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Validation Report

EDF Trading Limited

VALIDATION OF THE CDM-PROJECT:
JILIN LIAOYUAN 50MW
LEVEL BIOMASS COGENERATION PROJECT

REPORT NO. 1041281

01-03-2010

TÜV SÜD Industrie Service GmbH
Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

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Subject: Validation of a CDM Project			
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body "Climate and Energy" Westendstr. 199 80686 Munich Germany		TÜV SÜD Contract Partner: Jiangsu TUV Product Service Ltd. Beijing Branch Unit 0918, Landmark Tower 2 100004 Beijing P.R. China	
Project Participant: EDF Trading Limited 71 High Holborn, London WC1V 6ED United Kingdom National Bio Energy Co., Ltd. No.26B, Financial Street, Xicheng District, Beijing P. R. China		Project Site(s): National-Liaoyuan Bio Energy Co., Ltd renao Street, Shoushan Town Liaoyuan City, 136200 Jilin Province P.R. China 125°15'23" E / 42°55'24" N	
Project Title: Jilin Liaoyuan 50MW Level Biomass Cogeneration Project			
Applied Methodology / Version: ACM0006, Version 04 and 06.2		Scope(s): 1	Technical Area(s): 1.2
First PDD Version: Date of issuance: 12-04-2007 Version No.: 03 Starting Date of GSP 19-04-2007 (1 st GSP) 29-02-2008 (2 nd GSP)		Final PDD version: Date of issuance: 15-02-2010 Version No.: 08	
Estimated Annual Emission Reduction:		304 279 t CO ₂ equivalent	
Assessment Team Leader: Dr. Sven Kolmetz		Further Assessment Team Members: Xiaoying Chen Robert Scharpenberg	
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

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



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1 INTRODUCTION

1.1 Objective

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

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

Jilin Liaoyuan 50MW Level Biomass Cogeneration 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 Request 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 Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CR) is used when the validation team has identified a need for further clarification. Forward action request 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 (scope and technical areas are presented on page 1 of this report).

Name	Qualification	Coverage of technical scope	Coverage of Technical Area(s)	Coverage of sector expertise	Host country experience
Dr. Sven Kolmetz	ATL	☑	☑	☑	☑
Xiaoying Chen	GHG-A	☑	☑	☑	☑
Robert Scharpenberg	GHG-A	☑	☑	☑	

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

Ms. Xiaoying Chen is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. She is based in Beijing. In her position she is responsible for the implementation of validation, verification and certifications audits for management systems. She has received training in the CDM validation process and participated already in several CDM project assessments.

Robert Scharpenberg is a GHG auditor for CDM / JI validations and verifications at TÜV SÜD Industrie Service GmbH in Munich. He has received initial training as auditor and in diverse aspects of the flexible mechanisms. Before he joined TÜV SÜD he worked as project developer in several JI projects, contributing to his background knowledge of the Kyoto requirements and procedures.

2.2 Review of Documents

A first version of the PDD was submitted to the DOE in April 2007. The first PDD version submitted by the PP and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility and interpretation of the presented information. Due to an expiring Version 04 of ACM0006, the GSP had to be repeated in February 2008. The revised PDD is based on Version 06 of ACM0006. The information from the PDD was crosschecked with information from other sources. A complete list of all documents and proofs reviewed is attached in Annex 2 to this report.

2.3 Follow-up Interviews

On June 7th, 2007 TÜV SÜD performed interviews, telephone conferences and physical site inspection with project stakeholders to confirm relevant information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

Name	Organisation
Mr. Li Weiguo	Manager of supervision department of “Liaoyuan Biomass Power Generation Co., Ltd”
Mr. Xiao Bing	Manager of CDM department of “National Bio Energy Co., Ltd”
Ms Li	CDM manager of “Liaoyuan Biomass Power Generation Co., Ltd”
Ms. Zhao	CDM manager of EDF

2.4 Further cross-check

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

2.5 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD’s conclusion on the project design. The CARs and CRs raised by TÜV SÜD were resolved during communi-

cation 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 February 2010 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 quoted in this section and in Annex 1 are listed in Annex 2.

3.1 Approval

The project participants are “National Bio Energy Co., Ltd.” (NBE) of People’s Republic of China and EDF Trading Limited of United Kingdom of Great Britain and Northern Ireland. The host Party China and further participant Parties United Kingdom of Great Britain and Northern Ireland meet the requirements to participate in the CDM.

The DNA of the United Kingdom has issued a LoA (IRL 21) on 11 March 2009, authorizing EDF as a project participant. The DNA of China has also issued a LoA (IRL 20) on 22 May 2007 authorizing NBE as a project participant. TÜV SÜD received these letters from the project participants directly and considers the provided letters as authentic.

The LoA from the United Kingdom has been crosschecked with the Email communication from the UK DNA. The China LoA has further been checked with the CDM project webpage sponsored by the Department of Climate Change, NDRC (<http://cdm.ccchina.gov.cn>), which confirms the approval of this CDM project under the registration number 280.

Furthermore, after checking the provided LoAs, TÜV SÜD confirms that both letters refer to the proposed CDM project activity title in line with the title in the PDD “Jilin Liaoyuan 50MW Level Biomass Cogeneration Project”.

Both letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the “Jilin Liaoyuan 50MW Level Biomass Cogeneration Project” is voluntary. The Chinese LoA also confirms that the proposed CDM project activity contributes to the sustainable development of China (host country). Based on the information given in these letters, TÜV SÜD considers the approval as unconditional with respect to these items.

Both LoAs have been issued by the respective Party’s DNA, the National Development and Reform Commission of the People’s Republic of China and the Department for Environment, Food and Rural Affairs in the UK, 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:

The “Jilin Liaoyuan 50MW Level Biomass Cogeneration Project” is located in Liaoyuan City, Jilin Province, P.R.China. Liaoyuan City is one of the biggest agriculture bases in the central part of Jilin province. The planned project will utilize local surplus biomass residues (maize stalk) for generating heat and electricity. The installed capacity is 50MW.

