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# Validation Report

**Tianjin Zhenxing Cement Ltd.**

**VALIDATION OF THE CDM-PROJECT:**

**Tianjin Zhenxing Cement Waste Heat Recovery  
for Power Generation Project**

**REPORT NO. 1183967**

**2009, June 04**

TÜV SÜD Industrie Service GmbH

Carbon Management Service  
Westendstr. 199 - 80686 Munich – GERMANY

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
1183967	23-03-2009	02	04-06-2009	-

<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> Jiangsu TUV Product Service Ltd., Beijing Branch Unit 0918, Landmark Tower 2 100004 Beijing China
<b>Project Participants:</b> Tianjin Zhenxing Cement Co., Ltd, Beichen Economic Development Area, Yinheqiaobei, Tianjin, 300400, P. R. China  Arreon Carbon UK Ltd. Beijing Office, Suite 1208, B12 Jianguomenwai Avenue, West Tower, Twin Towers, 100022, Beijing, P.R. China  Credit Suisse International, 1 Cabot Square, E14 4QJ, London, UK	<b>Project Site(s):</b> Shuangjie Town, Beichen District, Tianjin City, P.R. China  GPS coordinates of plant: 117°07'33"E, 39°16'41"N
<b>Project Title:</b> Tianjin Zhenxing Cement Waste Heat Recovery for Power generation Project	
<b>Applied Methodology / Version:</b> AMS-III.Q / Version 01	<b>Scope(s):</b> 4
<b>First PDD Version:</b> Date of issuance: 14-05-2008 Version No.: 01 Starting Date of GSP 28-05-2008	<b>Final PDD version:</b> Date of issuance: 04-06-2009 Version No.: 02
<b>Estimated Annual Emission Reduction:</b>	<b>54,575 tCO<sub>2</sub>e</b>
<b>Assessment Team Leader:</b> Dr. Sven Kolmetz	<b>Further Assessment Team Members:</b> Ruifeng Li Qin Huang Georgios Agrafiotis

**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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Annex 1: Validation Protocol

Annex 2: Information Reference List

## 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:

Tianjin Zhenxing Cement Waste Heat Recovery for Power generation 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:

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

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

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

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Dr. Sven Kolmetz	ATL	☑	☑	☑
Ruifeng Li	GHG-A	☑	☑	☑
Qin Huang	GHG-T	☑	☑	☑

Georgios Agrafiotis	GHG-T	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
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**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.

**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 trainee.

**Qin Huang** is Qin HUANG is an auditor trainee at the “Carbon Management Service” department of Jiangsu TUV Product Service Ltd in Beijing, China. He holds a M.Sc. in industrial ecology and has gathered experience in environmental engineering before joining TÜV SÜD China. he has received training in the CDM validation process and participated in several CDM project assessments.

**Georgios Agrafiotis** is environmental engineer with M.Sc. in Sustainable Resource Management. He has work experience in the field of industrial environmental technology and protection and also in technical environmental projects. As GHG trainee he has been appointed scopes 1, 5 and 13 as per UNFCCC definition. Currently he is involved in more than 15 on-going validation and verification projects.

## 2.2 Review of Documents

A first version of the PDD was submitted to the DOE in May 2008. 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

On 03 July 2008 TÜV SÜD performed interviews 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
Han Xiaoguang	Tianjin Zhenxing Cement Co., Ltd
Niu Hailong	Tianjin Zhenxing Cement Co., Ltd
Liu Dalin	Tianjin Zhenxing Cement Co., Ltd
Lou Jie	Tianjin Zhenxing Cement Co., Ltd
Gong Xingyi	Arreon Carbon UK Ltd.
Men Shaodong	Arreon Carbon UK Ltd.

Wang Xin	Arreon Carbon UK Ltd.
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## 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 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 June 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 Tianjin Zhenxing Cement Co., Ltd of People's Republic of China, Arreon Carbon UK Ltd. of United Kingdom of Great Britain and Northern Ireland and Credit Suisse International 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 a LoA (IRL 28) on 5 March 2008 authorizing Arreon Carbon UK Ltd. and on 15 April 2008 authorizing Credit Suisse (IRL 36) International as project participants. The DNA of China has also issued a LoA (IRL 27) on 18 January 2008 authorizing Tianjin Zhenxing Cement 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 confirming 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 "Tianjin Zhenxing Cement Waste Heat Recovery for Power generation Project".

All three letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the Tianjin Zhenxing Cement Waste Heat Recovery for Power generation 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.

All LoAs have been issued by the respective Party's DNA, National Development and Reform Commission of the People's Republic of China and DEFRA (Department for Environment Food and Rural Affairs) 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 could be verified during the on-site audit:

Purpose of the project is to utilize waste heat from exit gases from Air Quenching Coolers. This waste heat is a by-product of the cement production process and specifically from two clinker production lines with capacity 2000 t/d each. By using the waste heat, power will be generated in order to cover own demand of the facility. Without the proposed project this waste heat is vented to the atmosphere unused. The generated electricity will substitute power from the North China Power Grid (NCPG) which is produced from fossil fuels, mainly coal. That is how approximately 54,575 tCO<sub>2e</sub> emission reductions will be achieved. The project will have also a positive impact on the sustainable development of the region since it will enhance the local economy, it will create working places, it will lead to reduction of further gases than CO<sub>2</sub> like SO<sub>2</sub> and NO<sub>x</sub>, it will promote the independence of the Chinese energy demand from fossil fuels.

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 AMS-III.Q Version 01 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.

As project boundary and according to the methodology AMS III.Q is defined the facility where waste heat is produced and the whole NCPG with which the cement plant is connected.

The most relevant documentation assessed in order to confirm the project boundary are following:

- Feasibility Study Report for CDM project “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project (IRL 8)
- Grid connection approval, dated on 28/01/2008 (IRL 12)

The same have been validated during the validation process using standard audit techniques, further details of any observation are transparently presented in the 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 baseline scenario that prevailed after methodological steps have been applied, is the continuation of current situation with the project owner continuing to import electricity from the NCPG and venting the waste heat into the atmosphere. The option of conducting the project but not under the CDM scheme was rejected because of the investment barriers.

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:

- Feasibility Study Report for CDM project “Tianjin Zhenxing Cement, dated on April 2007 (IRL 7)
- Notice on Strictly Prohibiting the Installation of Fossil Fuel-fired Generators with the Capacity of 135 MW or below issued by the General Office of the State Council (IRL 32)
- EIA report “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project” (IRL 10)

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 and leakage and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets. The parameters and equations presented in the PDD and further documentation 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 reviewed, further references and the result of the interviews.

