered: <table><tr><th colspan="2">Defined and discussed in PDD?</th><th>Yes / No</th></tr><tr><td colspan="2">industrial facility where waste energy is generated</td><td>No</td></tr><tr><td colspan="2">facility where the energy is produced</td><td>No</td></tr><tr><td colspan="2">facility where the energy is consumed</td><td>No</td></tr></table>	Defined and discussed in PDD?		Yes / No	industrial facility where waste energy is generated		No	facility where the energy is produced		No	facility where the energy is consumed		No	p	p
Defined and discussed in PDD?		Yes / No														
industrial facility where waste energy is generated		No														
facility where the energy is produced		No														
facility where the energy is consumed		No														
B.4.5.1. Have all realistic and credible alternatives been discussed for the use of waste energy and the exclusion of options justified (Step 1, W1 – 6)?	1 2 38	Alternative(s) may include, inter alia: <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>W1</td><td>WECM is directly vented to atmosphere without incineration or waste heat is released to atmosphere or waste pressure energy is not utilized;</td><td>Yes</td></tr><tr><td>W2</td><td>WECM is released to the atmosphere (e.g. after incineration) or waste heat is released to the atmosphere or waste pressure energy is not utilized;</td><td>Yes</td></tr></table>	Categories		Yes / No	W1	WECM is directly vented to atmosphere without incineration or waste heat is released to atmosphere or waste pressure energy is not utilized;	Yes	W2	WECM is released to the atmosphere (e.g. after incineration) or waste heat is released to the atmosphere or waste pressure energy is not utilized;	Yes	p	p			
Categories		Yes / No														
W1	WECM is directly vented to atmosphere without incineration or waste heat is released to atmosphere or waste pressure energy is not utilized;	Yes														
W2	WECM is released to the atmosphere (e.g. after incineration) or waste heat is released to the atmosphere or waste pressure energy is not utilized;	Yes														

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		W3	Waste energy is sold as an energy source;	Yes		
		W4	Waste energy is used for meeting energy demand;	Yes		
		W5	A portion of waste gas produced at the facility is captured and used for captive electricity generation, while the rest of the waste gas produced at the facility is vented/flared.	Yes		
		W6	All the waste gas produced at the industrial facility is captured and used for export electricity generation.	Yes		
B.4.5.2. Have all realistic and credible alternatives been discussed for power generation and the exclusion of options justified (Step 1, P1 – 11)?	1 2 38	Alternative(s) may include, inter alia:			p	p
		Categories		Yes / No		
		P1	Proposed project activity not undertaken as a CDM project activity;	Yes		
		P2	On-site or off-site existing/new fossil fuel fired cogeneration plant;	Yes		
		P3	On-site or off-site existing/new renewable energy based cogeneration plant;	Yes		
		P4	On-site or off-site existing/new fossil fuel based existing captive or identified plant;	Yes		
		P5	On-site or off-site existing/new renewable energy or other waste energy based existing captive or identified plant;	Yes		

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		P6	Sourced Grid-connected power plants;	Yes		
		P7	Captive Electricity generation using waste energy (if project activity is captive generation using waste energy, this scenario represents captive generation with lower efficiency than the project activity.);	Yes		
		P8	Cogeneration using waste energy (if project activity is cogeneration with waste energy, this scenario represents cogeneration with lower efficiency than the project activity).	Yes		
		P9	Existing power generating equipment (used previous to implementation of project activity for captive electricity generation from <b>a captured portion</b> of waste gas) is either de-commissioned to build new more efficient and larger capacity plant or modified or expanded (by installing new equipment), and resulting in higher efficiency, to produce and only export electricity generated from waste gas. The electricity generated by existing equipment for captive consumption is now imported from the grid;	Yes		
		P10	Existing power generating equipment (used previous to implementation of project activity for captive electricity generation from <b>a captured portion</b> of waste gas) is either de-commissioned to build new more efficient	Yes		

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			and larger capacity plant or modified or expanded (by installing new equipment), and resulting in higher efficiency, to produce electricity from waste gas (already utilized portion plus the portion flared/vented) for own consumption and for export;			
		P11	Existing power generating equipment is maintained and additional electricity generated by grid connected power plants.	Yes		
B.4.5.3. Have all realistic and credible alternatives been discussed for heat generation and the exclusion of options justified (Step 1, H1 – 9)?	1 2 38	Alternative(s) may include, inter alia:			p	p
		Categories		Yes / No		
		H1	Proposed project activity not undertaken as a CDM project activity;	N/A		
		H2	On-site or off-site existing/new fossil fuel based cogeneration plant;	N/A		
		H3	On-site or off-site existing /new renewable energy based cogeneration plant;	N/A		
		H4	An existing or new fossil fuel based boilers;	N/A		
		H5	An existing or new renewable energy or other waste energy based boilers;	N/A		
		H6	Any other source such as district heat;	N/A		
		H7	Other heat generation technologies (e.g. heat pumps or solar energy);	N/A		



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																		
		H8	Steam/ Process heat generation from waste energy, but with lower efficiency;	N/A																				
		H9	Cogeneration with waste energy, but at a lower efficiency.	N/A																				
B.4.5.4. Have all realistic and credible alternatives been discussed for mechanical energy generation and the exclusion of options justified (Step 1, M1 – 5)?	1 2 38	<table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>M1</td><td>The proposed project activity is not undertaken as a CDM project activity</td><td>N/A</td></tr><tr><td>M2</td><td>Steam produced by existing or new fossil fuel based boilers driving mechanical turbines.</td><td>N/A</td></tr><tr><td>M3</td><td>Steam produced by existing or new renewable energy <b>or other waste energy</b> based boilers driving mechanical turbines.</td><td>N/A</td></tr><tr><td>M4</td><td>Waste gas pressure based mechanical energy generation.</td><td>N/A</td></tr><tr><td>M5</td><td>Electrical motors are used as motive power to generate mechanical energy.</td><td>N/A</td></tr></table>			Categories		Yes / No	M1	The proposed project activity is not undertaken as a CDM project activity	N/A	M2	Steam produced by existing or new fossil fuel based boilers driving mechanical turbines.	N/A	M3	Steam produced by existing or new renewable energy <b>or other waste energy</b> based boilers driving mechanical turbines.	N/A	M4	Waste gas pressure based mechanical energy generation.	N/A	M5	Electrical motors are used as motive power to generate mechanical energy.	N/A	p	p
Categories		Yes / No																						
M1	The proposed project activity is not undertaken as a CDM project activity	N/A																						
M2	Steam produced by existing or new fossil fuel based boilers driving mechanical turbines.	N/A																						
M3	Steam produced by existing or new renewable energy <b>or other waste energy</b> based boilers driving mechanical turbines.	N/A																						
M4	Waste gas pressure based mechanical energy generation.	N/A																						
M5	Electrical motors are used as motive power to generate mechanical energy.	N/A																						
B.4.5.5. Has a baseline scenario matrix been developed?	1 2 38	Yes, a matrix has analyzed the possible alternative baseline combinations.			p	p																		
B.4.6. Has the fuel been identified and justified which were used in the baseline sce-	1	N/A, because both alternative combinations identified in Step I			p	p																		

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nario (Step 2)?	2 38	do not give rise to the selection of a fuel																				
B.4.7. Has the latest approved version of the “Tool for the demonstration and assessment of additionality” been used to eliminate non feasible baseline options (Step 3)?	1 2 11 38 39	Yes, The given link connects to version 05.2 of the “Additionality Tool” which is the latest version.	p	p																		
B.4.8. Is it demonstrated that the option with the lowest baseline emissions is considered as the most likely baseline scenario, if more than one feasible alternative remain (Step 4)?	1 2 11 38 39	N/A	p	p																		
B.4.8.1. Follows the identified baseline scenario one of the two project scenarios resulting from combinations of baseline options and scenarios applicable to the methodology?	1 2 38	<div>Applicability criteria of ACM0012:</div> <table> <tr> <th colspan="4">Project Scenario: Generation of Electricity or Heat only</th> </tr> <tr> <th rowspan="2">Scenario</th> <th colspan="2">Baseline options</th> <th rowspan="2">Yes / No</th> </tr> <tr> <th>Waste energy</th> <th>Power/Heat/ Mechanical energy</th> </tr> <tr> <td>1</td> <td>W2</td> <td>M2 and/or M5 and/or P4 or P6 H4</td> <td>Yes</td> </tr> <tr> <td>2</td> <td>W5</td> <td>P11</td> <td>N/A</td> </tr> </table> <div>Project Scenario: Cogeneration of energy</div>	Project Scenario: Generation of Electricity or Heat only				Scenario	Baseline options		Yes / No	Waste energy	Power/Heat/ Mechanical energy	1	W2	M2 and/or M5 and/or P4 or P6 H4	Yes	2	W5	P11	N/A	p	p
Project Scenario: Generation of Electricity or Heat only																						
Scenario	Baseline options		Yes / No																			
	Waste energy	Power/Heat/ Mechanical energy																				
1	W2	M2 and/or M5 and/or P4 or P6 H4	Yes																			
2	W5	P11	N/A																			

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		Scenario	Baseline options				Yes / No		
			Waste energy	Power	Heat	Mechanical Energy			
		1	W2	P4/P6	H4	M2 and/or M5	N/A		
		2	W2	P2	H2	M2 and/or M5	N/A		
B.4.8.2. Is there another source of gas available at the plant, e.g. natural gas?	1 2 38	There is no other source of gas available at the plant in FSR.						p	p
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):									
B.5.1. Does an implementation timeline of the proposed project activity clearly indicate the date of the investment decision, start of the construction works, start of the commissioning, start-up? Please indicate the timeline of the project here.	1 2 6 8 10 13 15 16 17	See A4.3.5, a timeline of the project needs to be included into this section of the PDD as well.						CAR2	p

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	18 21 38 50 51 52			
B.5.2. Has a timeline of events and actions which have been taken to achieve CDM registration been described in the PDD and which evidence has been delivered?	1 2 6 8 10 13 15 16 17 18 21 38 50 51 52	<b><u>Corrective Action Request No. 8:</u></b> More information should be included in the Table B7(e.g. the date of PDD made, GSP date, date of LoAs and MoC)	CAR8	p
B.5.3. In case the project activity started before the validation activity, how is demonstrated that the CDM was seriously taken into account for the decision to start the project?	1 2 6 8	See A4.3.5	CAR2	p