Two straw-fired imported boilers will be installed, plus turbines and generators, which are produced domestically. The project will also establish 4 straw collection stations within a 35km radius around the plant. It is estimated that the Project can deliver 308 GWh of electricity to the Northeast China Grid and supply 1.22 million GJ of heat to Liaoyuan County per year, consuming nearly 396,480 t of maize stalk.

The pre-project situation and the baseline scenario are identical:

- electricity is produced within the Northeast China Grid;
- heat to supply consumers of Liaoyuan Industrial Development Zone is produced from burning fossil fuels;
- straw is dumped or left for to decay in an uncontrolled manner.

The proposed project will achieve emission reductions from displacing grid electricity and avoiding CH₄ emissions from straw decay or burning. The estimated annual GHG emission reductions are 304,279 t CO₂e. Emission reductions from heat will not be claimed (see Chapter 3.5.3. below).

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 ACM0006, Version 06 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 in Annex 1 documents the assessment process, including the steps taken. The results of the compliance check as well as the relevant evidence are explicitly presented in annex 1.

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

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

3.5.2 Project boundary

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

The project boundary was defined by the PPs in accordance with provisions ACM0006. It includes the power plant at the project site, all power plants connected physically to the Northeast China Grid, sites where biomass residues would have been left to decay, and the means for transportation of biomass to the project site.

This project boundary is also in compliance with the boundary given in ACM0002, which is used for determining baseline emissions that are associated with grid electricity generation.

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

- Feasibility Study Report (IRL 6)
- Land use permission, issued by Liaoyuan government (IRL 15)

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.

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

In the PDD the following baseline scenario has been defined:

- For power (P4): The generation of power in the grid
- For heat (H6): The generation of heat in boilers using coal as fossil fuels.
- For biomass use (B1 or B3): The biomass residues are dumped or left to decay under mainly aerobic conditions. This applies for example, to dumping and decay of biomass residues on fields. The biomass residues are burnt in an uncontrolled manner without utilizing it for energy purposes.

The information presented in the PDD has been validated by a first document review, 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, in particular the officially approved Feasibility Study Report FSR (IRL 6).

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 sector 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.

During EB 52 "the Board agreed to register, subject to satisfactory corrections, Jilin Liaoyuan 50 MW Level Biomass Cogeneration Project" (2563) if the project participant and DOE (TÜV-SÜD) submit a revised PDD and the corresponding validation report which incorporate the information submitted in response to the review's teams questions, regarding the validation of the baseline and which excludes the baseline emissions claimed from heat displacement".

The additional information together with the review team's questions is provided as follows:

Response to the Request for Review, 08.10.2009

Issue 1

The DOE is requested to provide further clarifications how they have validated the baseline scenario is appropriate for the project, given that the: (i) baseline alternative H6 has been eliminated without sufficient justification; and (ii) DOE has not sufficiently validated that the heat, in absence of project activity, would have been generated from coal and not from other less carbon intensive fossil fuels.

Response by TÜV SÜD

(i) baseline alternative H6 has been eliminated without sufficient justification;

There seems to be a misunderstanding. Baseline alternative H6 has not been eliminated; it has been determined as the baseline scenario of the heat generation part of the project.

(ii) DOE has not sufficiently validated that the heat, in absence of project activity, would have been generated from coal and not from other less carbon intensive fossil fuels.

In general, in the Jilin province where the project is located, heat is generated from coal. This applies to large scale industrial and domestic heat supply systems. Only in very few exceptional cases,

heat is generated from other sources such as natural gas or diesel. This assessment is confirmed by the local auditors of TÜV SÜD.

However, in the case of the Jilin Liaoyuan project, no heat supply contract has been signed with a consumer up to now. Therefore the DOE cannot confirm with 100% certainty that the heat baseline will be coal. We suggest to include this issue in the Forward Action Request and to ask the verifying DOE to validate the heat baseline at the time of verification and to take appropriate action if coal is not the baseline (if there is a heat supply contract at that time).

Issue 2

The DOE is requested to further clarify if the: (i) project boundary includes the heat/ thermal energy users; and (ii) heat consumed and its net calorific value will be monitored at the generation end or at the supply end, at the site where heat is actually consumed.

Response by TÜV SÜD

Currently the project boundary does not include the heat / thermal energy users. This is in compliance with the applicable methodology ACM0006 / Version 06. Heat monitoring is foreseen to take place at the generation end.

However, as outlined above and in the PP's response, no heat supply contract has been signed yet with a consumer. Therefore the location of the heat consumer(s) is not yet determined, and it is not known whether or not baseline heat is generated at the consumption site or in a separate, more distant location. Therefore monitoring heat at the generation end may not be conservative, because heat transmission losses may be counted towards emission reductions which may not have occurred in the baseline scenario. In this case, monitoring of heat consumption at the consumption end or an adjustment of the heat consumption for transmission losses may be required.

In order to ensure a conservative monitoring approach, we suggest to add this issue to the Forward Action Request and to consider a revision of the monitoring plan prior to the request for issuance (if required). The project boundary shall be adjusted following this Request for Review and include the heat consumers.

Response to the Under Review, 18.12.2009

Question 1

The DOE is requested to provide further clarifications how they have validated the baseline scenario is appropriate for the project activity, given that:

- (i) the user/ consumer of steam has not been identified and the PP has no control over the users of the steam;
- (ii) the DOE has not sufficiently validated that the heat, in absence of project activity, would have been generated from coal and not from other less carbon intensive fossil or biomass fuels or from other renewable sources;
- (iii) there is an uncertainty that the heat displaced will not change/vary with the identification of user/ consumer of the steam;
- (iv) there is an uncertainty that the residual life of the boilers displaced in the baseline would be sufficiently large so that they will not be replaced anyway on its own;

- (v) there is an uncertainty that the project boundary is steady and will not change with the identification of user/ consumer of the steam;
- (vi) there is an uncertainty that the steam cannot not be measured at the user/ consumer end; and
- (vii) there is an uncertainty that the forecasted baseline emissions claimed from heat are conservative.