The baseline methodology has been correctly applied following the requirements.

The estimated of the baseline emissions can be confirmed as the same 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 the 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**

The calculation of the baseline emissions followed the procedures described in the methodology AMS-III.Q Version 01. The North 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 avail-



able 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.

The value for the combined margin emission factor ( $EF_{CM}$ ) 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. This means, the  $EF_{OM}$  was weighted as 50% of the combined EF and  $EF_{BM}$  equally 50%. Project emissions were also considered as foreseen by the methodology and were respectively deducted from the baseline emissions. As a result, the annual emission reductions equal a little less than the baseline emissions.

### 3.5.5 Project emissions

The project emissions are a result of use of electricity from the grid by the project activity for own operational needs and are calculated to be 4 tCO<sub>2</sub> annually. The same emissions factor is applied as for the baseline emissions. They were respectively deducted from the baseline emissions.

### 3.5.6 Leakage

As per methodology no leakage is applicable.

### 3.5.7 Emission Reductions

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

## 3.6 Additionality

The additionality of the project has been presented in the PDD using following approach: the Small Scale approach has been applied. Additionality of this SSC-project was proved via the investment barrier, since the necessary funds were not available in whole. Steps 1 and 3 of the tool were applied.

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

- Feasibility Study Report for CDM project “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project” from April 2007 (IRL 8)
- Approval of Feasibility Study Report “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project” (IRL 9)
- Investment analysis calculation (IRL 33)

On site the additionality has been discussed principally with Liu Dalin from Tianjin Zhenxing Cement Co., Ltd. Furthermore some documents have been reviewed on-site (for details see annex 2).

Finally the data, rationales, assumptions, justifications and documentation provided have been checked using local knowledge and sectoral and financial expertise, the same has been cross checked by:

- CDM resolution 1<sup>st</sup> and 2<sup>nd</sup> meeting minute from May 2006 and June 2007, respectively (IRL 13 & 14)
- Contract with CDM developer (IRL 12)
- Bank loan agreement from the Industrial Bank, dated on 6<sup>th</sup> August 2007 (IRL 17)

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 the signing of the contract for the main equipment necessary for the project activity. In order to confirm the same the assessment team has reviewed the following documents:

- the equipment purchasing contract, dated on 23<sup>rd</sup> October 2007 (IRL 19),

Additionally the assessment team cross checked this information with Mr. Han Xiaoguang from Tianjin Zhenxing Cement Co., Ltd.

The starting date of the project activity is determined to be the 23<sup>rd</sup> of October 2007 which is before 02 August 2008 and also before the GSP. The PPs have presented to the assessment team following documentation:

- Contract with CDM developer (IRL 12)
- The starting construction report (IRL 20)

The original of the documentation presented has been reviewed and cross checked based on interviews with Han Xiaoguang, 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:

Activity	Document	Auditor conclusion
January 2007 Negotiations with Buyer	Copy of term sheet (IRL 21)	Negotiations with buyer clearly indicates on-going CDM actions
June 2007 Meeting of board of directors	CDM second resolution meeting minute (IRL 14)	The board discussed the importance of CDM scheme in the proposed project.
October 2007 Contract of purchase of equipment for project is signed	Equipment Purchasing contract (IRL 19)	The purchasing of necessary equipment for the CDM project is signed.
January 2008 LoA from China is issued	China LoA (IRL 27)	Letter of Approval from Chinese government is issued with reference to the proposed project.
28 <sup>th</sup> May 2008 GSP starts	See official TÜV Süd web page <a href="http://www.netinform.de/KE">http://www.netinform.de/KE</a>	Start of validation work by TÜV SÜD clearly indicates that CDM actions were still on-going.

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 output 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 output mentioned. Hence the list of alternatives is considered to be complete.

### **3.6.3 Investment analysis**

Not applicable

### **3.6.4 Barrier analysis**

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

Investment 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 investment barrier has been assessed against the unwillingness of financial institutions to provide the necessary funds by the use of official documents such as:

- Bank loan refusal letter (IRL 30)

and based on interviews with different transactors who work for the various banks. The unwillingness of the banks to grant a loan to without CDM can be proved by the business communication letters between the project owner and the local branches of China Construction Bank and China Industrial Bank. Moreover, the assessment team contacted several local branches other banks (IRL 16) such as Shanghai Pudong Development Bank, Bank of Communications, Bank of Tianjin, and Agricultural Bank of China, etc., to inquire about their loan policies and requirements. The result of this assessment shows clearly that the barrier presented in the PDD can be considered real. The loan was finally granted from the bank under the condition that the project receives finally additional income from emission credits (IRL 17).

This barrier does prevent the project activity and would not prevent at least the baseline of the project, this can be confirmed based on the documentation review, interviews and local and sectoral expertise of the assessment team. The baseline scenario is release of the waste heat to the atmosphere which is allowed by law and requires no investment and parallel production of electricity from fossil fuels from the NCPG which also does not require any extra financing. Thus, the unwillingness of the Chinese banks to issue a credit for the project would not prevent the baseline scenario.

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**

Not applicable

### 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 revised 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 most important parameters that will be measured are:

- the total and net produced electricity

These will be measured by two meters each. Two backup meters are used to crosscheck readings of the two main meters, for both the net electricity generated and the electricity consumed in the project activity. In addition, the net electricity generated by the project can also be cross-checked with the difference between the total electricity generated and the auxiliary electricity consumption.

- The quantity of waste heat utilized in the project activity during the year y

The quantity of waste heat will be monitored yearly based on the clinker production that can be measured in tonnes. The content of heat per tonne is calculated to be 3,179 Nm<sup>3</sup>/t.

Hence it is expected that the PPs 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 publicly distributed questionnaires. The evidence of these invitations is IRL 31. 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 undertake an environmental impact assessment. The assessment team made a document review of the information presented. The (IRL 10) EIA report "Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project" and its approval (IRL 11) confirm the correctness of the approach used by the PPs. Hence the PPs followed the requirements of the host country regarding the 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:</b> <a href="http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4944&amp;Ebene1_ID=26&amp;Ebene2_ID=1530&amp;mode=1">http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4944&amp;Ebene1_ID=26&amp;Ebene2_ID=1530&amp;mode=1</a>	
<b>Starting date of the global stakeholder consultation process:</b> 2008-05-28	
<b>Comment submitted by:</b> None	<b>Issues raised:</b> -
<b>Response by TÜV SÜD:</b> -	

## 5 VALIDATION OPINION

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

Tianjin Zhenxing Cement Waste Heat Recovery for Power generation 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, 04-06-2009