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
	10 13 15 16 17 18 21 38 50 51 52			
B.5.4. Is only a portion of the waste gas captured and utilized in the baseline of the industrial facility to generate captive electricity and is the project activity the implementation of more energy efficient equipment?	1 2 6 8 10 13 15 16 17 18 21 38 50 51	N/A	p	p

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	52			
B.5.5. Is an economic analysis used to demonstrate the additionality of the CDM project activity?	1 2 22 38	Yes, IRR analysis has been used.	p	p
<b>B.5.6. “Tool for the demonstration and assessment of additionality”</b>				
<b>B.5.7. Step 1 – Identification of alternatives to the project activity</b>				
B.5.8. Is the realisation of the project activity based on an approved, a proposed new methodology or on ACM0002?	1 2 38	Yes, the latest approved methodology is ACM0012 version3	p	p
B.5.9. In case the project activity started before the validation activity, how is demonstrated that the CDM was seriously taken into account for the decision to start the project?	1 2 38	See B5.3	CAR2	p
<b>Step 1 – Identification of alternatives to the project activity</b>				
B.5.10. Are alternative scenarios defined that provide outputs or services comparable with the proposed CDM project activity?	1 2 38	Yes, P1 and P6, W2 and W4 have been analyzed in matrix.	p	p
B.5.11. Can the list of alternatives considered to be complete, why? Is the scenario project activity without being registered as CDM project included?	1 2 38	The other alternatives of use of waste heat and power supply have been analyzed and excluded in PDD.	p	p
B.5.12. In case several different facilities, technologies, outputs or services are present in the project, are separately alternative scenarios for each of them included? Have realistic	1 2 38	Yes, Alternative combinations I and II are the realistic combinations which are in line with the Chinese regulations.	p	p

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combinations been considered as project scenario?				
B.5.13. Describe why the alternative scenarios are credible and realistic (technology, practices, services, status of implementation)?	1 2 38	The scenario of alternatives combination I is consistent with the current situation and the alternatives combination II uses waste heat to generate electricity.	p	p
B.5.14. Do the alternative scenarios comply with mandatory laws and regulations?	1 2 38	Yes, the alternative scenarios are in compliance with current mandatory regulations.	p	p
B.5.15. If a scenario does not comply with the mandatory laws and regulations, it is clearly demonstrated that the law and/or regulation is systematically not enforced in the country?	1 2 38	N/A	p	p
Step 2 – Investment analysis (could be optional if step 3 is used)				
B.5.16. Is the analysis method identified appropriately?	1 2 22 38	Yes, IRR analysis is the most appropriate method.	p	p
B.5.17. In case of Option I ( <u>simple cost analysis</u> ): Is it demonstrated that the activity and the alternatives identified in step 1 produce no economic benefits other than CDM income?	1 2 22 38	Not applicable.	p	p
B.5.18. In case of Option II ( <u>investment comparison analysis</u> ): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost).	1 2 22 38	Not applicable.	p	p

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B.5.19. In case of use of IRR, it is clearly demonstrated why is equity of project IRR used?	1 2 12 20 22 33 34 35 37 38 41 42 43 44 45 46 47	The project IRR is exactly calculated and compared against a company benchmark.	p	p
B.5.20. In case of Option III ( <u>benchmark analysis</u> ): Is the most suitable financial/economic indicator clearly identified (project or equity IRR)?	1 2 12 20 22 33 34 35	Yes, the IRR is identified clearly as the most suitable financial indicator.	p	p



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	37 38 41 42 43 44 45 46 47			
B.5.21. How is it demonstrated that the financial/economic analysis (benchmark) represents standard returns in the market, considers the specific risk of the project type, but is not linked to the subjective profitability expectation or risk profile of a particular project developer (Option II and Option III)?	1 2 12 20 22 33 34 35 37 38 41 42 43 44 45 46	The benchmark is chosen as internal benchmark which is applicable, because the benchmark has been analyzed and demonstrated by Bloomberg, so there is no specific risk of the project type.	p	p

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	47			
B.5.22. In case of company internal benchmark, is it clearly demonstrate that there is only one potential project developer and that the benchmark has been consistently used in the past (Option II and Option III)?	1 2 12 20 22 33 34 35 37 38 41 42 43 44 45 46 47	Yes, see B5.21	p	p
B.5.23. In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives (Option II) and the project activity?	1 2 12 20 22 33 34	Yes, the financial figures are consistent with alternative scenarios.	p	p

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	35 37 38 41 42 43 44 45 46 47			
B.5.24. In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1 2 12 20 22 33 34 35 37 38 41 42 43 44 45	Yes, the input data of IRR sheet are totally in compliance with FSR.	p	p

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	46 47			
B.5.25. Are all assumptions and input data clearly presented, documented, evidenced and consistent with the rest of the PDD?	1 2 12 20 22 33 34 35 37 38 41 42 43 44 45 46 47	<b><u>Corrective Action Request No. 9:</u></b> <ul style="list-style-type: none"> <li>What tariff, is applicable for electricity consumption of the steel plant? Please provide evidence to the DOE.</li> <li>The total investment costs shall be evidenced, as well as the O&amp;M costs.</li> <li>Please explain how the operational hours are concluded. Evidences are highly recommended.</li> <li>Bank Loan agreement shall be presented to the DOE.</li> <li>Certificate of the Design Institute shall be presented to the DOE.</li> </ul>	CAR9	p
B.5.26. How have the input values been assessed? Have they been cross-checked?	1 2 12 20 22 33	See B5.27	p	p

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	34 35 37 38 41 42 43 44 45 46 47			
B.5.27. Does the <u>sensitivity analysis</u> shows that the conclusion of financial/economical attractiveness is robust to reasonable variations in the critical assumptions?	1 2 12 20 22 33 34 35 37 38 41 42 43 44	<b><u>Corrective Action Request No. 10:</u></b> The electricity tariff should be accounted for sensitivity analysis.	CAR10	p

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	45 46 47			
B.5.28. How is demonstrate that this variations have been adequately taken (range is adequate)?	1 2 12 20 22 33 34 35 37 38 41 42 43 44 45 46 47	According to the paragraph 17 in Annex 45 of EB41 report, "As a general point of departure variations in the sensitivity analysis should at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances." Therefore, the range is adequate.	p	p
Step 3 – Barriers analysis (is mandatory if step 2 is not used or does not shows additionality)				
B.5.29. Is a complete list of barriers developed that prevent the implementation of the proposed project and the different alternatives to occur?	1 2 28 38	Yes, three different alternatives can be the barriers to attract financial resources.	p	p

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B.5.30. Is transparent and documented evidence provided on the existence and significance of these barriers?	1 2 28 38	<b><u>Corrective Action Request No. 11:</u></b> Please deliver the evidence to prove the bank rejects to issue the loan to the proposed project unless the CDM can be registered by EB.  Provide the DOE with evidences presenting the government restrictions on bank lending to cement industries.	CAR11	p
B.5.31. Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1 2 28 38	Yes, import of power from the grid and non-utilization of waste heat.	p	p
B.5.32. How is confirmed that the CDM does alleviate the barriers presented?	1 2 28 38	See B5.30	CAR11	p
Step 4 – Common practice analysis (is to complement based on the information given in step1 and reinforce step2 / step3)				
B.5.33. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD?	1 2 23 24 28 38 40	Yes, the source is from Tianjing Cement Industrial Design Institute. <b><u>Corrective Action Request No. 12:</u></b> Project participant should deliver the evidence that there is an authorization from design institution or approval from the Chinese government that can prove the statistics sheet.	CAR12	p
B.5.34. How have the capacity boundary, the historical boundary and the geographical boundary be assessed? Please name refer-	1 2	<b><u>Corrective Action Request No. 13:</u></b> Projects participants are requested to analyze how capacity	CAR13	p

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ences.	23 24 28 38 40	boundary and historical boundary be assessed? Why the common practice analysis was reduced to the provincial/ regional basis? Isn't whole China and applicable geographical boundary?		
B.5.35. If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component?	1 2 23 24 28 38 40	<b><u>Corrective Action Request No. 14:</u></b> If similar activities can be demonstrated as CDM projects, please give a linking that the projects have been opened GSP in unfccc successfully. If not, please explain why the similar activities can be implemented without CDM component.	CAR14	p
B.5.35.1. Is the additionality demonstrated via the "Tool for the demonstration and assessment of additionality"?	1 2 23 24 28 38 40	Yes	p	p
B.5.35.2. Is a economic analysis used to demonstrate additionality?	1 2 23 24 28 38	Yes	p	p



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	40			
<b>B.6. Emissions reductions</b>				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Are the formulae required for the determination of <b>baseline emissions</b> correctly presented? And is it explained on which Scenario?	1 2 3 38	Yes, it uses the baseline emission formulae and Scenario I is the applicable scenario.  <b><u>Corrective Action Request No. 15:</u></b> It is not understandable, why Celsius instead of Kelvin is used in the Fcap calculation.	CAR15	p
B.6.1.2. If <b>Scenario 1, sub-section (a.i), Case-1</b> is chosen to calculate the baseline emissions and - if the displaced electricity for recipient is supplied by a connected grid system is the "Tool to calculate the emission factor for an electricity system" correctly applied as well as described in the PDD? - if the total electricity generated by the project activity is less than 60 GWh/year is the approved small-scale methodology AMS I. D. correctly applied and described in the PDD?	1 2 3 38	The "Tool to calculate the emission factor for an electricity system" is correctly applied and described in the PDD.	p	p
B.6.1.3. If <b>Scenario 1, sub-section (a.ii)</b> is chosen to calculate the baseline emissions which operating philosophy are covered under this Scenario?	1 2 3 38	The project activity involves only electricity generation, hence Case 1 of the methodology is applicable.  <b><u>Clarification Request No. 1:</u></b> On page 26 of the PDD a reference to case 2 is given. Please	CR1	p