If the DOE is not able to substantiate the heat baseline of the project activity with 100% assurance, then as a conservative measure they can choose not to claim baseline emissions from the heat displacement.

Response by TÜV SÜD

The PP have chosen not to claim baseline emissions from heat displacement.

Question 2

The DOE is requested to clarify how the DOE has chosen to address the issue related to the establishment of the baseline by a FAR and not by a CAR. In doing so the DOE is requested to clarify how they have complied with the requirements of the paragraph 35, 37 and 80 of the VVM (version 01).

Response by TÜV SÜD

The text of the FAR to which Question 2 refers to reads:

Forward Action Request No. 1:

“The verifying DOE is requested, as part of the verification assessment, to validate heat production and supply and to ensure that emission reductions from heat supply are claimed only if there is a heat supply contract with a consumer according to the PDD and the methodology.”

Comment in the validation report: The FAR is required because at the time of preparing the validation report, a consumer of heat had not been identified and a contract for heat supply had therefore not been concluded.

During the on-site assessment no information or evidence was available for any other heat baseline than coal in the Jilin Province. This is confirmed by local knowledge of TÜV SÜD for the region. The coal baseline is the most likely baseline scenario, and we would like to emphasize that through the FAR it is ensured that emission reductions from heat can only be claimed if the heat consumers are identified and if the heat baseline is in accordance with the assumptions in the PDD and the applied methodology.

We also would like to point out that during project planning and implementation there cannot be 100% assurance of the baseline. 100% assurance can only be achieved after verification of the actual installation through a verification audit. Therefore a review of the project implementation during verification is always required, and the EB's position on this issue is reflected in the recent guidance and procedures published as Annex 66 and 67 to the EB48 report (guidance and procedures for no-

tifying and requesting approval of changes from the project activity as described in the registered PDD).

We therefore take a slightly different view of the requirement to substantiate the heat baseline of the project activity with 100% assurance, as it is expressed in the list of questions above. However, as the PP do not have evidence for the heat consumers, they decided not to claim baseline emissions from heat so that the FAR is no longer required.

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 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

As per the methodology, baseline emissions may consist of:

- Baseline emissions from electricity generation;
- Baseline emissions from heat production;
- Baseline emissions from biomass decay/burning.

In the project, only baseline emissions from electricity and biomass decay/burning are included. For the reasons why heat baseline emissions are excluded, see Chapter 3.5.3 above.

Baseline emissions from electricity generation

The calculation of baseline emissions due to displacement of electricity follows the procedures described in the methodology ACM0006, Version 06, in combination with ACM0002, Version 07 and Version 01 of the “Tool to calculate the emission factor for an electricity system”. The Northeast China Power Grid is considered to be the project boundary. The data used to calculate the emission factor were the latest available data at the start of the validation process.

The operating margin emission factor (EFOM) 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 (EFBM) was based on modified methods agreed by the EB, because plant specific data are not available in China. The emission factor of the thermal power plants was calculated by the proportion of the emissions of coal, gas and oil times the emission factor of the best available coal, gas and oil power plant as defined and published by the Chinese DNA. The new thermal capacity installation that exceeded 20% in the last years, for which data was available, was finally assessed with this factor.

The value for the combined margin emission factor (EFCM) was determined using the weighted average of the EFBM and EFOM using the default values for the factors as described in the methodology.

The calculated EFOM for the Northeast China Grid is 1.202 t CO₂-equ./MWh, the calculated EFBM is 0.790 t CO₂-equ./MWh. The resulting combined margin (EF_{grid}) is 0.996 t CO₂-equ./MWh. These values are slightly below the most recent factors calculated and published by the Chinese DNA at the time the validation process started (April 2007). Therefore the emission factors that are used in the PDD can be considered conservative.

Baseline emissions from biomass decay/burning

Baseline emissions from biomass decay/burning are estimated by determining the quantity of biomass residues used as a result of the project activity and estimating methane emissions from burning the residues on the fields. Because of the mostly aerobic treatment of the straw, the PPs do not assume any methane emissions from anaerobic decay. Therefore baseline emissions are calculated by multiplying the quantity of biomass residues that would not be used in the absence of the project activity with the net calorific value and an appropriate emission factor. Due to the high uncertainty of the CH₄ emission factor for uncontrolled burning of maize stalk, a conservativeness factor of 0.73 is used, which corresponds to an estimated uncertainty of greater than 100% according to the methodology. The resulting CH₄ emission factor for maize stalk is 0.001971 t CH₄/t_{biomass}

3.5.5 Project emissions

As per methodology, project emissions shall include:

- CO₂ emissions from transportation of biomass residues to the project site (PET_y);
- CO₂ emissions from on-site consumption of fossil fuels due to the project activity (PEFF_y);
- CO₂ emissions from consumption of electricity (PE_{EC,y});
- Where this emission source is included in the project boundary and relevant: CH₄ emissions from the combustion of biomass residues (PE_{Biomass,CH₄,y}); (*here: maize stalk*)
- Where waste water from the treatment of biomass residues degrades under anaerobic conditions: CH₄ emissions from waste water

Except for project emissions from waste water from the treatment of biomass residues, all sources for project emissions as identified per methodology are considered in the PDD and in the calculation of emission reductions.

3.5.6 Leakage

According to the methodology, the main potential source of leakage for this project activity is an increase in emissions from fossil fuel combustion or other sources due to diversion of biomass residues from other uses to the project plant as a result of the project activity (ACM 0006, Version 06, Scenario 2, page 44).

For the baseline scenario used in the project activity (Scenario 2), the PPs shall demonstrate that the use of the biomass residues does not result in increased fossil fuel consumption elsewhere. For this purpose, PPs shall assess as part of the monitoring the supply situation for the types of biomass residues used in the project plant.