Munich, 04-06-2009



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



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Assessment Team Leader

Validation of the CDM Project:  
Tianjin Zhenxing Cement Waste Heat Recovery for Power generation Project



Industrie Service

## **Annex 1: Validation Protocol**

## Validation Protocol

Project Title: Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation Project

Date of Completion: 04-06-2009

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>A. General description of small-scale project activity</b>				
<b>A.1. Title of the small-scale project activity</b>				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1	Yes, the project title of Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project, enables to identify the unique CDM activity clearly.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1	Yes, the version number of the PDD is 02.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3. Is this consistent with the time line of the project's history?	1	Yes, it is consistent with the time line of the project's history.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.2. Description of the small-scale project activity</b>				
A.2.1. Is the description delivering a transparent overview of the project activities?	1	The project and the project activities have been transparently described. The project possesses two 2,400 t/d cement clinker production lines with total designed capacity of 1,500,000 tons of clinker annually. This has been proven by the auditor. However, <b><u>Corrective Action Request No. 1:</u></b> Project participants need explain why the capacity of two cement clinker production lines are 2000t/d in FSR and its approval..	CAR1	<input checked="" type="checkbox"/>
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1,2,3,4,5,6,7,8,9,10,11	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 report and its approval - EIA and its approval <b><u>Clarification Request No. 1:</u></b> Please deliver the Grid connection approval to DOE.	CR1	<input checked="" type="checkbox"/>



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1-11, 27, 28	Yes, but see A2.1	CAR1	<input checked="" type="checkbox"/>
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1-11, 27, 28	Yes, but see A2.1	CAR1	<input checked="" type="checkbox"/>
A.2.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance?	1-11, 27, 28	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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.6. Is the brief explanation how the project will reduce greenhouse gas emission transparent and suitable?	1-11, 27, 28	The project activity (WHR plants) will replace electricity from the North China power grid, which is predominated by coal-fired thermal power plants. Thus, GHG emissions will be reduced.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.3. Project participants</b>				
A.3.1. Is the form required for the indication of project participants correctly applied?	1	The form is correctly applied Tianjin Zhenxing Cement Co., Ltd and Arreon Carbon UK Ltd. and Credit Suisse International are the project participants. <b><u>Corrective Action Request No. 2:</u></b> It should indicate that "For more detailed contact information on participants in the project activities, please refer to Annex 1." in PDD.	CAR2	<input checked="" type="checkbox"/>
A.3.2. Is the participation of the listed entities	1	<b><u>Open Issue</u></b>	Open	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
or Parties confirmed by each one of them?		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.	issue	
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)?	11	Yes, all information in the PDD regarding project participants and parties is consistent.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4. Technical description of the small-scale project activity</b>				
<i>A.4.1. Location of the small-scale 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	The project's site location's approximate coordinates are 117°07'E, 39°16'N. <b><u>Corrective Action Request No. 3:</u></b> 1, Please detailed the GPS coordinates to "second" 2, It should be indicated in the PDD from where the GPS coordinates were taken. 3, No Chinese should be used in the maps.	CAR3	<input checked="" type="checkbox"/>
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	The power plant is under constructing, the main equipments have been commissioned. These have been checked during the onsite audit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>A.4.2. Type and category(ies) and technology/measure of the small-scale project activity</i>				
A.4.2.1. To which type(s) does the project activity belong to? Is the type correctly identified and indicated?	1,2	Type: III - Other project activities, The type is correctly identified and indicated in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.2. To which category (ies) does the project activity belong to? Is the category correctly identified and indicated?	1,2	Category: III.Q - Waste gas based energy systems. The category is correctly identified and indicated in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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A.4.2.3. Does the technical design of the project activity reflect current good practices?	1,8	Yes, the technical design of the project activity reflects current good practice, all the equipments are domestically made.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.4. Does the implementation of the project activity require any technology transfer from Annex-I-countries to the host country (ies)?	1,8	The proposed project adopts domestic technologies and equipment. There is no technology transfer required.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.5. Is the technology implemented by the project activity environmentally safe?	1,10, 11, 27, 28	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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.6. Is the information provided in compliance with actual situation or planning?	1,18, 19, 20, 26,	Yes, the information provided in the PDD is in compliance with the actual situation and planning. <b><u>Corrective Action Request No. 4:</u></b> In PDD, the parameters of boilers and generators should be consistent with equipment purchasing contract.	CAR4	<input checked="" type="checkbox"/>
A.4.2.7. 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?	1,18, 19, 20, 26	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.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,18, 19, 20, 26	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. 5:</u></b> The operational lifetime of the main project equipment should be mentioned in the PDD.	CAR5	<input checked="" type="checkbox"/>
A.4.2.9. Does the project require extensive	18	During the audit it has been found that training is necessary be-	CR2	<input checked="" type="checkbox"/>

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initial training and maintenance efforts in order to be carried out as scheduled during the project period?		cause waste heat recovery is not common practice in the cement industry in China. <b>Clarification Request No. 2:</b> The training documents should be delivered to DOE.		
A.4.2.10. Is information available on the demand and requirements for training and maintenance?	1,18	Yes, but see A4.2.9	CR2	<input checked="" type="checkbox"/>
A.4.2.11. Is a schedule available for the implementation of the project and are there any risks for delays?	1	The main equipments have been purchased in Sept. 2007, and the construction work will be finished by the end of this year. The risk of delay is low.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.3. Estimated amount of emission reductions over the chosen crediting period</b>				
A.4.3.1. Is the form required for the indication of projected emission reductions correctly applied?	1,2,3,5	Yes. The form is correctly applied according to version 3 of the PDD template. <b>Corrective Action Request No. 6:</b> The project participants are requested to explain where does the total emission reduction(4,058,565) tCO <sub>2</sub> e come from?	CAR6	<input checked="" type="checkbox"/>
A.4.3.2. Are the figures provided consistent with other data presented in the PDD?	1,2,3,5	<b>Corrective Action Request No. 7:</b> The newest updated EF is on Jul.18 <sup>th</sup> 2008 from NDRC website, project owner is requested to revise the EF according to these data. <b>Clarification Request No. 3:</b> Please provide the excel document of EF to DOE.	CAR7 CR3	<input checked="" type="checkbox"/>
A.4.3.3. Are the figures consistent with the small-scale criteria for the used Type?	1,2,3,5	See A4.3.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.4. Public funding of the small-scale project activity</b>				