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		correct.		
B.6.1.4. Are the formulae required for the determination of <b>project emissions</b> correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1 2 3 38	Yes, the formulae to calculate the project emissions are correctly presented. The project emissions do not have to be considered in this project activity because there is no additional gas needed, the project emission is zero.	p	p
B.6.1.5. If electricity is purchased from the grid, and the CO <sub>2</sub> emission factor for electricity is determined as the combined margin emission factor according to the "Tool to calculate the emission factor for an electricity system": Are the six steps as defined in this tool correctly applied and described in the PDD?	1 2 3 38	The published values from the national government are applied.	p	p
B.6.1.6. Are the formulae required for the determination of <b>emission reductions</b> correctly presented?	1 2 3 38	Yes, the formulae required for determination of emission reductions are correctly presented. <b>Clarification Request No. 2:</b> Please include an explanation, how it is guaranteed, that no other fuel is used for the boilers.	CR2	p
<b>B.6.2. Data and parameters that are available at validation:</b> <i>The calculation of baseline emissions (<math>BE_{En,y}</math>) depends on the identified baseline scenario.</i> <i>Scenario 1 represents the situation where the electricity is obtained from a specific existing power plant or from the grid, mechanical energy is obtained by electric motors and heat from a fossil fuel based element process.</i> <i>Scenario 2 represents the situation where the recipient plant(s) obtain electricity and/or heat generated by a fossil fuel based existing/new cogeneration plant.</i>				
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1 2 3	Yes, a list of parameters is presented in Chapter B6.2. <b>Corrective Action Request No. 16:</b> Please use abbreviations that can be connected to vers. 3 of the	CAR16	p

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	38	methodology (e.g. $Q_{OE;BL}$ ).																				
Integrate the required amount of sub-checklists for monitoring parameter and <b>comment</b> on any line answered with “No”.																						
B.6.2.2. Parameter Title: $f_{wem}$ (Scenario 1, Case-1) fraction of total electricity generated by the project activity using waste energy	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.3. Parameter Title: $f_{cap}$ (Scenario 1, Case-1) fraction of total energy produced using waste source	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					

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B.6.2.4. Parameter Title: $\eta_{Plant, j}$ (Scenario 1, Case-1) overall efficiency of the existing plant that would be used by recipient	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	CAR16	p
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	No																					
B.6.2.5. Parameter Title: $f_{wem}$ (Scenario 1, Case-2) fraction of total mechanical generated by the project activity using waste energy	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	p	p
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.6. Parameter Title: $\eta_{mech, mot}$ (Scenario 1, Case-2) efficiency of the baseline equipment (electric motor) that would provide mechanical power	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	p	p										
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					

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		Source clearly referenced?	N/A																				
		Correct value provided?	N/A																				
		Has this value been verified?	N/A																				
		Choice of data correctly justified?	N/A																				
		Measurement method correctly described?	N/A																				
B.6.2.7. Parameter Title: $f_{wem}$ (Scenario 1, $BE_{ther,y}$ ) fraction of total heat generated by the project activity electricity using waste energy	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	Yes																						
Has this value been verified?	Yes																						
Choice of data correctly justified?	Yes																						
Measurement method correctly described?	Yes																						
B.6.2.8. Parameter Title: $\eta_{mech, tur}$ (Scenario 1, $BE_{ther,y}$ ) efficiency of the baseline equipment (steam turbine) that would provide mechanical power	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	p	p
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
Appropriate description of parameter?	N/A																						
Source clearly referenced?	N/A																						
Correct value provided?	N/A																						
Has this value been verified?	N/A																						
Choice of data correctly justified?	N/A																						
Measurement method correctly described?	N/A																						

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B.6.2.9. Parameter Title: $n_{EP, i,j}$ (Scenario 1, $BE_{ther,y}$ ) efficiency of the element process that would have been supplied heat to the recipient	1	See B6.2.1	CAR16	p
	2	Data Checklist		
	3	Title in line with methodology?		
	38	Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
B.6.2.10. Parameter Title: $n_{Cogen}$ (Scenario 2) efficiency of cogeneration plant (combined heat and power generation efficiency) using fossil fuel	1		p	p
	2	Data Checklist		
	3	Title in line with methodology?		
	38	Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
B.6.2.11. Parameter Title: $EF_{CO_2, COGEN}$ (Scenario 2) CO2 emission factor per unit of energy of the fuel that would have been used in the baseline cogeneration plant (tCO2/TJ)	1		p	p
	2	Data Checklist		
	3	Title in line with methodology?		
	38	Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		

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		Has this value been verified?	N/A																				
		Choice of data correctly justified?	N/A																				
		Measurement method correctly described?	N/A																				
B.6.2.12. Parameter Title: <b>EF</b> <sub>CO2, j</sub> (Scenario 2, <b>BE</b> <sub>flst,y</sub> ) CO2 emission factor of fossil fuel (tCO2/TJ) that would have been used at facility	1 2 3 38	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	p	p
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
Appropriate description of parameter?	N/A																						
Source clearly referenced?	N/A																						
Correct value provided?	N/A																						
Has this value been verified?	N/A																						
Choice of data correctly justified?	N/A																						
Measurement method correctly described?	N/A																						
B.6.2.13. Parameter Title: <b>Q</b> <sub>WG, y</sub> (Scenario2, <b>Q</b> <sub>ff,st,y</sub> ) quantity of waste gas used for energy generation during year (kg)	1 2 3 38	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	p	p
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
Appropriate description of parameter?	N/A																						
Source clearly referenced?	N/A																						
Correct value provided?	N/A																						
Has this value been verified?	N/A																						
Choice of data correctly justified?	N/A																						
Measurement method correctly described?	N/A																						
B.6.2.14. Parameter Title: <b>n</b> <sub>Boiler, fl</sub> (Scenario2, <b>Q</b> <sub>ff,st,y</sub> ) efficiency of the boiler that would have been	1 2 3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	p	p														
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						

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used to generate the steam	38	Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.15. Parameter Title: $Q_{WG, FI, B}$ (Scenario2, $SF_{WG}$ ) amount of waste gas flared using steam prior to the implementation of the project ac- tivity (kg or m3 at NTP)	1 2 3 38	Data Checklist	Yes / No	p	p
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.16. Parameter Title: $Q_{st, fl, B}$ (Scenario 2) steam used to flare the waste gas prior to the implementation of the project activity (TJ)	1 2 3 38	Data Checklist	Yes / No	p	p
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		



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B.6.2.17. Parameter Title: <b>Cp<sub>wem</sub></b> (Situation-1, f <sub>WCM</sub> ) Specific heat of WECM (TJ/kg-deg C or other suitable unit)	1	See B6.2.1	CAR16	p
	2	Data Checklist		
	3	Title in line with methodology?		
	38	Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
B.6.2.18. Parameter Title: <b>NCV<sub>i</sub></b> (Situation-1, f <sub>WCM</sub> ) net calorific value annual average for each consumed fuel and the WECM (TJ/kg)	1		p	p
	2	Data Checklist		
	3	Title in line with methodology?		
	38	Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
B.6.2.19. Parameter Title: <b>Q<sub>WCM, BL</sub></b>  Average quantity of WECM released /or flared or wasted) in atmosphere in three years prior to the start of the project activity	1	See B6.2.1	CAR16	p
	2	Data Checklist		
	3	Title in line with methodology?		
	38	Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		

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		Choice of data correctly justified?	No																						
		Measurement method correctly described?	No																						
B.6.2.20. Parameter Title: $Q_{BL, product}$  production associated with the relevant waste energy generation as it occurs in the baseline scenario	1 2 3 38	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p		
Data Checklist	Yes / No																								
Title in line with methodology?	Yes																								
Data unit correctly expressed?	Yes																								
Appropriate description of parameter?	Yes																								
Source clearly referenced?	Yes																								
Correct value provided?	Yes																								
Has this value been verified?	Yes																								
Choice of data correctly justified?	Yes																								
Measurement method correctly described?	Yes																								
B.6.2.21. Parameter Title: $q_{wem, product}$  amount of waste energy per unit of product generated by the process (that generates waste energy) in the industrial facility	1 2 3 38	<table><tr><td colspan="2">See B6.2.1</td></tr><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table>		See B6.2.1		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	CAR16	p
See B6.2.1																									
Data Checklist	Yes / No																								
Title in line with methodology?	No																								
Data unit correctly expressed?	No																								
Appropriate description of parameter?	No																								
Source clearly referenced?	No																								
Correct value provided?	No																								
Has this value been verified?	No																								
Choice of data correctly justified?	No																								
Measurement method correctly described?	No																								
B.6.2.22. Parameter Title: $Q_{OE, BL}$	1	<table><tr><td colspan="2">See B6.2.1</td></tr><tr><td>Data Checklist</td><td>Yes / No</td></tr></table>		See B6.2.1		Data Checklist	Yes / No	CAR16	p																
See B6.2.1																									
Data Checklist	Yes / No																								

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output/intermediate energy that can be theoretical produced (in appropriate unit)	2	Title in line with methodology?	No		
	3	Data unit correctly expressed?	No		
	38	Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		

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B.6.2.23. Parameter Title:  Annual electricity supplied to the grid prior to retrofit (applicable only for retrofit and modification activities)	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	p	p
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
Appropriate description of parameter?	N/A																						
Source clearly referenced?	N/A																						
Correct value provided?	N/A																						
Has this value been verified?	N/A																						
Choice of data correctly justified?	N/A																						
Measurement method correctly described?	N/A																						
B.6.2.24. Parameter Title:  Emission factor of the grid (CM)	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	Yes																						
Has this value been verified?	Yes																						
Choice of data correctly justified?	Yes																						
Measurement method correctly described?	Yes																						
B.6.2.25. Parameter Title:  Operating margin (OM) emission factor of the grid	1 2 3 38	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	p	p								
Data Checklist	Yes / No																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						

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		Correct value provided?	Yes			
		Has this value been verified?	Yes			
		Choice of data correctly justified?	Yes			
		Measurement method correctly described?	Yes			

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B.6.2.26. Parameter Title:  Build margin (BM) emission factor of the grid	1			p	p
	2				
	3				
	38				
B.6.2.27. Parameter Title:  fuel consumption of each power source	1	Data Checklist	Yes / No	p	p
	2	Title in line with methodology?	Yes		
	3	Data unit correctly expressed?	Yes		
	38	Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.28. Parameter Title:	1	Data Checklist	Yes / No	CAR16	p
	2				