In order to assess the biomass residues supply situation, the PPs chose Option L₂ of the methodology, which requires demonstrating in the monitoring that there is an abundant surplus of biomass residues in the project area which is not utilized. For this purpose the methodology requires the PPs to demonstrate that the quantity of the biomass residue is at least 25% larger than the quantity of biomass residues that are utilized, including the project plant.

In the PDD it is demonstrated, that the quantity of available biomass residues within a radius of 50 km around the project plant (1,328,559 t) is about 54% larger than the quantity of biomass residues that are utilized, including the project (464,995 t for household use, 396,480 t in the project plant).

The DOE confirms that available evidence (IRL6, approved feasibility study) is sufficient to confirm that due to the abundant surplus of biomass residues in the region of the project activity, the occurrence of leakage from the project activity is unlikely.

3.5.7 Emission Reductions

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

3.6 Additionality

The additionality of the project has been demonstrated in the PDD using Version 02.2 of the “Combined tool to identify the baseline scenario and demonstrate additionality”. The PPs are applying the barrier analysis and demonstrate that the project is the first of its kind in the province (see 3.6.4. below).

During the on-site audit as well as in various telephone conferences and meetings after the audit, the additionality of the project has been discussed with the management of the project company (Liaoyuan Biomass Power Generation Co., Ltd., a subsidiary of National Bio Energy Co., Ltd.) and representatives of the second project participant (EDF Trading Limited).

Finally the data, rationales, assumptions, justifications and documentation provided have been checked using local knowledge and sector expertise of TÜV SÜD. Based on these validation steps we 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 as the signing of the boiler purchasing contract on February 8, 2006 (IRL 10). Validation of the project started in April 2007.

The starting date of the project activity is before 02 August 2008 and also before the GSP starting date. The PPs have presented to the assessment team the following documentation in order to demonstrate serious consideration of the CDM prior to project start:

- CDM Consideration No. 1: *Weekly meeting minutes of NBE (holding company) (confidential). Dated Nov. 28, 2005. Signed and distribute by: Zhan Yi. Date: 9:00 am, Nov.28, 2005 (IRL30).*
- CDM Consideration No. 2: *Decision Report of the first Board Meeting of National Bio Energy Liaoyuan Co., Ltd. (project company). Time: 28 March 2006. Place: Beijing (IRL31).*

A copy of the documentation has been reviewed. The documentation is appropriate to confirm the consideration of the CDM prior to the investment decision. 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
Letter of interest from EDF (buyer) in participating in the CDM project	<i>EDF Trading. Letter of Interest concerning Jilin Liaoyuan project. 1st August, 2006.(IRL 32)</i>
CER Term Sheet	<i>Term sheet regarding certified emission reductions between NBE Ltd. and EDF Trading Ltd. Signed September 2006. (IRL 34)</i>
CDM Project development contract	<i>Jilin Liaoyuan Project Development Agreement between EDF Trading Ltd. and Beijing Yuan Century Control Engineering Technology Ltd. 28th September 2006. (IRL 35)</i>
CDM ERPA	<i>CDM ERPA between NBE Ltd. And EDF Trading Ltd. 16th March 2007. (IRL33)</i>
GSP Start	<i>19 April 2007 (see CDM website)</i>

The sequence of documents confirms that the PPs have taken real action to continue the project activity as project under the CDM. 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 and heat.

The list of alternatives to supply the outputs mentioned above, which is presented in the PDD, includes:

- The project activity undertaken without being registered as CDM project;
- The “business as usual” scenario, which is supply of power by the regional grid and generation of heat using fossil fuels.

These alternatives do include all plausible scenarios taking into account the local and sectoral situations for the outputs mentioned. Hence the list of alternatives is considered to be complete.

3.6.3 Investment analysis

Not applicable. The project participants are using a barrier analysis for demonstrating additionality of the project.

3.6.4 Barrier analysis

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

- Lack of prevailing practice (“first of its kind”);
- Investment barriers;
- Technological barriers.

The lack of prevailing practice and its associated technological and investment risks have been identified by the client as the main barrier preventing the project from implementation without support from the CDM. The region for the analysis of prevailing practice has been defined as the Jilin Province.

The assessment team has verified this information through an analysis of an official source, the Chinese Power Yearbook 2007 (IRL 28). This information confirms that there are no existing biomass based power projects in the province and in the region. This assessment is supported by a newspaper article reporting the development of straw fired power generation in China (IRL 27). According to this article, on January 18, 2007 only three straw fired power plants existed in China, which were all located outside the Northeast China region. The starting date of the project activity is February 8, 2006 (boiler purchasing contract, IRL 10).

It is confirmed that the proposed CDM activity is the first of its kind in the Jilin Province. The result of this assessment shows clearly that the barrier presented in the PDD can be considered real.

This barrier does prevent the project activity and would not prevent at least the baseline of the project, which is the continued use of electricity and heat from public sources.

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 because of “first of its kind” barrier.

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; this information 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 data management and in general the quality assurance and quality control procedures to be implemented in the context of the project. The PPs will install a Data Management System consisting of documentation, cross-checking, and reporting, as well as a CDM Working Group in charge

of data management and monitoring activities. 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 consulted by survey (questionnaire). The evidence of these invitations is IRL 18. The assessment team has reviewed the documentation in order to validate the inclusion of relevant stakeholders. Using local TÜV SÜD expertise we 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 into due account by the PPs; this was cross checked with information obtained during the interviews. The local stakeholder consultation has been adequately performed according to the CDM requirements.