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A.4.4.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1,8, 17, 30	There is no public funding necessary; all costs are covered by the private equity. The Industrial Bank (Tianjin branch) has signed a letter of commitment with project owner. The document has been reviewed by the auditor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
A.4.4.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1,8, 17, 30	The statements both in this chapter and Annex 2 are consistent.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
A.4.5. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity														
A.4.5.1. Is there a registered small-scale CDM project activity or an application to register another small-scale CDM project activity: with the following characteristics:	1,8	<table><tr><th>Debundling checklist</th><th>Yes / No</th></tr><tr><td>the same project participants?</td><td>No</td></tr><tr><td>In the same project category and technology/measure?</td><td>No</td></tr><tr><td>Registered within previous two years? Or in registration process?</td><td>No</td></tr><tr><td>Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?</td><td>No</td></tr></table>	Debundling checklist	Yes / No	the same project participants?	No	In the same project category and technology/measure?	No	Registered within previous two years? Or in registration process?	No	Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Debundling checklist	Yes / No													
the same project participants?	No													
In the same project category and technology/measure?	No													
Registered within previous two years? Or in registration process?	No													
Whose boundary is within 1 km of the project boundary of the small scale project activity under consideration?	No													
A.4.5.2. If the answer to all the above question is ‘Yes’ then: Does the total size of the small scale project activity combined with previously registered small scale CDM project activity exceeds the limits of small scale CDM project activities?	1,8	N/A, The proposed project is not a debundled component of a larger project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
B. Application of a baseline and monitoring methodology														
B.1. Title and reference of the approved baseline and monitoring methodology applied to the small-scale project activity														
B.1.1.1.Are reference number, version number,	1-5	Yes, the applicable Small Scale baseline methodology I.D. AMS-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										

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and title of the baseline and monitoring methodology clearly indicated?		III.Q, “Waste gas based energy systems” (version 01, EB35, 2007), “Tool to calculate the emission factor for an electricity system”( version 01.1) and “Tool to calculate project emissions from electricity consumption” (version 01, 2007)” are clearly indicated.										
B.1.1.2.Is the applied version the most recent one and / or is this version still applicable?	1,2	Yes. At the time of GSP uploading, AMS-III.Q(version 1) has been the most recent one.	☑	☑								
B.2. Justification of the choice of the project category												
B.2.1. Is the applied methodology considered the most appropriate one?	1,5	Yes. The approved methodology AMS.III.Q is exactly applicable to the small scale WHR projects.	☑	☑								
Integrate the required amount of sub-checklists on the applicability criteria as given by the applied methodology and comment on at least every line answered with “No”;												
B.2.2. <u>Criterion 1</u> : Does the project uses waste gas and/or waste heat at existing facilities as an energy source for:  • Cogeneration • Generation of electricity • Direct use as process heat • For generation of heat in element process (e.g. steam, hot water, hot oil, hot air)	1,5	<table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></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>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.3. <u>Criterion 2</u> : Does the project use waste pressure to generate electricity at existing facilities?	1,5	<table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></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 / NA	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	☑	☑
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											

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B.2.4. <u>Criterion 3</u> : Is the recovery of waste/ heat a new initiative or an incremental gain in an existing practice?	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</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 / NA	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.5. <u>Criterion 4</u> : In case of an incremental gain: The difference between the technology used before and project activity implementation and the project technology should be clearly shown. It should be demonstrated why there are barriers for the project activity that did not prevent the implementation of the technology used before the project activity implementation.	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</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 / NA	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.6. <u>Criterion 5</u> : Do the emission reduction not increase 60 kt CO <sub>2</sub> equivalent annually?	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</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>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.7. <u>Criterion 6</u> : Is the energy produced with the recovered waste gas/ heat or waste pressure measurable?	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD								
		<table><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Compliance provable?	Yes	Compliance verified?	Yes						
Compliance provable?	Yes												
Compliance verified?	Yes												
B.2.8. <u>Criterion 7</u> : Is the energy generated in the project activity used within the facility where the waste gas/ heat or waste pressure is produced? Or is the electricity exported to the grid?	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</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>		Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No / NA												
Criterion discussed in the PDD?	Yes												
Compliance provable?	Yes												
Compliance verified?	Yes												
B.2.9. <u>Criterion 8</u> : Would the waste gas/ heat or waste pressure utilized in the project have been flared or released into the atmosphere in the absence of the project activity?	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</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>		Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No / NA												
Criterion discussed in the PDD?	Yes												
Compliance provable?	Yes												
Compliance verified?	Yes												
B.2.10. <u>Criterion 9</u> : In case 2.7 was answered with yes: Can this be proven by either: <ul style="list-style-type: none"><li>Direct measurements of energy content and amount of the waste gas/heat or waste pressure for at least 3 years prior to the start of the project.</li><li>Energy balance of relevant sections of the plant to prove that the waste gas/heat or waste pressure was not a source of energy</li></ul>	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</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>		Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No / NA												
Criterion discussed in the PDD?	Yes												
Compliance provable?	Yes												
Compliance verified?	Yes												



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before the implementation of the project activity. <ul style="list-style-type: none"><li>Energy Bills to demonstrate that all the energy required for the process has been procured commercially.</li><li>Process plant manufacturer's original specification/ information, schemes and diagrams from the construction of the facility could be used as an estimate of quantity and energy content of waste gas/heat produced for rated plant capacity per unit of product produced.</li></ul>												
B.2.11. <u>Criterion 10:</u> Is the Waste gas/heat/pressure defined as a by-product of machines and technical processes for which no useful application is found in the absence of the project activity. Can it be demonstrated, it has not been used prior to, and would not be used in absence of the CDM project activity.	1,5	<table><tr><td>Applicability checklist</td><td>Yes / No / NA</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>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No / NA											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.3. Description of the project boundary												
B.3.1. Does the project boundary include physical, geographical site where the project activity takes place?	1-5, 12	Yes, the project boundary of the North China Power Grid is clearly identified.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
B.3.2. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1-5, 12	Yes. The project boundary for the proposed project is represented by North China Power Grid.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

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B.4. Description of baseline and its development												
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?	1-8,12,23,24,30	Baseline options and combinations which should be considered: <table><tr><th>Defined and discussed in PDD?</th><th>Yes / No</th></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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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											
B.4.2. Does the project identify correctly and exclude those options not in line with regulatory or legal requirements?	1-8,12,23,24,30	Yes, project participants provided evidence and supporting documents to exclude those options not in line with regulatory and legal requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
B.4.3. Have applicable regulatory or legal requirements been identified?	1-8,12,23,24,30	Yes, “General Office of the State Council (2002), Notice of the General Office of the State Council concerning the Strict Prohibition of the Construction of Thermal Power Units with a Capacity of 135MW”	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
B.4.4. Does the PDD identify the most likely baseline scenario in absence of the project activity?	1-8,12,23,24,30	Yes, P1, P2 and P3 have not included, because they are irrelevant.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
B.4.5. Is this identification supported by official and/or verifiable documents (e.g. studies, web pages, certificates, etc)?	1-8,12,23,	Yes, <a href="http://www.gov.cn/gongbao/content/2002/content_61480.htm">http://www.gov.cn/gongbao/content/2002/content_61480.htm</a> has been used for supporting the identification.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