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emission coefficient of each fuel	3 38	Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
		See B6.2.1			
B.6.2.29. Parameter Title: electricity generation of each power source	1 2 3 38	Data Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.30. Parameter Title: fraction of time with low costs /must run plant at the margin	1 2 3	Data Checklist	Yes / No	p	p
		Title in line with methodology?	N/A		

## Validation Protocol

Project Title: Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

Date of Completion: 15/10/2009

Number of Pages: 91



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
(for simple adjusted OM only)	38	Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.31. Parameter Title: electricity imports	1 2 3 38	Data Checklist	Yes / No	p	p
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.32. Parameter Title: CO <sub>2</sub> emission coefficient of fuels used in connected grids	1 2 3 38	Data Checklist	Yes / No	CAR16	p
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		



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		Source clearly referenced?	No								
		Correct value provided?	No								
		Has this value been verified?	No								
		Choice of data correctly justified?	No								
		Measurement method correctly described?	No								
		See B6.2.1									
B.6.3. Ex-ante calculation of emission reductions											
B.6.3.1. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1 2 3 38	Yes. It is		p	p						
B.6.3.2. Does the parameter of efficiency (n <sub>BL</sub> ) follow one of the stated demands?	1 2 3 38	<table><tr><th>Demand</th><th>Yes/No</th></tr><tr><td>i) Assume a constant efficiency of the <b>element process / captive power plant / cogeneration plant / mechanical energy conversion equipment</b> and determine the efficiency, as a conservative approach, for optimal operation conditions i.e. design fuel, designed steam extraction, optimal load, optimal oxygen content in flue gases, adequate fuel conditioning (temperature, viscosity, moisture, size/mesh etc), representative or favorable ambient conditions (temperature and humidity); or</td><td>No</td></tr><tr><td>ii) Highest of the efficiency figure provided by two</td><td>No</td></tr></table>		Demand	Yes/No	i) Assume a constant efficiency of the <b>element process / captive power plant / cogeneration plant / mechanical energy conversion equipment</b> and determine the efficiency, as a conservative approach, for optimal operation conditions i.e. design fuel, designed steam extraction, optimal load, optimal oxygen content in flue gases, adequate fuel conditioning (temperature, viscosity, moisture, size/mesh etc), representative or favorable ambient conditions (temperature and humidity); or	No	ii) Highest of the efficiency figure provided by two	No	p	p
Demand	Yes/No										
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ii) Highest of the efficiency figure provided by two	No										

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		<div>or more manufacturers for similar <b>element process / captive power plant / cogeneration plant / mechanical energy conversion equipment</b>, as used in the project activity; or</div> <div>iii) Maximum efficiency of 100%/60%/90% respectively based on net calorific activity; or</div> <div>iv) Estimated from load v/s efficiency curve(s) established for <b>equipment(s) / each element process</b> through measurement and described in Annex I; or Estimated from load v/s efficiency curve(s) established through measurement of the <b>co-generation plants</b> and described in Annex I. Follow international standards for estimation of efficiency of power plants / individual element process / cogeneration plants.</div>		
B.6.3.3. Are the baseline emissions capped following one of the two methods described in the methodology (ACM0012)? Which method has been applied?	1 2 3 38	The emission reductions will be calculated <i>ex post</i> on the basis of actual power supply to the grid, using the baseline emission factor presented above in Section B.6.1 in the PDD.	p	p
<b>B.6.4. Summary of the ex-ante estimation of emission reductions</b>				
B.6.4.1. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1 2 3	Yes, the provided data in this section in consistency with data as presented in other chapters of the PDD.	p	p

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	38																											
B.7. Application of the monitoring methodology and description of the monitoring plan																												
B.7.1. Data and parameters monitored																												
B.7.1.1. Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1 2 38	<b>Corrective Action Request No. 17:</b> Please use abbreviations that are connected to vers. 3 of methodology.	CAR17	p																								
B.7.1.2. Parameter Title: <b>FF<sub>i,y</sub></b> , quantity of fossil fuel type i combusted to supplement WECM in the project activity during the year y, in energy or mass units (project emissions)	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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Measurement method correctly described?	N/A																											
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Indication of accuracy provided?	N/A																											
QA/QC procedures described?	N/A																											
QA/QC procedures appropriate?	N/A																											
B.7.1.3. Parameter Title: <b>NCV<sub>i</sub></b> , net calorific value of the fossil fuel i (project emissions)	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	p	p																
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		Correct value provided for estimation?	N/A																										
		Has this value been verified?	N/A																										
		Measurement method correctly described?	N/A																										
		Correct reference to standards?	N/A																										
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.4. Parameter Title: <b>EF</b> <sub>CO2, i</sub> CO2 emission factor per unit of energy or mass of the fuel type i (project emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																												
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Has this value been verified?	Yes																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.5. Parameter Title: <b>EC</b> <sub>PJ, y</sub> Additional electricity consumed in year y, for gas cleaning equipment, or any other project related equipment as a result of the implementation of the project activity. (project emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	p	p										
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		Measurement method correctly described?	N/A																											
		Correct reference to standards?	N/A																											
		Indication of accuracy provided?	N/A																											
		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
B.7.1.6. Parameter Title: <b>EF</b> <sub>CO2, EL, y</sub> CO2 emission factor for electricity consumed by the project activity in year y (project emissions)	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	No	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	Yes																													
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Correct reference to standards?	Yes																													
Indication of accuracy provided?	Yes																													
QA/QC procedures described?	No																													
QA/QC procedures appropriate?	No																													
B.7.1.7. Parameter Title: <b>FC</b> <sub>EL, CP, k, y</sub> Quantity of fuel type k combusted in the captive power plant at the project site in year y where k are the fuel types fired in the captive power plant at the project site in year y (project emissions)	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	p	p				
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		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
B.7.1.8. Parameter Title: <b>NCV<sub>k</sub></b> Net calorific value of fuel type k where k are the fuel types fired in the captive power plant at the project site in year y (project emissions)	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.9. Parameter Title: <b>EF<sub>CO2, k</sub></b> Emission factor of fuel type k where k are the fuel types fired in the captive power plant at the project site in year y (project emissions)	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.10. Parameter Title: <b>EC<sub>CP, y</sub></b>	1				p	p																								

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Quantity of electricity generated in the captive power plant at the project site in year y (project emissions)	2 38	Monitoring Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
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		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.11. Parameter Title: $ws_{i,j}$ fraction of total heat that is used by the recipient j in the project that in absence of the project activity would have been supplied by the ith boiler (baseline emissions)	1 2 38	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
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		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.12. Parameter Title: $Q_{WCM,y} / Q_{WG,y}$ Quantity of WECM /Waste Gas used for energy generation during year y (baseline emissions)	1 2 38	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		

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		QA/QC procedures described?	Yes																										
		QA/QC procedures appropriate?	Yes																										
B.7.1.13.      Parameter Title: $Q_{OE,y}$ Quantity of actual output/intermediate en- ergy during year y	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.14.      Parameter Title: $EF_{elec,i,j}$ CO <sub>2</sub> emission factor for the electricity source i (i=gr (grid) or i=is (identified source)) , dis- placed due to the project activity, during the year y in tons CO2/MWh (baseline emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	p	p												
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												



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Project Title: Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		Has this value been verified?	Yes																										
		Measurement method correctly described?	N/A																										
		Correct reference to standards?	N/A																										
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.15. Parameter Title: <b>EF<sub>CO2, COGEN</sub></b> CO <sub>2</sub> emission factor per unit of energy of the fuel that would have been used in the base-line cogeneration plant (baseline emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.16. Parameter Title: <b>EG<sub>i,j,y</sub></b> quantity of electricity supplied to the recipient j by generator, which in the absence of the project activity would have sourced from l th source /l can be either grid or identified source) during the year y in MWh (baseline emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	p	p						
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		Indication of accuracy provided?	Yes																											
		QA/QC procedures described?	Yes																											
		QA/QC procedures appropriate?	Yes																											
B.7.1.17. Parameter Title: <b>EG<sub>j,y</sub></b> quantity of electricity supplied to the recipient plant j by the project activity during the year y in MWh (baseline emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.18. Parameter Title: <b>HG<sub>j,y</sub></b> net quantity of heat supplied to the recipient plant j by the project activity during the year y in TJ. In case of steam this is expressed as difference of energy content between the steam supplied to the recipient plant and the condensate returned by the recipient plant(s) to element process of cogeneration plant. In case of hot water/oil this is expressed as difference in energy content between the hot water/oil supplied to and returned by the recipient plant(s) to element process of cogeneration plant) (baseline emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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QA/QC procedures appropriate?	N/A																													

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Project Title: Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

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B.7.1.19. Parameter Title: <b>MG</b> <sub>i,j,y,mot</sub> Or <b>MG</b> <sub>i,j,y,tur</sub> Mechanical energy supplied to the recipient <i>j</i> by generator, that is supplied by motor <i>i</i> or steam turbine <i>i</i> in the absence of the project activity in year <i>y</i>	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																											
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Measurement method correctly described?	N/A																											
Correct reference to standards?	N/A																											
Indication of accuracy provided?	N/A																											
QA/QC procedures described?	N/A																											
QA/QC procedures appropriate?	N/A																											
B.7.1.20. Parameter Title: <b>EF</b> <sub>co2, i, j</sub> CO <sub>2</sub> emission factor per unit of energy of the baseline fuel used in the boiler used by recipient <i>j</i> , in tCO <sub>2</sub> /TJ, in absence of the project activity (baseline emissions)	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	N/A																											
Correct value provided for estimation?	N/A																											
Has this value been verified?	N/A																											
Measurement method correctly described?	N/A																											
Correct reference to standards?	N/A																											
Indication of accuracy provided?	N/A																											
QA/QC procedures described?	N/A																											
QA/QC procedures appropriate?	N/A																											
B.7.1.21. Parameter Title: <b>EF</b> <sub>co2, j</sub> CO <sub>2</sub> emission factor of fossil fuel (tCO <sub>2</sub> /TJ) that would have been used at facility 'j' for	1 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	p	p																				
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											

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Project Title: Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project