3.10 Environmental impacts

The project participants undertook an environmental impact assessment. The assessment team made a document review of the information presented. IRL 8 (EIA approval) confirms 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 the 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:

webpage: http://www.netinform.net/KE/Wegweiser/Guide2.aspx?ID=2892&Ebene1_ID=26&Ebene2_ID=868&mode=0	
Starting date of the global stakeholder consultation process: 2007-04-19	
Comment submitted by: None	Issues raised: -
Response by TÜV SÜD: -	

5 VALIDATION OPINION

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

Jilin Liaoyuan 50MW Level Biomass Cogeneration 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, 01-03-2010



Thomas Kleiser

Certification body "Climate and Energy"
TÜV SÜD Industrie Service GmbH

Munich, 01-03-2010



Dr. Sven Kolmetz

Assessment Team Leader (ATL)

Validation of the CDM Project:
Jilin Liaoyuan 50MW Level Biomass Cogeneration Project



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Annex 1: Validation Protocol

Validation Protocol

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Table 1 Conformity of Project Activity and PDD (ACM0006, Version 04)

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
A. General description of project activity					
A.1. Title of the project activity					
A.1.1.	Does the used project title clearly enable to identify the unique CDM activity?	1, 2	The project is titled with the project location, the energy source and power capacity. Hence, it can be clearly identified.	☒	☒
A.1.2.	Are there any indication concerning the revision number and the date of the revision?	1, 2	The available PDD is indicated as 03 version dated 12/04/2007. Corrective Action Request 1: The revision history should be included in the PDD.	CAR1	☒
A.1.3.	Is this consistent with the time line of the project's history?	1, 2	Yes, it is.	☒	☒
A.2. Description of the project activity					
A.2.1.	Is the description delivering a transparent overview of the project activities?	1, 2	The project is described in a transparent manner. Corrective Action Request 2: Please indicate the project developer in the PDD and include a time table with the main steps of project implementation for the past (documented) and for the future (expected) – see CAR5. The geographical data should be delivered including the seconds in chapter A.4.1.4.	CAR2	☒
A.2.2.	What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2 6, 7, 8, 9, 10	The project activity is the displacement of electricity provided by the local grid (mainly from coal fired power plant) with electricity generated from biomass resources and supply heat generated from biomass residues. The following data deliver evidences for the project activity: - Existence of vast biomass residues at collection sites and transport vehicles - Feasibility study Clarification Request No. 1. Please deliver the following documents to the DOE Feasibility study approval	CR1	☒

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
			Project approval EIA approval Grid connection agreement		
A.2.3.	Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2	See CR1.	See CR1	☒
A.2.4.	Is all information presented consistent with details provided by further chapters of the PDD?	1, 2	Yes, all the chapters were verified for consistency.	☒	☒
A.3. Project participants					
A.3.1.	Is the form required for the indication of project participants correctly applied?	1, 2	The form is correctly applied. National Bio Energy Co., Ltd and EDF Trading Limited are considered as project participant.	☒	☒
A.3.2.	Is the participation of the listed entities or Parties confirmed by each one of them?	1, 2	Yes, the both parties are confirmed by LoA of China, and LoA of UK.	☒	☒
A.3.3.	Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1, 2	Yes, the information of project participants is listed in Annex 1.	☒	☒
A.4. Technical description of the project activity					
A.4.1. Location of the project activity					
A.4.1.1.	Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1, 2	The project location could be clearly identified according to the PDD including the geographical coordinates. The project activity is located in Longshan Industrial Development Zone, which is 10km from the central area of Liaoyuan City, Jilin province.	☒	☒
A.4.1.2.	How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, con-	1, 2 6, 8	See CR1	See CR1	☒

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
tracts etc.)?					
A.4.2. Category(ies) of project activity					
A.4.2.1.	To which category(ies) does the project activity belong to? Is the category correctly identified and indicated?	1, 2	Yes, the project falls into scope 1—energy industries.	☒	☒
A.4.3. Technology to be employed by the project activity					
A.4.3.1.	Does the technical design of the project activity reflect current good practices?	1, 2	<u>Corrective Action Request No.3.</u> Please describe the technology implemented by the project activity in a transparent manner and give the detailed information about the key points especially regarding the electricity generation. A scheme would be helpful.	CAR3	☒
A.4.3.2.	Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1, 2 12	See CAR3.	See CAR3	☒
A.4.3.3.	Does the implementation of the project activity require any technology transfer from annex-I countries to the host country(ies)?	1, 2	Yes, the implementation of the proposed project will facilitate the technology transfer from developed countries to China.	☒	☒
A.4.3.4.	Is the technology implemented by the project activity environmentally safe?	1, 2	Yes, the main possible pollution is the flue gas during the operational period, flue gas would be treated before emitted to the atmosphere, waste gas emissions from the project is far lower than the national emission standard. See CR1, the approval of EIA should be delivered to the DOE.	CR1	☒
A.4.3.5.	Is the information provided in compliance with actual situation or planning?	1, 2	See CR1	CR1	☒
A.4.3.6.	Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2	As it is a new Danish boiler it is state of the art and it is better than the commonly used coal-fired power plants.	☒	☒
A.4.3.7.	Is the project technology likely to be substituted by other or more efficient technologies	1, 2	The probability that the technology will be replaced is considered to be very low, because the equipments will be installed is state of the art and	☒	☒

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
within the project period?			the lifetime of this equipment will probably exceed the crediting period.		
A.4.3.8.	Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1, 2	Yes. Biomass generation technology is not common practice in China. Therefore, additional initial training is needed to guarantee high reliability during the life time of the project.	☒	☒
A.4.3.9.	Is information available on the demand and requirements for training and maintenance?	1, 2	The training materials for power plant staffs include the operating information and the CDM monitoring regulations etc, these documents have been reviewed by the auditor, but there is no relevant statement in the PDD. <u>Corrective Action Request No.4.</u> Please deliver the training schedule and shortly describe it in the PDD.	CAR4	☒
A.4.3.10.	Is a schedule available for the implementation of the project and are there any risks for delays?	1, 2	Yes, the construction work is 80% finished and the main equipments are purchased, the project is scheduled to be put into operation in Sep, 2007. there is no risk for delay, this is verified by the auditor during the on-site audit. <u>Corrective Action Request No.5.</u> The time schedule of the project implementation should be included in the PDD.	CAR5	☒
A.4.4. Estimated amount of emission reductions over the chosen crediting period					
A.4.4.1.	Is the form required for the indication of projected emission reductions correctly applied?	1, 2	Yes. The form is correctly applied according to the version 3 of the PDD template.	☒	☒
A.4.4.2.	Are the figures provided consistent with other data presented in the PDD?	1, 2	Yes, it is.	☒	☒
A.4.5. Public funding of the project activity					
A.4.5.1.	Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1, 2	Yes. According to the business plan reviewed by the validator, there is no public funding necessary; all costs are covered by bank loans and private equity. <u>Clarification Request No. 2.</u> Please deliver the bank loan contract to the DOE.	CR2	☒