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	24, 30			
B.4.6. Is the identified baseline scenario in line with regulatory or legal requirements?	1-8, 12, 23, 24, 30	The combination of alternatives W1 and P4 is the baseline scenario of the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>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 small-scale CDM project activity:</b>				
<b>If the additionality tool has been used please answer B.5.1 to B.5.13</b>				
B.5.1. Has CDM been considered before the starting date of the project activity? What kind of evidences are available?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.2. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	--	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.5. In case of Option III (benchmark analysis): Is the most suitable financial indicator	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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clearly identified (IRR, NPV, cost benefit - ratio, or (levelized) unit cost)?					
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?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.12.	If similar activities are occurring: Is it demonstrated that in spite of these simi-	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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larities the project activity would not be implemented without the CDM component (step 4b)? How?																			
B.5.13. Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers?	-	N/A	☑	☑															
If the additionality tool has not been used please answer B.5.13 to B.5.18																			
B.5.14. If the starting date of the project activity is before the date of validation, is evidence available to prove that incentive from the CDM was seriously considered in the decision to proceed with the project activity?	1,8, 19	The project owner joined a CDM seminar which was held by China DNA at the beginning of 2006, and the CDM internal board meeting was held on May 26 <sup>th</sup> 2006. The evidence has been reviewed by DOE.	☑	☑															
B.5.15. Is a complete list of barriers developed that prevents the project activity to occur?	1,16, 17, 30	Yes. The investment barrier is identified.	☑	☑															
B.5.16. Does this list include at least one of the following barriers?	1,16, 17, 30	<table><tr><th>Barrier</th><th>Discussed?</th><th>Verifiable?</th></tr><tr><td>Investment</td><td>Yes</td><td>Yes</td></tr><tr><td>Technological</td><td>N/A</td><td>N/A</td></tr><tr><td>Due to prevailing practice</td><td>N/A</td><td>N/A</td></tr><tr><td>Other</td><td>N/A</td><td>N/A</td></tr></table>	Barrier	Discussed?	Verifiable?	Investment	Yes	Yes	Technological	N/A	N/A	Due to prevailing practice	N/A	N/A	Other	N/A	N/A	☑	☑
Barrier	Discussed?	Verifiable?																	
Investment	Yes	Yes																	
Technological	N/A	N/A																	
Due to prevailing practice	N/A	N/A																	
Other	N/A	N/A																	
B.5.17. Does the discussion sufficiently take into account relevant national and/or sectoral policies?	1,16, 17, 30	Yes	☑	☑															

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B.5.18. Is transparent and documented evidence provided on the existence and significance of these barriers?	1,16, 17, 30	The project owner has applied for the bank loan from several banks in Tianjin, but these banks refused to issue the loan to the project owner. The different transactors who work for the different banks have been interviewed by DOE. The Industrial Bank(Tianjin branch) finally agreed to issue the loan, for they were aware that the proposed project has been applied to be CDM project. The document of loan agreement has been delivered and reviewed by DOE.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.19. Is it appropriately explained how the approval of the project activity will help to overcome the identified barriers?	1,16, 17, 30	Yes, CDM will alleviate the investment barriers that prevent the proposed project activity from occurring <b><u>Corrective Action Request No. 8:</u></b> Any documents proving that CDM was considered prior to the project start should be delivered to the DOE. A time schedule should be added to the PDD for an easier assessment of the project timeline. The schedule should contain the project start, the consideration of CDM, the construction start, equipment purchase contract and any other major events such as issuance and approval of FSR, EIA etc.	CAR8	<input checked="" type="checkbox"/>
<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?	1-5	The calculation of Fcap and the emission reduction is applied according to the steps described in AMS.III.Q, AMS.I.C, AMS.I.D and "Tool to calculate the emission factor for an electricity system (version01)". <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>	CAR7 CR4	<input checked="" type="checkbox"/>

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		These steps are described in a transparent manner. The EF factors published by NDRC have been used. But see A4.3.2 <b><u>Clarification Request No. 4:</u></b> The Fcap calculation sheet with excel document is requested to deliver to DOE.								
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?	1-5	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.	☑	☑						
B.6.1.3.Determination of project emissions (Comment on any line answered “No”)										
B.6.1.4.Component 1: emissions from use of fossil fuel	1-5	There are no emissions from the use of fossil fuels due to the project activity. <table border="1"><tr><td>Project emission checklist</td><td>Yes / No</td></tr><tr><td>Component discussed in the PDD?</td><td>N/A</td></tr><tr><td>Formulae correctly applied?</td><td>N/A</td></tr></table>	Project emission checklist	Yes / No	Component discussed in the PDD?	N/A	Formulae correctly applied?	N/A	☑	☑
Project emission checklist	Yes / No									
Component discussed in the PDD?	N/A									
Formulae correctly applied?	N/A									
B.6.1.5.Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameters to be used and / or monitored?	1-5	Yes, it uses the baseline emission formulae and enables to use and monitor the parameters.	☑	☑						
B.6.1.6.Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used	1-5	There are no leakage emissions, thus formula not applicable.	☑	☑						

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and / or monitored?																						
B.6.1.7.Are the formulae required for the determination of emission reductions correctly presented?	1-5	Yes, the formulae required for determination of emission reductions are correctly presented.	☑	☑																		
B.6.2. Data and parameters that are available at validation																						
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?	1-5	Yes, a list of parameters is presented in Chapter B6.2.	☑	☑																		
B.6.2.2.Comment on any line answered with “No”																						
B.6.2.3. <u>Parameter Title:</u> Annual electricity supplied to the grid prior to retrofit (applicable only for retrofit and modification activities)	1-5	<table><tr><th>Data Checklist</th><th>Yes / No / NA</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Choice of data correctly justified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No / NA	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	Has this value been verified?	NA	Choice of data correctly justified?	NA	Measurement method correctly described?	NA	☑	☑
Data Checklist	Yes / No / NA																					
Title in line with methodology?	NA																					
Data unit correctly expressed?	NA																					
Appropriate description of parameter?	NA																					
Source clearly referenced?	NA																					
Correct value provided?	NA																					
Has this value been verified?	NA																					
Choice of data correctly justified?	NA																					
Measurement method correctly described?	NA																					
B.6.2.4. <u>Parameter Title:</u> Emission factor of the grid (CM)	1-5		☑	☑																		