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flaring the waste gas (baseline emissions)	38	Data unit correctly expressed?	Yes				
		Appropriate description of parameter?	Yes				
		Source clearly referenced?	N/A				
		Correct value provided for estimation?	N/A				
		Has this value been verified?	N/A				
		Measurement method correctly described?	N/A				
		Correct reference to standards?	N/A				
		Indication of accuracy provided?	N/A				
		QA/QC procedures described?	N/A				
		QA/QC procedures appropriate?	N/A				
B.7.1.22.      Parameter Title: <b>Q<sub>i, h</sub></b> amount of individual fuel (and other fuel(s)) i consumed at the energy generation unit dur- ing hour h (baseline emissions)	1				p	p	
	2						
	38						
	Monitoring Checklist						Yes / No
	Title in line with methodology?						Yes
	Data unit correctly expressed?						Yes
	Appropriate description of parameter?						Yes
	Source clearly referenced?						N/A
	Correct value provided for estimation?						N/A
	Has this value been verified?						N/A
	Measurement method correctly described?						N/A
	Correct reference to standards?						N/A
	Indication of accuracy provided?						N/A
QA/QC procedures described?	N/A						
QA/QC procedures appropriate?	N/A						
B.7.1.23.      Parameter Title: <b>EG<sub>tot, y</sub></b> total annual energy produced at the cogene- ration plants, using waste energy and fossil fuel (baseline emissions)	1				p	p	
	2						
	38						
	Monitoring Checklist						Yes / No
	Title in line with methodology?						Yes
	Data unit correctly expressed?						Yes
Appropriate description of parameter?	Yes						
Source clearly referenced?	N/A						

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		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.24. Parameter Title: $Q_{wcm, h}$ quantity of WCM recovered in hour h (baseline emissions)	1 2 38			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.25. Parameter Title: <b>NCV</b> i or <b>NCV</b> <sub>WCM,y</sub> Net Calorific Value annual average for each individual consumed fuel and/or WECM	1 2 38			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		

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		Correct reference to standards?	N/A																											
		Indication of accuracy provided?	N/A																											
		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
B.7.1.26. Parameter Title: $C_{p_{wcm}}$ or $C_{p_i}$ Specific Heat of WECM or fuel	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.27. Parameter Title: $t_{wcm,h}$ or $t_{i,h}$ The temperature of WECM (or fuel) in hour h	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	p	p		
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		<table><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		QA/QC procedures appropriate?	N/A																								
QA/QC procedures appropriate?	N/A																												
B.7.1.28.      Parameter Title: $t_{wcm,y}$ Average temperature of Waste Energy Carrying Medium (WECM) in year $y$	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
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QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.29.      Parameter Title: $P_{wcm,y}$ Average pressure of WECM in year $y$	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	p	p		
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												

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		QA/QC procedures appropriate?	N/A																											
B.7.1.30. Parameter Title: $H_{wcm,y}$ Average enthalpy of WECM in year y	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	N/A																													
Data unit correctly expressed?	N/A																													
Appropriate description of parameter?	N/A																													
Source clearly referenced?	N/A																													
Correct value provided for estimation?	N/A																													
Has this value been verified?	N/A																													
Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.31. Parameter Title: $d_{wcm,y}$ Average density of WECM at actual temperature and pressure in year y	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	N/A																													
Data unit correctly expressed?	N/A																													
Appropriate description of parameter?	N/A																													
Source clearly referenced?	N/A																													
Correct value provided for estimation?	N/A																													
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Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.32. Parameter title: $Q_{OE,y}$ Quantity of actual output / intermediate energy	1	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>			Monitoring Checklist	Yes / No	p	p																						
Monitoring Checklist	Yes / No																													



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during year y	2 38	Title in line with methodology?	N/A			
		Data unit correctly expressed?	N/A			
		Appropriate description of parameter?	N/A			
		Source clearly referenced?	N/A			
		Correct value provided for estimation?	N/A			
		Has this value been verified?	N/A			
		Measurement method correctly described?	N/A			
		Correct reference to standards?	N/A			
		Indication of accuracy provided?	N/A			
		QA/QC procedures described?	N/A			
		QA/QC procedures appropriate?	N/A			
B.7.1.33. Parameter Title: <b>ST<sub>whr, y</sub></b> energy content of the steam generated in waste heat recovery boiler fed to turbine via common steam header (baseline emissions)	1 2 38				p	p
		Monitoring Checklist	Yes / No			
		Title in line with methodology?	Yes			
		Data unit correctly expressed?	Yes			
		Appropriate description of parameter?	Yes			
		Source clearly referenced?	N/A			
		Correct value provided for estimation?	N/A			
		Has this value been verified?	N/A			
		Measurement method correctly described?	N/A			
		Correct reference to standards?	N/A			
		Indication of accuracy provided?	N/A			
		QA/QC procedures described?	N/A			
		QA/QC procedures appropriate?	N/A			
B.7.1.34. Parameter Title: <b>ST<sub>other, y</sub></b> energy content of the steam generated in other boilers fed to turbine via common steam header (baseline emissions)	1 2 38				p	p
		Monitoring Checklist	Yes / No			
		Title in line with methodology?	Yes			
		Data unit correctly expressed?	Yes			
		Appropriate description of parameter?	Yes			

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		Source clearly referenced?	N/A																										
		Correct value provided for estimation?	N/A																										
		Has this value been verified?	N/A																										
		Measurement method correctly described?	N/A																										
		Correct reference to standards?	N/A																										
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.35. Parameter Title: $EF_{heat, j, y}$ CO2 emission factor of the heat source that would have supplied the recipient plant j in absence of the project activity, expressed in tCO2/TJ (baseline emissions)	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.36. Parameter Title: $EF_{CO2,EL,y}$ additional electricity consumed in year y for CO2 emission factor for electricity consumed by the project activity in year y	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	p	p										
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																								
		Measurement method correctly described?	N/A																											
		Correct reference to standards?	N/A																											
		Indication of accuracy provided?	N/A																											
		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
B.7.1.37. Parameter Title: FC <sub>EL,CP,k,y</sub> Mass or volume unit	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	Yes																													
Data unit correctly expressed?	Yes																													
Appropriate description of parameter?	Yes																													
Source clearly referenced?	Yes																													
Correct value provided for estimation?	N/A																													
Has this value been verified?	N/A																													
Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.38. Parameter Title: EF <sub>CO2,k</sub> Emission factor of fuel type k where k are the fuel types fired in the captive power plant at the project site in year y	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	p	p				
Monitoring Checklist	Yes / No																													
Title in line with methodology?	Yes																													
Data unit correctly expressed?	Yes																													
Appropriate description of parameter?	Yes																													
Source clearly referenced?	Yes																													
Correct value provided for estimation?	N/A																													
Has this value been verified?	N/A																													
Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													

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		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
B.7.1.39. Parameter Title: EC <sub>CP,y</sub> Quantity of electricity generated in the captive power plant at the project site in year y	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	N/A																													
Data unit correctly expressed?	N/A																													
Appropriate description of parameter?	N/A																													
Source clearly referenced?	N/A																													
Correct value provided for estimation?	N/A																													
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Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.40. Parameter Title: steam flow rate	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	N/A																													
Data unit correctly expressed?	N/A																													
Appropriate description of parameter?	N/A																													
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Correct value provided for estimation?	N/A																													
Has this value been verified?	N/A																													
Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.41. Parameter Title:	1				p	p																								

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pressure of steam	2 38	Monitoring Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.42. Parameter Title: temperature of steam/hot water/hot oil	1 2 38	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.43. Parameter Title: $n_{BL,t}$ efficiency of element process/captive power plant/cogeneration plant during time interval t where t is a discrete time interval during the year y	1 2 38	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		

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(baseline emissions)		Appropriate description of parameter?	N/A																										
		Source clearly referenced?	N/A																										
		Correct value provided for estimation?	N/A																										
		Has this value been verified?	N/A																										
		Measurement method correctly described?	N/A																										
		Correct reference to standards?	N/A																										
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.44.      Parameter Title: •project plant,j Efficiency is the overall efficiency of the new elec- tricity generating plant (%) in year y	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
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QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.45.      Parameter Title: <b>EC</b> <sub>PJ,import,i,y</sub> Quantity of import electricity from source <i>i</i> con- sumed replacing captive electricity generated in the absence of the project activity during year y in MWh	1 2 38	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	p	p												
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																								
		Has this value been verified?	N/A																											
		Measurement method correctly described?	N/A																											
		Correct reference to standards?	N/A																											
		Indication of accuracy provided?	N/A																											
		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
<b>B.7.1.46.      Parameter Title: Thermal energy produced by Type-2 project activity</b>  Annual quantity of thermal energy produced by Type-2 project activity	1 2 38	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	N/A																													
Data unit correctly expressed?	N/A																													
Appropriate description of parameter?	N/A																													
Source clearly referenced?	N/A																													
Correct value provided for estimation?	N/A																													
Has this value been verified?	N/A																													
Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.2.    Description of the monitoring plan																														
B.7.2.1.      Is the operational and management structure clearly described and in compliance with the envisioned situation?	1 2 38	Yes, the operational and management structure is clearly described in section B.7.2 of the PDD and the Monitoring & Quality Control Manual which are in compliance with the envisioned situation.			p	p																								
B.7.2.2.      Are responsibilities and institutional arrangements for data collection	1 2	Yes, the responsibilities and institutional arrangements for data collection and archiving are clearly described in the PDD, it was			p	p																								

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
and archiving clearly provided?	38	verified on site.		
<b>B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)</b>				
B.8.1.1. Is information provided whether this person / entity is also considered a project participant?	1 2 38	No, the persons are not considered as project participants.	p	p
<b>C. Duration of the project activity / crediting period</b>				
<b>C.1. Duration of the project activity</b>				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable (see B.5. also)?	1 2 13 18 38	The project's starting date is Oct.2007.	p	p
C.1.2. How the starting date of the project activity has been determined and which evidence supports this start date has been delivered?	1 2 13 18 38	<b><u>Corrective Action Request No. 18:</u></b> Project participants are requested to demonstrate why the equipment purchase contracts cannot be considered real action as described in the CDM glossary and terms.	CAR18	p
<b>C.2. Choice of the crediting period and related information</b>				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)? 10 years; start after date of project	1 2 13 18	Yes, the assumed crediting time is clearly defined as 10 years with 1 renewal.	p	p