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A.4.5.2.	Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1, 2	The statements are consistent within the PDD.	☒	☒										
B. Application of a baseline and monitoring methodology															
B.1. Title and reference of the approved baseline and monitoring methodology															
B.1.1.	Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1, 2	The approved methodology ACM0006 (version 04) in combination with ACM0002 (version 06) and additionality tool version 3 is used.	☒	☒										
B.1.2.	Is the applied version the most recent one and / or is this version still applicable?	1, 2	Yes, it is.	☒	☒										
B.2. Justification of the choice of the methodology and why it is applicable to the project activity															
B.2.1.	Is the applied methodology considered the most appropriate one?	1, 2	Yes. The approved methodology ACM0006 is exactly applicable to the proposed project.	☒	☒										
B.2.2.	Is the project activity clear according to the PDD?	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Greenfield project?</td><td>Yes</td></tr><tr><td>Power capacity expansion project?</td><td>No</td></tr><tr><td>Energy efficiency improvement project?</td><td>No</td></tr><tr><td>Fuel switch project?</td><td>No</td></tr></table>	Applicability checklist	Yes / No	Greenfield project?	Yes	Power capacity expansion project?	No	Energy efficiency improvement project?	No	Fuel switch project?	No	☒	☒
Applicability checklist	Yes / No														
Greenfield project?	Yes														
Power capacity expansion project?	No														
Energy efficiency improvement project?	No														
Fuel switch project?	No														
B.2.3.	Applicability Criterion 1: No other biomass types than biomass residues are used and these residues are the predominant fuel.	1, 2	<table><tr><th>Applicability checklist</th><th>Yes / No</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>Evidences provided in the PDD?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided in the PDD?	Yes	Compliance verified?	Yes	☒	☒
Applicability checklist	Yes / No														
Criterion discussed in the PDD?	Yes														
Compliance provable?	Yes														
Evidences provided in the PDD?	Yes														
Compliance verified?	Yes														
B.2.4.	Criterion 2:	1, 2		☒	☒										

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For projects that use biomass residues from a production process (e.g. production of sugar or wood panel boards), the implementation of the project shall not result in an increase of the processing capacity of raw input (e.g. sugar, rice, logs, etc.) or in other substantial changes (e.g. product change) in this process			Applicability checklist	Yes / No	
			Criterion discussed in the PDD?	Yes	
			Compliance provable?	Yes	
			Evidences provided in the PDD?	Yes	
			Compliance verified?	Yes	
B.2.5.	Criterion 3: The biomass residues used by the project facility should not be stored for more than one year;	1, 2	<u>Corrective Action Request No.6.</u> Please describe the collection procedure of maize stalk in a transparent manner.	CAR6	☒
			Applicability checklist	Yes / No	
			Criterion discussed in the PDD?	Yes	
			Compliance provable?	Yes	
			Evidences provided in the PDD?	Yes	
			Compliance verified?	Yes	
B.2.6.	Criterion 4: No significant energy quantities, <i>except from transportation or mechanical treatment of the biomass residues</i> , are required to prepare the biomass residues for fuel combustion	1, 2	<u>Corrective Action Request No.7.</u> According to the methodology, the electricity and the fuel consumption for the preparation of the biomass residue from the 4 biomass residue storage sites should be taken into account of the project emission. E.g. the packers used for the preparation of the biomass residue.	CAR7	☒
			Applicability checklist	Yes / No	
			Criterion discussed in the PDD?	No	
			Compliance provable?	No	
			Evidences provided in the PDD?	No	
			Compliance verified?	No	

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CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD										
B.3. Description of the sources and gases included in the project boundary															
B.3.1.	Source: Grid electricity generation Gas(es): CO2 Type: Baseline Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No														
Source and gas(es) discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														
B.3.2.	Source: Heat generation Gas(es): CO2 Type: Baseline Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No														
Source and gas(es) discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														
B.3.3.	Source: Uncontrolled burning or decay of surplus bio-mass residues Gas(es): CH4 Type: Baseline Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No														
Source and gas(es) discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														
Consistency with monitoring plan?	Yes														
B.3.4.	Source: On-site fossil fuel or electricity consumption Gas(es): CO2 Type: Project Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	See CAR7	☒		
Boundary checklist	Yes / No														
Source and gas(es) discussed in the PDD?	Yes														
Inclusion / exclusion justified?	Yes														
Explanation / Justification sufficient?	Yes														

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			<table><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Consistency with monitoring plan?	Yes										
Consistency with monitoring plan?	Yes															
			See CAR7													
B.3.5.	Source: Off-site transportation of biomass residues Gas(es): CO2 Type: Project Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.6.	Source: Combustion of biomass residues Gas(es): CH4 Type: Project Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>		Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	☒	☒
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.7.	Is the spatial extension of project boundary clear described?	1, 2	The spatial extent of the project boundary is described in table B.3. without further explanation.		☒	☒										
B.3.8.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1, 2	Yes, it is.		☒	☒										
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario																
B.4.1.	Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete?	1, 2	<table><tr><td colspan="2">Realistic and credible alternatives should be determined:</td></tr><tr><td>Completely discussed and reasoned in PDD?</td><td>Yes / No</td></tr><tr><td>how power would be generated in the absence of the CDM project activity;</td><td>Yes</td></tr><tr><td>what would happen to the biomass residues in the absence of the project activity; and</td><td>Yes</td></tr><tr><td>in case of cogeneration projects: how the heat would be generated in the absence of the project</td><td>Yes</td></tr></table>		Realistic and credible alternatives should be determined:		Completely discussed and reasoned in PDD?	Yes / No	how power would be generated in the absence of the CDM project activity;	Yes	what would happen to the biomass residues in the absence of the project activity; and	Yes	in case of cogeneration projects: how the heat would be generated in the absence of the project	Yes	☒	☒
Realistic and credible alternatives should be determined:																
Completely discussed and reasoned in PDD?	Yes / No															
how power would be generated in the absence of the CDM project activity;	Yes															
what would happen to the biomass residues in the absence of the project activity; and	Yes															
in case of cogeneration projects: how the heat would be generated in the absence of the project	Yes															