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Note: CM should be calculated as per the procedures described in the "Tool to calculate the emission factor for an electricity system"		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.6.2.5. <u>Parameter Title:</u> Operating margin (OM) emission factor of the grid Note: OM should be calculated as per the procedures described in the "Tool to calculate the emission factor for an electricity system"	1-5	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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.6.2.6. <u>Parameter Title:</u> fuel consumption of each power source	1-5			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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		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.6.2.7. <u>Parameter Title:</u> emission coefficient of each fuel	1-5	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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																				
B.6.2.8. <u>Parameter Title:</u> electricity generation of each power source	1-5	<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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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.6.2.9. <u>Parameter Title:</u> fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)	1-5	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided?</td><td>NA</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Data Checklist	Yes / No																						
Title in line with methodology?	NA																						
Data unit correctly expressed?	NA																						
Appropriate description of parameter?	NA																						
Source clearly referenced?	NA																						
Correct value provided?	NA																						

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		Has this value been verified?	NA																				
		Choice of data correctly justified?	NA																				
		Measurement method correctly described?	NA																				
B.6.2.10. <u>Parameter Title:</u> electricity imports	1-5	<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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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.6.2.11. <u>Parameter Title:</u> CO <sub>2</sub> emission coefficient of fuels used in connected grids	1-5	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
Data Checklist	Yes / No																						
Title in line with methodology?	NA																						
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Appropriate description of parameter?	NA																						
Source clearly referenced?	NA																						

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		Correct value provided?	NA		
		Has this value been verified?	NA		
		Choice of data correctly justified?	NA		
		Measurement method correctly described?	NA		
B.6.3. <i>Ex-ante calculation of emission reductions</i>					
B.6.3.1.Is the projection based on the same procedures as used for future monitoring?	1-5	Yes, the same procedures are used for future monitoring which only considers the baseline emission and a little project emission.		☑	☑
B.6.3.2.Are the GHG calculations documented in a complete and transparent manner?	1-5	Yes, $ER_y=BE_y-PE_y=54579-4=54575\text{tCO}_2\text{e/year}$		☑	☑
B.6.3.3.If there is more than one component of the project activity, then, are emission reduction calculations provided separately for each component?	1-5	N/A		☑	☑
B.6.3.4.Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1-5	Yes, the data provided is consistent with data presented in other chapters of the PDD.		☑	☑
B.6.4. <i>Summary of the ex-ante estimation of emission reductions</i>					
B.6.4.1.Will the project result in fewer GHG emissions than the baseline scenario?	1-8	The project definitely will result in fewer GHG emissions than the baseline scenario.		☑	☑
B.6.4.2.Is the form/table required for the indication of projected emission reductions correctly applied?	1-8	Yes, the form is correctly applied according to the PDD template.		☑	☑

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B.6.4.3.If the project activity involves more than one component, is separate table included for each of the component.	1-8	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
B.6.4.4.Do these values comply with small-scale criteria for every year?	1-8	Yes, as the calculations are based on the capacity installed of 9 MW.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
B.6.4.5.Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1-8	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
B.6.4.6.Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1-8	Yes, the data provided is consistent with data presented in other chapters of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<b>B.7. Application of the monitoring methodology and description of the monitoring plan</b>														
<i>B.7.1. Data and parameters monitored</i>														
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?	1-5	<b><u>Corrective Action Request No. 9:</u></b> The list of parameters presented by chapter B.7.1. is considered not to be complete. The “Thermal and/or electrical energy produced” and the “Amount of waste gas or the amount of energy contained in the waste heat or waste pressure” shall be monitored and recorded.	CAR9	<input checked="" type="checkbox"/>										
B.7.1.2.Comment on any line answered with “No”														
B.7.1.2.1. <u>Parameter Title:</u> Thermal and/or electrical energy produced	1-5	See B7.1.1 <table border="1"><thead><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></thead><tbody><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></tbody></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	CAR9	<input checked="" type="checkbox"/>
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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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		<table><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>		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												
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.7.1.2.2. <u>Parameter Title:</u> In case of thermal energy: the enthalpy of the thermal energy output stream like hot water/ steam should be monitored.	1-5	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.2.3. <u>Parameter Title:</u> Amount of waste gas or the amount of energy contained in the waste heat or waste pressure	1-5	<p>See B7.1.1</p> <table><tr><td>Monitoring 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></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	CAR9	<input checked="" type="checkbox"/>														
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Data unit correctly expressed?	No																												
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Source clearly referenced?	No																												

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		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.7.2. Description of the monitoring plan					
B.7.2.1.Is the operational and management structure clearly described and in compliance with the envisioned situation?	1-5	The data recording method and the monitoring management structure are described in Chapter B.7.2.		☑	☑
B.7.2.2.Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1-5	Yes , but see B.7.2.3		☑	☑
B.7.2.3.Does the monitoring plan provide current good monitoring practice?	1-5	<b><u>Corrective Action Request No. 10:</u></b> Please illustrate the fundamental principles of the monitoring plan in a diagram.		CAR10	☑
B.7.2.4.If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1-5	N/A		☑	☑
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 the baseline was determined?	1-5	The baseline was determined on May 14 <sup>th</sup> , 2008.		☑	☑



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B.8.1.2.Has dd/mm/yyyy format been used to indicate the date.	1-5	Yes. The correct format has been applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.3.Is this consistent with the time line of the PDD history?	1-5	Yes, it is in line with the PDD history.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.4.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?	1-5	Yes, Mr. Gong Xingyi from Arreon Carbon UK Ltd. Is responsible for the application of the baseline and monitoring methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.5.Is information provided whether this person / entity is also considered a project participant?	1-5	Yes. Information is provided. The mentioned persons are project participants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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?		The project's starting date is 23/10/2007.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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)?	1-5, 19	7 years with potential for 2 renewals is chosen as the crediting period.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.2. Has dd/mm/yyyy format been used to indicate the start date of the crediting period.	1-5	Yes. The correct format is indicated.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<b>D. Environmental impacts</b>				
<b>D.1. If required by the host Party, documentation on the analysis of the environmental impacts of the project activity:</b>				
D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved? If yes answer also D.1.2 to D.1.4	1-11, 27	Yes, EIA has been proved and approved by Tianjin EPB on Jun.18 <sup>th</sup> 2007.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.2. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1-11, 27	Yes. The analysis of the environmental impacts of the project activity has been sufficiently described.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3. Will the project create any adverse environmental effects?	1-11, 27	Referring to the EIA and the approval of EIA, the project will create no negative environmental impacts.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.4. Were transboundary environmental impacts identified in the analysis?	1-11, 27	There are no transboundary impacts described neither in the EIA report nor its approval.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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?	1-11, 27	Referring to the EIA and the approval of EIA, there are no adverse environmental impacts from the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2. Does the project comply with environmental legislation in the host country?	1-11, 27	Yes, the project is in conformity with the environmental legislation of P. R. China and the EIA has been approved by the authorized organization.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<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?	1-5,28,31	The formal stakeholder consultation meeting was held and questionnaires have been distributed during the consultation meeting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1-5,28,31	The photos and videotape have been used to invite comments by local stakeholders.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	1-5,28,31	There are no regulations/laws in China for carrying out the stakeholder consultation process for this project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1-5,28,31	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>E.2. Summary of the comments received</b>				
E.2.1. Is a summary of the received stakeholder comments provided?	1-5,28,31	Yes, E.2. of the PDD gives a summary of stakeholder comments received during the meeting. <b><u>Corrective Action Request No. 11:</u></b> PDD mentioned that "88% consider that the project will not have any negative impact." Please introduce the other 12% people's opinion, how to solve the problem if they are convinced that the project will have any negative impact.	CAR11	<input checked="" type="checkbox"/>