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registration)?	38			
C.2.2. Is it explained in the PDD, that the credit period of the project will not start before registration.	1 2 13 18 38	Yes.	p	p
<b>D. Environmental impacts</b>				
<b>D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts</b>				
<b>D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party</b>				
<b>E. Stakeholders' comments</b>				
<b>E.1. Brief description how comments by local stakeholders have been invited and compiled</b>				
<b>E.2. Summary of the comments received</b>				
<b>E.3. Report on how due account was taken of any comments received</b>				
<b>F. Annexes 1 - 4</b>				
<b>F.1. Annex 1: Contact Information</b>				
<b>F.2. Annex 2: Information regarding public funding</b>				
<b>F.3. Annex 3: Baseline information</b>				
<b>F.4. Annex 4: Monitoring information</b>				
F.4.1. If additional background information on monitoring is provided: Is this information	1	Yes, it is.	p	p

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consistent with data presented in other sections of the PDD?	2 38			
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1 2 38	Yes, it is.	p	p
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1 2 38	Yes, it is.	p	p

**Table 2 Resolution of Corrective Action and Clarification Requests**

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
<b><u>Corrective Action Request No. 1:</u></b> According to PDD Guideline of EB41, project participants are requested to state what the baseline scenario was existing prior to the implementation of the project activity? and discuss the baseline scenario and project scenario.(e.g. is the baseline scenario as same as the scenario existing prior to the start of implementation of the project activity?) A description of the scenario prior to the project activity is needed as well.	A2.2	- In accordance with the PDD Guideline of EB41, the situation existing prior to the start of the implementation of the project activity is added in the current PDD (section A.2). This situation is described as "importing amount of electricity from an independent regional grid, North East China Grid, and waste heat is vented to atmosphere, which is same as the baseline scenario of the proposed project".	p The new PDD guidelines have been taken into consideration. The scenario existing prior to the project activity is the same as the baseline scenario and has been discussed in the PDD.

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<p><b><u>Corrective Action Request No. 2:</u></b></p> <p>An overview of key events table has been provided in Table B7. The basic parameters of IRR are from FSR which is financial decision of proposed project, the project participants are requested to explain why the key event that Jidong Cement Group decided to develop WHR projects under the CDM program prior to FSR? Please explain how is demonstrated that the CDM was seriously taken into account for the decision to start the project? What has been the basis for the investment decision?</p>	<p>A4.3.5</p>	<ul style="list-style-type: none"> <li>- Before the start of the project activity, Jidong first <b>considered</b> the possibilities of CDM in August 2006 and started to negotiate with Climate Change Capital (CCC). After the issuance of FSR, the project entity signed a LOE for the sale/purchase of CERs with CCC in August 2007. After the initial and early CDM consideration before the formal start of the project activity, the project entity continued to consider CDM and take real and concrete steps toward registration as a CDM project activity parallel to the project development.</li> <li>- <b><u>DOE's second response:</u></b> Yes, the PP can <b>consider</b> the possibilities of CDM in August 2006. However, as there was not a initial FSR in Jidong Panshi project, the PPs are requested to clarify based on which information (e.g. Investment Analysis in FSR) it has been decided to run the project under CDM. If there has been no information on the financial attractiveness of the project, it is questioned why CDM needs to be taken in account to overcome the financial barrier.</li> </ul> <p><b><u>Project Participant's second response:</u></b></p> <ul style="list-style-type: none"> <li>- The PP, Jidong Cement Panshi Co., Ltd considered the CDM in August 2006 and made a decision on the CDM development on 15 August 2007 based on the information in the FSR issued in July 2007 by the Design Institute, and then the PP signed the LoE with CCC on 21 August 2007 for the continuous CDM consideration.</li> </ul>	<p>⌋ The PP considered the CDM in August 2006 and made a decision on the CDM development inn Aug. 2007 based on the information in the FSR issued in July 2007 by the Design Institute.</p>
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<p><b><u>Corrective Action Request No. 3:</u></b></p> <p>No a concise description of the scenario existing prior to the start of the implementation of the project activity shall be included into the PDD.</p>	<p>A4.3.6</p>	<ul style="list-style-type: none"> <li>- A concise description same as CAR No.1 is stated in the current PDD (section A.2).</li> </ul> <p><b><u>DOE's second response:</u></b> According to the PDD guidelines, the scenario existing prior to the start of the implementation of the project activity, with a list of the equipment(s) and systems in operation at that time needs to be included in this section (A.4.3) of the PDD.</p> <p><b><u>Project Participant's second response:</u></b></p> <p>We have included the required information in section A.4.3 of the PDD, under the heading "Grid connection, Baseline Scenario, and Sources and Gases in the Project Boundary".</p>	<p>⌋ A description of the scenario existing prior to the project activity has been included into the PDD.</p>
<p><b><u>Corrective Action Request No. 4:</u></b></p> <p>Include in the description information about the age of the installed equipment, the forecast load factors and efficiencies. The monitoring equipments and their location in the systems is of particular interest.</p>	<p>A4.3.8</p>	<ul style="list-style-type: none"> <li>- We have included additional information in and above Table A.2. The lifetime is 20 years.</li> <li>- The description of monitoring equipments and their location is stated in section B7.2.</li> </ul> <p><b><u>DOE's second response:</u></b> Please indicate more clearly to what equipment the lifetime is referring.</p> <p>A lifetime and the age (was equipment newly bought or has it already been used before?) of each equipment mentioned in table A2 shall be included in the PDD.</p> <p>Please take note that the PDD guidelines require the monitoring equipments and their location in the systems in this section of the PDD (A.4.3).</p> <p><b><u>Project Participant's second response:</u></b></p> <p>The expected operational lifetime of the project is 20 years (FSR, page 52). As also indicated by the DOE in CAR 6, this is reasonable and appropriate. All main equipments such as the AQC boiler, PH boiler, Steam Turbine, and Generator that will be installed and employed by the project activity are New and therefore it is</p>	<p>⌋ Information about the age of the installed equipment, forecast load factors and the location of the monitoring equipment has been included into the PDD.</p>

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		<p>assumed they will be operated for 20 from the start of the project activity. We have included this in Section A.4.3 under the heading “Waste Heat Technology”.</p> <p>Additionally, we have included a summary on the monitoring equipment and their location in Section A.4.3 under the heading “Monitoring”.</p>	
<p><b><u>Corrective Action Request No. 5:</u></b> The emissions sources and the greenhouse gases involved in the project activity and existing and forecast energy and mass flows and balances of the systems and equipments included in the project activity shall be included. The types and levels of services provided by the systems and equipments that are being installed under the project activity and their relation, if any, to other manufacturing/production equipments and systems outside the project boundary shall be explained. The types and levels of services provided by those manufacturing/production systems and equipments outside the project boundary may also constitute important parameters of the description. The description should clearly explain how the same types and levels of services provided by the project activity would have been provided in the baseline scenario.</p>	A4.3.9	<ul style="list-style-type: none"> <li>- The only greenhouse gas that needs to be accounted for in the calculation of emissions reductions is CO<sub>2</sub> as a result of fossil-fuel fired power generation of grid-connected power stations in the baseline scenario. And mass flows and equipments included in the project activity have been illustrated in the revised PDD.</li> <li>- The WHR system and install equipments under the project activity are included inside the project boundary.</li> </ul> <p>See Section A.2, A.4.3., and B.3.</p> <p><b><u>Second response by TÜV SÜD.</u></b></p> <p>Please take note, that the reference to Figure “Indicative emission sources and gases particularly applicable in the project boundary” is not correctly mentioned in the PDD.</p> <p>Please include existing and forecast energy, mass flows and balances of the systems and equipments included in the project activity in this section of the PDD.</p> <p><b><u>Project Participant’s second response:</u></b></p> <p>We have properly named Figure B.1 “Indicative diagram of emission sources and gases particularly in-</p>	<p>⌋ An energy and mass flow diagram of the project activity has been included into the PDD.</p>

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		<p>cluded in the project boundary and the monitoring variables”, and refer to this table in both section B.3 and A.4.3 of the PDD.</p> <p>We have included Figure A.3 (i.e. energy and mass flow diagram of the project) and Table A.3 (energy balance before and after the project) in section A.4.3. of the PDD.</p>	
<p><b><u>Corrective Action Request No. 6:</u></b></p> <p>The remaining lifetime of equipments and credit period should be discussed with detailed information.</p>	B2.13	<ul style="list-style-type: none"> <li>- The life time of the equipments of the project is 20 years from the start of operations. The project employs a fixed crediting period that will not exceed the end date of the project.</li> </ul>	<p>⌋ Based on our local and sectoral expertise, the DOE can confirm that a lifetime of 20 years is reasonable and appropriate. The issue can be considered closed.</p>
<p><b><u>Corrective Action Request No. 7:</u></b></p> <p>Project participants are requested to present a flow diagram of the project boundary, physically delineating the project activity.</p>	B3.1	<ul style="list-style-type: none"> <li>- A flow diagram of the project boundary has been filled into section B.3.</li> </ul>	<p>⌋ A flow diagram of the project boundary, physically delineating the project activity has been included into the PDD. The issue can be considered to be closed.</p>
<p><b><u>Corrective Action Request No. 8:</u></b></p> <p>More information should be included in the Table B7(e.g. the date of PDD made, GSP date, date of LoAs and MoC)</p>	B5.2	<ul style="list-style-type: none"> <li>- More information has been included in the Table B7 of current PDD.</li> <li>- The LoA's and MoC are not available yes but will be provided before requesting registration.</li> </ul> <p><b><u>DOE's first response:</u></b></p> <p>The PDD mentions that the LOE was signed 7<sup>th</sup> December 2006. Please submit the related evidence to the DOE.</p>	<p>⌋ More information regarding the continuous CDM consideration has been included into the PDD and all relevant evidences have been submitted to the audit team.</p>