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			activity																								
B.4.2. Is the project activity categorized and is that retraceable? B.4.2. has been substituted by B.4.9. in Table 3 (below) due to the version change from 4 to 6 of ACM0006.		1, 2	For power generation, the realistic and credible alternatives may include <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>P1</td><td>The proposed project activity not undertaken as a CDM project activity</td><td>Yes</td></tr><tr><td>P2</td><td>The proposed project activity (installation of a power plant), fired with the same type of biomass residues but with a lower efficiency of electrical generation (e.g. an efficiency that is common practice in the relevant industry sector)</td><td>No</td></tr><tr><td>P3</td><td>The generation of power in an existing plant, on-site or nearby the project site, using only fossil fuels</td><td>No</td></tr><tr><td>p4</td><td>The generation of power in existing and/or new grid-connected power plants</td><td>Yes</td></tr><tr><td>P5</td><td>The continuation of power generation in an existing power plant, fired with the same type of biomass residues as (co-) fired in the project activity, and implementation of the project activity, not undertaken as a CDM project activity, at the end of the lifetime of the existing plant</td><td>No</td></tr><tr><td>P6</td><td>The continuation of power generation in an existing power plant, fired with the same type of biomass residues as (co-) fired in the project activity and, at the end of the lifetime of the existing plant, replacement of that plant by a similar new plant</td><td>No</td></tr></table>		Categories		Yes / No	P1	The proposed project activity not undertaken as a CDM project activity	Yes	P2	The proposed project activity (installation of a power plant), fired with the same type of biomass residues but with a lower efficiency of electrical generation (e.g. an efficiency that is common practice in the relevant industry sector)	No	P3	The generation of power in an existing plant, on-site or nearby the project site, using only fossil fuels	No	p4	The generation of power in existing and/or new grid-connected power plants	Yes	P5	The continuation of power generation in an existing power plant, fired with the same type of biomass residues as (co-) fired in the project activity, and implementation of the project activity, not undertaken as a CDM project activity, at the end of the lifetime of the existing plant	No	P6	The continuation of power generation in an existing power plant, fired with the same type of biomass residues as (co-) fired in the project activity and, at the end of the lifetime of the existing plant, replacement of that plant by a similar new plant	No	CR3	
Categories		Yes / No																									
P1	The proposed project activity not undertaken as a CDM project activity	Yes																									
P2	The proposed project activity (installation of a power plant), fired with the same type of biomass residues but with a lower efficiency of electrical generation (e.g. an efficiency that is common practice in the relevant industry sector)	No																									
P3	The generation of power in an existing plant, on-site or nearby the project site, using only fossil fuels	No																									
p4	The generation of power in existing and/or new grid-connected power plants	Yes																									
P5	The continuation of power generation in an existing power plant, fired with the same type of biomass residues as (co-) fired in the project activity, and implementation of the project activity, not undertaken as a CDM project activity, at the end of the lifetime of the existing plant	No																									
P6	The continuation of power generation in an existing power plant, fired with the same type of biomass residues as (co-) fired in the project activity and, at the end of the lifetime of the existing plant, replacement of that plant by a similar new plant	No																									

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		For heat generation, realistic and credible alternative(s) may include, <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>H1</td><td>The proposed project activity not undertaken as a CDM project activity</td><td>Yes</td></tr><tr><td>H2</td><td>The proposed project activity (installation of a cogeneration power plant), fired with the same type of biomass residues but with a different efficiency of heat generation (e.g. an efficiency that is common practice in the relevant industry sector)</td><td>No</td></tr><tr><td>H3</td><td>The generation of heat in an existing cogeneration plant, on-site or nearby the project site, using only fossil fuels</td><td>No</td></tr><tr><td>H4</td><td>The generation of heat in boilers using the same type of biomass residues</td><td>No</td></tr><tr><td>H5</td><td>The continuation of heat generation in an existing cogeneration plant, fired with the same type of biomass residues as in the project activity, and implementation of the project activity, not undertaken as a CDM project activity, at the end of the lifetime of the existing plant</td><td>No</td></tr><tr><td>H6</td><td>The generation of heat in boilers using fossil fuels</td><td>Yes</td></tr><tr><td>H7</td><td>The use of heat from external sources, such as district heat</td><td>No</td></tr><tr><td>H8</td><td>Other heat generation technologies (e.g. heat pumps or solar energy)</td><td>No</td></tr></table> For the use of biomass residues, the realistic and credible alternative(s) may include, <i>inter alia</i>: <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr></table>	Categories		Yes / No	H1	The proposed project activity not undertaken as a CDM project activity	Yes	H2	The proposed project activity (installation of a cogeneration power plant), fired with the same type of biomass residues but with a different efficiency of heat generation (e.g. an efficiency that is common practice in the relevant industry sector)	No	H3	The generation of heat in an existing cogeneration plant, on-site or nearby the project site, using only fossil fuels	No	H4	The generation of heat in boilers using the same type of biomass residues	No	H5	The continuation of heat generation in an existing cogeneration plant, fired with the same type of biomass residues as in the project activity, and implementation of the project activity, not undertaken as a CDM project activity, at the end of the lifetime of the existing plant	No	H6	The generation of heat in boilers using fossil fuels	Yes	H7	The use of heat from external sources, such as district heat	No	H8	Other heat generation technologies (e.g. heat pumps or solar energy)	No	Categories		Yes / No		
Categories		Yes / No																																
H1	The proposed project activity not undertaken as a CDM project activity	Yes																																
H2	The proposed project activity (installation of a cogeneration power plant), fired with the same type of biomass residues but with a different efficiency of heat generation (e.g. an efficiency that is common practice in the relevant industry sector)	No																																
H3	The generation of heat in an existing cogeneration plant, on-site or nearby the project site, using only fossil fuels	No																																
H4	The generation of heat in boilers using the same type of biomass residues	No																																
H5	The continuation of heat generation in an existing cogeneration plant, fired with the same type of biomass residues as in the project activity, and implementation of the project activity, not undertaken as a CDM project activity, at the end of the lifetime of the existing plant	No																																
H6	The generation of heat in boilers using fossil fuels	Yes																																
H7	The use of heat from external sources, such as district heat	No																																
H8	Other heat generation technologies (e.g. heat pumps or solar energy)	No																																
Categories		Yes / No																																