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<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?	1-5,28,31	Yes, it is described in section E.3 in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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?	1,27,28	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2. Is the information on all private participants and directly involved Parties presented?	1,27,28	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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?	1,16,17,30	Yes. There is no public funding; all costs are covered by bank loans and private equity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	1,16,17,30	See F2.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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	Yes. The information presented in other sections of the PDD is in consistency with annex 3..	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1	Yes. The data are consistent with the NDRC issued data and have been verified by the audit team. But see A4.3.2	CAR7	<input checked="" type="checkbox"/>
F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD?	1	Yes. The information presented supports the statements given in section B.6.1, B.6.2 and B.6.3.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<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?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	-	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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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>Corrective Action Request No. 1:</u></b> Project participants need explain why the capacity of two cement clinker production lines are 2000t/d in FSR and its approval..	A2.1	Because of miscommunication between the PDD developer and the project owner, the capacity of the two clinker production lines was wrongly taken as 2400 t/d. This mistake has been corrected in the revised PDD.	<input checked="" type="checkbox"/> The PDD has been revised accordingly.
<b><u>Corrective Action Request No. 2:</u></b> It should indicate that "For more detailed contact information on participants in the project activities, please refer to Annex 1." in PDD	A3.1	The PDD has been revised as per request, as shown in section A.3.	<input checked="" type="checkbox"/>
<b><u>Corrective Action Request No. 3:</u></b> 1, Please detailed the GPS coordinates to "second" 2, It should be indicated in the PDD from where the GPS coordinates were taken. 3, No Chinese should be used in the maps.	A4.1.1	1. This GPS coordinates of the project have been detailed to seconds in section A.4.1.4 of the revised PDD. 2. It is indicated in the revised PDD that the GPS coordinates were taken in the generator room of the project. 3. An updated map exclusively in English is provided in the revised PDD.	<input checked="" type="checkbox"/> The GPS is 117°07'33"E, 39°16'41"N which is taken from the generator room of the project.
<b><u>Corrective Action Request No. 4:</u></b> In PDD, the parameters of boilers and generators should be consistent with equipment purchasing contract.	A4.2.6	The PDD was crosschecked with the equipment contract, and no major inconsistency was found. The only minor differences exist in the outlet gas temperatures for boilers, which are rounded up or down to integers in the PDD. But mathematically they are still consistent with the numbers in the equipment contract. As a result, no changes have been made in the PDD.	<input checked="" type="checkbox"/> The technical parameters of boilers and generators have been listed in the PDD and consistent with the equipment purchasing contract.
<b><u>Corrective Action Request No. 5:</u></b> The operational lifetime of the main project equipment should be mentioned in the PDD.	A4.2.8	The operational lifetime of the main equipment is estimated to be 30 years, which is reflected in section A.4.2 of the revised PDD.	<input checked="" type="checkbox"/> The operational lifetime is 30 years.

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<b><u>Corrective Action Request No. 6:</u></b> The project participants are requested to explain where does the total emission reduction(4,058,565) tCO <sub>2</sub> e come from?	A4.3.1	It is simply a typo, and has been corrected in the revised PDD, based on the updated annual emission reductions of the project activity.	<input checked="" type="checkbox"/> The total emission reduction(382,025) tCO <sub>2</sub> e has been revised in the PDD.
<b><u>Corrective Action Request No. 7:</u></b> The newest updated EF is on Jul.18 <sup>th</sup> 2008 from NDRC website, project owner is requested to revise the EF according to these data.	A4.3.2	The latest published EF by the Chinese DNA is adopted in the updated PDD, as per request.	<input checked="" type="checkbox"/> The newest updated EF has been revised in the PDD.
<b><u>Corrective Action Request No. 8:</u></b> Any documents proving that CDM was considered prior to the project start should be delivered to the DOE. A time schedule should be added to the PDD for an easier assessment of the project timeline. The schedule should contain the project start, the consideration of CDM, the construction start, equipment purchase contract and any other major events such as issuance and approval of FSR, EIA etc.	B5.19	As per EB 41/Annex 46, the major events related to the implementation as well as the serious prior CDM consideration of the project are tabulated at the beginning of section B.5. The table covers the events such as awareness of the CDM prior to the project activity start date, the serious early consideration of CDM, the signing of loan contract, the equipment contract, the CDM term sheet, and the ERPA, etc., which should be sufficient to evaluate both the serious CDM consideration prior to the project start date and the real and continuing actions to taken to secure the CDM status for the project in parallel with its implementation. All relevant evidences are also provided.	<input checked="" type="checkbox"/> According to the timetable of key events in B5, the CDM consideration is logical and credible, which is consistent with the EB41, annex46, paragraph 5 and 6.
<b><u>Corrective Action Request No. 9:</u></b> The list of parameters presented by chapter B.7.1. is considered not to be complete. The "Thermal and/or electrical energy produced" and the "Amount of waste gas or the amount of energy contained in the waste heat or waste pressure" shall be monitored and recorded.	B7.1.1	The monitoring of "electrical energy produced" was clearly reflected by parameter EG <sub>PJ,y</sub> in section B7.1 of the PDD, and thus it remains unchanged. The monitoring of "amount of energy contained in the waste heat" was reflected by parameter Q <sub>WG,y</sub> , but some updates have been made to reflect the changes on its monitoring procedures. Section B7.2 of the PDD has been updated accordingly.	<input checked="" type="checkbox"/> The required parameters have been added into the PDD.
<b><u>Corrective Action Request No. 10:</u></b>	B7.2.3	A monitoring diagram was added in section B.7.2 of the	<input checked="" type="checkbox"/>