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		<ul style="list-style-type: none"> <li>- When was the contract signed with the PDD writer?</li> <li>- When will the project be operational?</li> <li>- What about “the Minutes of thematic Meeting” (dated 8<sup>th</sup> May 2006) submitted to the DOE. Based on what information/document have they been done?</li> </ul> <p>Please include above mentioned dates/actions into the timeline in table B.7.</p> <p>Please submit the “Ninth Session of the Fifth Board meeting” to the DOE.</p> <p><b><u>Project Participant’s second response:</u></b></p> <p>-The LOE will be provided to Tuev Sued. Please regard this as <u>confidential</u> (can not be uploaded publicly at UNFCCC). This date is listed in Table B.7.</p> <p>-Contract was signed 05 June 2007 between CCC and Caspervandertak Consulting. Evidence will be provided (<u>confidential</u>: can not be uploaded publicly at UNFCCC). This date has been added in Table B.7.</p> <p>- The “Minutes of thematic meeting” provided to the DOE relates to amongst others the Investment of the Cement production lines. This meeting does <u>not</u> relate in any way to the WHR project, and is therefore <u>not</u> mentioned in the PDD. If the DOE requires so we could insert this event into the timeline of the PDD but we do not believe the DOE would requires this as it is not related to the proposed CDM project activity in any way.</p> <p>- The “Ninth Session of the Fifth Board meeting will provided to the DOE together with this response. This date is listed in Table B.7.</p>	
<b><u>Corrective Action Request No. 9:</u></b>	B5.25	1. The tariff is 0.40RMB/KWh as listed in the FSR and	⌋ Total investment costs



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<ul style="list-style-type: none"> <li>• What tariff, is applicable for electricity consumption of the steel plant? Please provide evidence to the DOE.</li> <li>• The total investment costs shall be evidenced, as well as the O&amp;M costs.</li> <li>• Please explain how the operational hours are concluded. Evidences are highly recommended.</li> <li>• Bank Loan agreement shall be presented to the DOE.</li> <li>• Certificate of the Design Institute shall be presented to the DOE.</li> </ul>		<p>used in the IRR calculation. This power price is the same as the “avoided electricity price” paid by the cement production facility in the baseline.</p> <ol style="list-style-type: none"> <li>2. The operational hours are concluded from FSR, prepared by a certified design institute.</li> <li>3. Certificate of the Design Institute has been provided to the DOE.</li> </ol> <p><b><u>Response by TÜV SÜD:</u></b></p> <p>According to EB 38 para 54 (c) the input values from the FSR need to be cross-checked by other third party evidences.</p> <p>For that reason, we kindly ask you to provide us with evidences for the following input values:</p> <p><b>Electricity tariff:</b> (e.g. invoices from Cement industry )</p> <p><b>Total investment:</b> (e.g. Purchasing contracts, invoices)</p> <p><b>O&amp;M costs</b> (please also explain what is considered as “other costs”):</p> <p><b>Electricity Production:</b></p> <p><b>Bank Loan:</b></p> <p><b>Extra Charges:</b></p> <p>Due to recent request for reviews, please explain why fixed tariff is realistic and appropriate for the investment analysis.</p> <p>According to “the Guidance on the Investment analysis” the DOE is requested to undertake a thorough assessment of the financial statements of the project developer (including the proposed WACC). For that reason,</p>	<p>have been cross checked with actual invoices from similar projects in a different province in China. The costs assumed in this project are in an acceptable range, even lower than the investment costs for other projects.</p> <p>Electricity Production has been crosschecked with the actual manufacturer’s data and the data from Luoyang Mining Machinery Engineering Design Institute.</p> <p>The electricity tariff has been cross checked with the officially publish tariff of “the Department of Commerce of Jilin Province”. The values are nearly the same (400 RMB/kWh assumed in IRR calculation, 431 RMB/kWh officially approved tariff from Jilin province). The tariff assumed in the IRR calculation is</p>
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		<p>please provide the DOE with the input values for the WACC analysis. Is the WACC calculated before or after tax?</p> <p>Please indicate the time of the investment in table B.2.</p> <p><b><u>Project Participant's second response:</u></b></p> <p>Please see our separate document titled "Input values Jidong Panshi cement WHR", which we will provide attached to this response. Also attached separately is a document to justify the WACC. We included a summary of these two documents in Step 2: Investment analysis of Section B.5.</p> <p>We have added in Table B.2 in the PDD the time of issuance of the FSRs (which have been provided previously to the DOE) of all the previously implemented projects as indication of the investment decision. Two of the previously listed "similar projects" (i.e. the "Haitian Wenxi cement production line" and the "Linli cement production line") have been removed from Table B.2 as the FSR was issued in Oct 2007 and March 2008 respectively.</p> <p><b><u>DOE's response:</u></b></p> <p>Please explain from which year the Bond rates have been taken from. Or have average values been taken? In general the applied values are from which year?</p> <p><b><u>Project Participants response:</u></b></p> <p>We have prepared a separate detailed response to the DOE on this issue and will attach this and all evidences separately to this response.</p>	<p>slightly higher, which is conservative.</p> <p>Total operational and maintenance costs have been cross checked with actual invoices from similar projects in a different province in China. The costs assumed in this project are in an acceptable range.</p> <p>Extra charges include "Education tax" and "Maintenance and construction fee", which are 3% and 7%, calculated over VAT. These have been cross-checked with the officially approved values from the Jilin Local Taxation Bureau.</p> <p>Bank Loan has been cross checked with the bank loan commitment letter by Agricultural Bank of China.</p> <p>The project participant ordered Bloomberg as an independent third party to assess the WACC for the Jidong com-</p>
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			<p>pany.</p> <p>Based on their long range data they assessed the WACC of Jidong for 2008, which is 15.34%. Unfortunately Bloomberg does not keep historical WACC data for Jidong (e.g.2006 the time of the investment decision).</p> <p>Hence the project participant had to calculate the WACC for 2006 base on the information available at the time of the investment decision.</p> <p>The audit team has cross-checked the following data to assure the correctness of the WACC of 15.58%:</p> <ul style="list-style-type: none"><li>• historic Earnings per Share and Dividend payout as reported in Jidong audited financial statements from 2001 to 2005</li><li>• historic and future forecast net earnings</li></ul>
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			<p>data taken from analyst reports from four securities companies published in 2006</p> <ul style="list-style-type: none"> <li>Several sources e.g. Wharton Business School checking the applicability of the calculation method.</li> </ul> <p>Following these documents TÜV SÜD can confirm that the calculated WACC of 15.58% is appropriate.</p>
<p><b><u>Corrective Action Request No. 10:</u></b></p> <p>The electricity tariff should be accounted for sensitivity analysis.</p>	B5.27	These variations have been included (see table B.5).	<p>⌋ The electricity tariff has been considered in the sensitivity analysis. The issue can be considered as closed.</p>
<p><b><u>Corrective Action Request No. 11:</u></b></p> <p>Please deliver the evidence to prove the bank rejects to issue the loan to the proposed project unless the CDM can be registered by EB. Provide the DOE with evidences presenting the government restrictions on bank lending to cement industries.</p>	B5.30	<p>1. We provide a bank loan acceptance letter, which mentioned that CDM was a important factor for the bank to provide a loan (as discussed in Step 3).</p> <p>2. Cement industry is defined as an over-growing industry by Chinese government and Chinese central bank (the People's Bank of China), and treated with a restriction on bank lending. The evidence mentioned in Step 3 will be provided to the DOE.</p> <p><b><u>Project Participant's second response:</u></b></p> <p>The Bank loan acceptance letter has been translated</p>	<p>⌋ The bank loan acceptance letter has been delivered to DOE, the main content is the bank will not issue the loan to the project owner unless the Jidong group apply the CDM</p>

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		and will be provided to the DOE.	
<p><b><u>Corrective Action Request No. 12:</u></b> Project participant should deliver the evidence that there is an authorization from design institution or approval from the Chinese government that can prove the statistics sheet.</p>	B5.33	<p>- The Design Institute that published the sheet is a public entity (evidence will be provided attached to this response). No approval is required from the government, as the institute is a public entity itself. The statistics sheet was authorized by the design institution.</p> <p><b><u>DOE's Response:</u></b> After having investigated from Website and related information, Tianjin Nengda technology development Co., Ltd is the subsidiary of Tianjin Cement industrial design institute, and its statistics can be recognized. The translation of "Tianjing cement industrial design institute" should be revised to "Tianjin cement industrial design institute"</p> <p><b><u>Project Participant's second response:</u></b> We corrected the name from Tianjing to Tianjin in the PDD (sub-step 4.b, and footnote 20). Additionally, we slightly corrected table B.6 (editorial changes) based on the original data source from "Tianjin cement industrial design institute"</p>	<p>⌋ As the Design Institute is a public entity, no approval from the government is needed. Hence the analysis can be accepted as credible evidence.</p>
<p><b><u>Corrective Action Request No. 13:</u></b> Projects participants are requested to analyze how capacity boundary and historical boundary be assessed? Why the common practice analysis was reduced to the provincial/ regional basis? Isn't whole China and applicable geographical boundary?</p>	B5.34	<p>- Jilin Province has been chosen as similar geographical area, in accordance with the additionality tool. This additionality tool does not require an analysis on a national level.</p> <p><b><u>Response by TÜV SÜD:</u></b> Recent request for review question for WHR projects have been "Why has the common practice analysis limited to North East China Grid": Please include an answer into the PDD.</p>	<p>⌋ The project participant included whole North China into the Common Practice analysis. Documentation (report from Tianjing cement industrial design institute) that the assessed projects are complete</p>

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		<p><b><u>Project Participant's second response:</u></b></p> <p>The proposed project located in Jilin province and connected to North East China Power Grid through Jilin provincial power grid. We have added a clarification in the PDD why the North East China Power Grid is applicable. The PDD has revised the common practice part accordingly.</p>	has been submitted to the audit team.
<p><b><u>Corrective Action Request No. 14:</u></b></p> <p>If similar activities can be demonstrated as CDM projects, please give a linking that the projects have been opened GSP in unfccc successfully. If not, please explain why the similar activities can be implemented without CDM component.</p>	B5.35	<ul style="list-style-type: none"> <li>- Footnotes and explanation have been given for the Jilin project that has applied for CDM.</li> </ul>	<p>⌋ The UNFCCC web link has been included for the projects applying CDM. The third project included in the common practice analysis received financial support from the government</p>
<p><b><u>Corrective Action Request No. 15:</u></b></p> <p>It is not understandable, why Celsius instead of Kelvin is used in the Fcap calculation.</p>	B6.1.1	<ul style="list-style-type: none"> <li>- A majority countries including China usually use Celsius for calculation, and it is also consistent with the unit used by facility manufacturer.</li> <li>- The parameters in Fcap calculation sheet have been revised accordingly and are correct.</li> </ul> <p><b><u>Response by TÜV SÜD:</u></b></p> <p>Recent request for review has been:</p> <p>The detailed calculation of emission reduction in a spreadsheet format with transparent formulas should also be submitted.</p> <p>Please submit this calculation to the DOE.</p> <p><b><u>Project Participant's second response:</u></b></p> <p>We will provide a separate calculation spreadsheet of emission reductions with transparent formulas to the DOE.</p>	<p>⌋ An Emission Reduction Calculation Sheet for the proposed project has been submitted to the DOE and will be uploaded to the UN in the registration process</p>