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Please illustrate the fundamental principles of the monitoring plan in a diagram.		revised PDD.	A monitoring diagram has been added in the PDD, which is consistent with the current situation.
<b><u>Corrective Action Request No. 11:</u></b> PDD mentioned that "88% consider that the project will not have any negative impact." Please introduce the other 12% people's opinion, how to solve the problem if they are convinced that the project will have any negative impact.	E2.1	As stated in the revised PDD, the other 12% of the stakeholders interviewed are concerned that implementation of the project may result in either noise pollution or water pollution or both. In response to their comments, a follow-up meeting was held in which all the related individual stakeholders were invited and present. In the meeting, the corresponding actions, which actually have already been incorporated in the project designing, to be taken to ease the stakeholders' concerns in noise and water pollution were explained in details by the project owner. And all invited stakeholders reached consensus that no harmful environmental impact would be caused by the project activity.	<input checked="" type="checkbox"/> The second stakeholder's meeting was held and the stakeholders were satisfied the project owner's solution. The evidence has been provided to DOE.
<b><u>Clarification Request No. 1:</u></b> Please deliver the Grid connection approval to DOE.	A2.2	Provided.	<input checked="" type="checkbox"/> The Grid connection approval has been delivered to the DOE.
<b><u>Clarification Request No. 2:</u></b> The training documents should be delivered to DOE.	A4.2.9	Provided.	<input checked="" type="checkbox"/>
<b><u>Clarification Request No. 3:</u></b> Please provide the excel document of EF to DOE.	A4.3.2	Provided.	<input checked="" type="checkbox"/>
<b><u>Clarification Request No. 4:</u></b> The Fcap calculation sheet with excel document is requested to deliver to DOE.	B6.1.1	Provided, together with the ER calculation sheet.	<input checked="" type="checkbox"/> The Fcap calculation sheet was sent to DOE, and its



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			calculation is consistent with the Methodology.
<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	Provided.	<input checked="" type="checkbox"/>

**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.	14/05/2008  31/05/2009	PDD “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project”, Version 01 PDD “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project”, Version 02	Arreon Carbon UK Ltd.	PDD for GSP
2.	19/10/2007	The approved baseline and monitoring methodology applied in the proposed project activity is AMS-III.Q, “Waste gas based energy systems”, Version 01.	UNFCCC	
3.	19/10/2007	Tool to Calculate the Emission Factor for an Electricity System, Version 01	UNFCCC	
4.	Nov.2005	Appendix B of the simplified modalities and procedures for small-scale CDM project activities	UNFCCC	
5.	2007	Tool to calculate project emissions from electricity consumption	UNFCCC	
6.	03/07/2008	Participant list of on-site interviews	TÜV SÜD	
7.	03/07/2008	On-site interviews conducted by TÜV SÜD. <b>Validation Team:</b> Li Ruifeng      Jiangsu TÜV Product Service, Beijing Branch Huang Qin      Jiangsu TÜV Product Service, Beijing Branch <b>Interviewed Persions:</b> Han Xiaoguang      Tianjin Zhenxing Cement Co., Ltd Niu Hailong      Tianjin Zhenxing Cement Co., Ltd Liu Dalin      Tianjin Zhenxing Cement Co., Ltd Lou Jie      Tianjin Zhenxing Cement Co., Ltd Gong Xingyi      Arreon Carbon UK Ltd.	TÜV SÜD	

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		Men Shaodong      Arreon Carbon UK Ltd. Wang Xin      Arreon Carbon UK Ltd.		
8.	Apr.2007	Feasibility Study Report for CDM project “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project”	Tianjin cement industrial design institute.	
9.	15/05/2007	Approval of Feasibility Study Report “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project”	Tianjin Development and Plan Bureau	
10.	04/06/2007	EIA report “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project”	Tianjin cement industrial design institute.	
11.	18/06/2007	Approval of EIA Report “Tianjin Zhenxing Cement Waste Heat Recovery for Power Generation project”	Tianjin EPB	
12.	28/01/2008	Grid connection approval	Tianjin Power company	
13.	25/05/2006	CDM resolution meeting minute	Tianjin Zhenxing Cement Co., Ltd	
14.	28/06-2007	CDM second resolution meeting minute	Tianjin Zhenxing Cement Co., Ltd	
15.	April 2006	CDM seminar	China NDRC	
16.		The different bank transactors’ contacted information		
17.	06/08/2007	Bank loan agreement based on CDM potential	The Industrial Bank(Tianjin	

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			branch)	
18.	10/10/2008	Training contract & invoice	Tianjin Zhenxing Cement Co., Ltd and Tianjin Xin Guangming Professional Technology college	
19.	23/10/2007	Equipment Purchasing contract	Hangzhou zhongneng turbine power Co.,Ltd	
20.	10/03/2008	The starting construction report	Tianjin Zhenxing Cement Co., Ltd	
21.	09/01/2007	CER term sheet	Arreon Carbon UK Ltd. and Tianjin Zhenxing Cement Co., Ltd	
22.	01/04/1997 to 09/01/2037	Business license "Tianjin Zhenxing Cement Co., Ltd"	Tianjin business bureau	
23.	August 2007	The first Stakeholders meeting minutes	Tianjin Zhenxing Cement Co., Ltd	
24.	26/09/2007	The Second Stakeholders meeting minutes	Tianjin Zhenxing Cement Co., Ltd	
25.	15/01/2007	Financing audit report in 2006	Beijing Xinghua	

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			certified public accountants	
26.	April 2007	Manufacturer's original diagram of the clinker production lines before WHR was installed	Tianjin cement industrial design institute	
27.	18/01/2008	China LoA	China NDRC	
28.	05/03/2008	UK LoA for Arreon Carbon	DEFRA, UK	
29.	26/12/2007	MoC	Arreon Carbon UK Ltd., Credit Suisse International, and Tianjin Zhenxing Cement Co., Ltd	
30.	24/07/2007	Bank loan refusal letter	Construction bank Tianjin branch	
31.	August 2007	Stakeholders questionnaire	Tianjin Zhenxing Cement Co., Ltd	
32.	2002	Notice on Strictly Prohibiting the Installation of Fossil Fuel-fired Generators with the Capacity of 135 MW or below issued by the General Office of the State Council	General Office of the State Council	
33.		Investment analysis calculation		
34.		Proof of waste heat amount per ton of product		

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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)
35.		Proof of self financing capability of 35%		
36.	15/04/2008	LoA from UK for Credit Suisse	DEFRA UK	