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		<p><b><u>TÜV SÜD's second response:</u></b></p> <p>Generally the format of the ER Calculation is fine. But please provide a separate Sheet for each project, in where the calculation of <math>f_{CAP}</math> is also listed.</p> <p><b><u>Project Participant's second response:</u></b></p> <p>We will provide separate to this response the requested separate Fcap/ER sheet.</p>	
<p><b><u>Corrective Action Request No. 16:</u></b></p> <p>Please use abbreviations that can be connected to vers. 3 of the methodology (e.g. <math>Q_{OE, BL}</math>).</p>	B6.1.5	Yes, it has been revised accordingly.	⌋ Yes, correct abbreviations have been used in section B.6.2. Issue can be considered to be closed.
<p><b><u>Corrective Action Request No. 17:</u></b></p> <p>Please use abbreviations that are connected to vers. 3 of methodology.</p>	B7.1.1	Yes, it has been revised accordingly.	⌋ Yes, correct abbreviations have been used in section B.7.1. Issue can be considered to be closed.
<p><b><u>Corrective Action Request No. 18:</u></b></p> <p>Project participants are requested to demonstrate why the equipment purchase contracts cannot be considered real action as described in the CDM glossary and terms.</p>	B7.1.1	- The equipment purchase contracts should be considered as the real action as described in the CDM glossary and terms, the PDD has been revised accordingly.	⌋ The equipment purchase contract has been considered as the real action as described in the CDM glossary and terms.
<p><b><u>Clarification Request No. 1:</u></b></p> <p>On page 26 of the PDD a reference to case 2 is given. Please correct.</p>	B6.1.3	Yes, correction has been corrected.	⌋ Reference has been revised. Issue can be considered to be closed.

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<b>Clarification Request No. 2:</b> Please include an explanation, how it is guaranteed, that no other fuel is used for the boilers.	B6.1.6	Yes, an explanation has been illustrated in the PDD (below table B.8) that no other fuel is used for the boilers.	⌋ Explanation has been included in the PDD. Issue can be considered to be closed.
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**Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)**


Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-

## **Annex 2: Information Reference List**




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Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
1	18/01/2008	PDD "Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project", Version 02	Chief Representative of CVDT consulting	PDD for GSP
2	06/07/2007	Consolidated baseline methodology for GHG emission reductions for waste gas or waste heat or waste pressure based on energy system ,ACM0012 ,Version 01.	UNFCCC	
3	19/10/2007	Tool to Calculate the Emission Factor for an Electricity System, Version 01	UNFCCC	
4	30/01/2008	Participant list of on-site interviews	TÜV SÜD	
5	30/01/2008	<p>On-site interviews conducted by TÜV SÜD. Validation team: Mr. Zhang Jiming                      TÜV SÜD China, Beijing Branch Mr. Li Ruifeng                        TÜV SÜD China, Beijing Branch Mr. Du Baohai                        TÜV SÜD China, Beijing Branch Interviewed persons:</p> <p>Ms. Liu Wei                      Hebei Tangshan Jidong Cement Co., Ltd.  Mr. Zhao Yonghong      Gansu tonghe consulting Co., Ltd. Mr. Meskes                      Chief Representative of CVDT consulting Mr. Liu Jianzhong              Jidong Cement Panshi Co., Ltd Mr. Zhang Hongzhi              Jidong Cement Panshi Co., Ltd</p>	TÜV SÜD	
6	Jul.2007	Feasibility Study Report for CDM project "Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project".	Hebei construction and material industry design institute	IRR input data source
7	30/10/2007	Approval of Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project	Provincial economic committee of jilin province	

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Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
8	Jul.2007	EIA Report for CDM project "Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project"	State environmental Protection Bureau	
9	Oct.2007	Approval of EIA Report for CDM project "Jidong Cement Panshi Co., Ltd. 15 MW Cement Waste heat Recovery Project"	Environmental Protection Bureau of Jilin	
10	07/08/2007	The Bank loan promise (2007-08)	China Agriculture bank Tangshan branch bank, 219,750,000RMB	
11	16/02/2007	Tool for the demonstration and assessment of additionality version 03.	UNFCCC	
12	Sept.2006	Selling price table of Jilin Province electricity grid	Department of Commerce of Jilin Province	
13	29/10/2007	Equipment purchasing contract	Anhui Hailuo Chuanqi Engineering Co.,Ltd	Including AQC boiler, PH boiler, turbines and generators
14	13/11/2007	Questionnaire for stakeholders' comments with 17 persons signature	Jidong Cement Panshi Co., Ltd	
15	Dec.2006	CERs purchase agreement	Tangshan Jidong Cement Co., Ltd., and Climate Change Capital Carbon Managed Account Limited ,Climate Change Capital Carbon Fund II s.à.r.l.IXIS	
16	18/08/2006	CDM resolution board meeting minutes	Tangshan Jidong Cement Co., Ltd.	

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Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
17	15/08/2007	Resolution of the 21st Meeting of the 2nd Board of Directors of Jidong Cement Panshi Co., Ltd.	Jidong Cement Panshi Co., Ltd	
18	15/10/2007	Construction start contract	Jidong Cement Panshi Co., Ltd	
19		The business license of Jidong Cement Panshi Co., Ltd	Hebei Industry and Commerce Administration	
20		Internal Income Stat. Analysis of Tangshan Jidong Cement Group for Investment Construction Project, 10 projects has the IRR from 19.49% to 49.74%,	Tangshan JiDong Cement Group	
21	Jul.2008	Chinese LoA	China NDRC	
22	18/01/2008	Excel IRR calculation file	Chief Representative of CVDT consulting	
23	May 2006	Overview on Cement WHR Projects in China	Tianjing Cement Institute	
24	Aug.2007	Overview of waste-heat utilization projects at cement plants in northeast china grid as of August 2007	Tianjing Cement Institute	
25	Dec.1999	FSR of Boading Huadian Electric Power Design & Research Institute Co., Ltd	Huadian Electric Power Design & Research Institute Co., Ltd	Jidong Cement Co., Ltd. WHR Demonstration Project
26		Announcement of the State Council on Structural Adjustments in Industries with Production Overcapacities		
27	Aug.2007	Energy Efficiency Improvement Potential & Opportunities in China's Cement Industry, General Report	International Finance Corporation	
28	09/10/2008	Restriction on bank lending for over-growing industries	State Owned Assets Supervision and	

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Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
			Administration Commission of Shanghai Municipal Government	
29	05/06/2007	CDM commission contract	Climate Change Capital and Casper van der Tack	
30	21/08/2007	Letter of Exclusivity	Climate Change Capital and Tangshan Jidong Cement Co., Limited	
31	24/10/2007	Demonstration of efficiency of main equipment in the WHR projects of Tangshan Jidong Cement Co., Ltd.,	Anhui Conch Kawasaki Engineering Co., Ltd	
32	21/01/2009	Cement WHR power generation system	Luoyang Mining Machinery Engineering Design Institute	
33	30/12/2008	Education Added Expenses and Local Education Added Expenses	Jilin Local Taxation Bureau	
34	May.2007	Regulations on Collecting and Using Local Education Added Expenses in Jilin Province	Jilin Local Taxation Bureau	
35	30/12/2008	Notice of Jilin Provincial Office of the State Administration of Taxation on Printing and Issuing "the Rules on Collecting City Maintenance & Construction Tax in Jilin Province"	Jilin Local Taxation Bureau	
36	28/01/2007	the "Ninth Session of the Fifth Board meeting"	Tangshan Jidong Cement Co., Limited	
37		WACC calculation	Bloomberg	

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Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
38	01/07/2008	Consolidated baseline and monitoring methodology for GHG emission reductions from waste energy recovery projects (ACM0012 vers.3.1)	Unfccc	
39	26/08/2008	Tool for the demonstration and assessment of additionality version 5.2	Unfccc	
40		National major construction project Beijing Cement Plant		
41	12/04/2006	Extract from 2006 Broker Report for Jidong,	United Securities	
42	11/04/2006	Extract from 2006 Broker Report for Jidong,	GF Securities	
43	08/08/2006	Extract from 2006 Broker Report for Jidong,	Haitong	
44	10/08/2006	Extract from 2006 Broker Report for Jidong,	Guotai Junan Securities	
45	2005	Financial Report for Jidong		
46		WACC calculation	Wharton Financing School	
47	30/06/2006	Jidong share price	Google Finance	Historical Prices
48	2006	Announcement of the State Council on Structural Adjustments in Industries with Production Overcapacity, Guo Fa [2006] Document No. 11	State Council (2006)	
49		Dividend paid by Jidong per share ( <a href="http://www.cninfo.com.cn/gszx/fhpg_fh000401.html">http://www.cninfo.com.cn/gszx/fhpg_fh000401.html</a> )		
50	09/06/2009	British LoA	Department for Environment Food and Rural Affairs) for Climate Change Capital Fund II S.a.r.l. („C4F2)	
51	09/06/2009	British LoA	Department for Environment Food and Rural Affairs) for	

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Ref. No.	Issuance and/or submission date(dd/mm/yyyy)	Title/Type of Document	Author/Editor/Issuer	Additional Information (Relevance in CDM Context)
			Cliamte Change capital Carbon Managed Account Limited (C4MA)	
52	04-06-2009	MoC	CCC and Jidong Cement Panshi Co., Ltd	
53		Reference Document on Best Available Techniques (BAT) in the Cement and Lime Manufacturing Industries"	Integrated Pollution Provention and Control	