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			B1	The biomass residues are dumped or left to decay under mainly aerobic conditions. This applies, for example, to dumping and decay of biomass residues on fields.	Yes		
			B2	The biomass residues are dumped or left to decay under clearly anaerobic conditions. This applies, for example, to deep landfills with more than 5 meters. This does not apply to biomass residues that are stock-piled ¹ or left to decay on fields.	No		
			B3	The biomass residues are burnt in an uncontrolled manner without utilizing it for energy purposes.	Yes		
			B4	The biomass residues are used for heat and/or electricity generation at the project site	No		
			B5	The biomass residues are used for power generation, including cogeneration, in other existing or new grid-connected power plants ²	No		
			B6	The biomass residues are used for heat generation in other existing or new boilers at other sites ³	No		
			B7	The biomass residues are used for other energy purposes, such as the generation of biofuels	No		
			B8	The biomass residues are used for non-energy purposes, e.g. as fertilizer or as feedstock in processes (e.g. in the pulp and paper industry)	No		
			Clarification Request No. 3. Please deliver the evidences for justification of the following statement: P3, P5, B2, B4, B5, B6, B7, B8, H3, H4, H5 to the DOE.				
B.4.3.	What kind of scenario combination has been applied according to table 1 of methodology?	1, 2	Scenario 2 which is listed in ACM0006 Table 1 is applied to this project. But See CR3.			See CR3	
B.4.4.	Does chosen scenario meet engineered	1, 2	See CR3			See CR3	☒

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project activity?																					
B.4.5.	Have applicable regulatory or legal requirements been identified?	1, 2	No.	☒	☒																
B.4.6.	Does project identify correctly and excludes those options not in line with regulatory or legal requirements?	1, 2	Currently there is no related regulations that compel to use biomass, hence B1 and B3 is common scenario.	☒	☒																
B.4.7.	In case of scenarios 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16 and 17, a power plant was already operated in respective in case of scenarios 1, 2, 3, 4, 7, 8, 10, 11, 12, 13, 14, 15, 16 and 17, heat may already have been generated at the project site prior to the implementation of the project activity. Hence, the lifetime and age of baseline components need to be considered. I	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Age of each component mentioned?</td><td>N/A</td></tr><tr><td>Expected lifetime of each component mentioned?</td><td>N/A</td></tr><tr><td>Does the ending date fall in the scheduled crediting period of the project?</td><td>N/A</td></tr><tr><td>Evidences clearly referenced?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Age of each component mentioned?	N/A	Expected lifetime of each component mentioned?	N/A	Does the ending date fall in the scheduled crediting period of the project?	N/A	Evidences clearly referenced?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	
Data Checklist	Yes / No																				
Age of each component mentioned?	N/A																				
Expected lifetime of each component mentioned?	N/A																				
Does the ending date fall in the scheduled crediting period of the project?	N/A																				
Evidences clearly referenced?	N/A																				
Has this value been verified?	N/A																				
Choice of data correctly justified?	N/A																				
Measurement method correctly described?	N/A																				
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):																					
B.5.1.	In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1, 2	Yes, the benchmark analysis is applied. <u>Corrective Action Request No.8.</u> The benchmark analysis should be only in English. The evidence for the quite high biomass price has to be delivered including an English translation, as well as other basic data resource should be delivered to the DOE, e.g. the heat supply agreement and the grid connection agreement. The Excel sheet of the IRR calculation has to be delivered for publication together with the PDD on the UNFCCC webpage.	CAR8																	
B.5.2.	In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1, 2	Not applicable.	☒																	

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B.5.3.	In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2	Not applicable.	☒	
B.5.4.	In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2	Yes, IRR and NPV indicators are identified.	☒	
B.5.5.	In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1, 2	The calculation of financial figures for IRR and NPV is done for the project activity without the revenues from the sale of CERs and with the revenues from the sale of CERs.	☒	
B.5.6.	In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1, 2 11, 14, 15	Yes, the analysis is transparent; the relating documents have been reviewed by the auditor. E.g. the taxation regulations, and the straw purchase agreement etc. but see CAR8	See CAR8	
B.5.7.	In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1, 2	Yes. Investment barrier, technological barrier and first-of-its kind barrier are analyzed.	☒	
B.5.8.	In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2	The barriers analysis is transparent. The barriers mentioned are mainly general barriers that apply to biomass power plants such as uncertainties and risks regarding the tariff, the fuel costs and the technology. This kind of barriers is quite obvious but they are not project specific. For that reason no separate evidence has to be delivered. The most stringent barrier is the investment barrier that has been evidenced by supporting documents.	☒	
B.5.9.	In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1, 2	The identified barriers will not be applicable to the coal fired power plants.	☒	
B.5.10.	Have other activities in the host country / re-	1, 2	The technology used in the proposed project has not been used in Jilin province until 2006.	CAR9	

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gion similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?			<u>Corrective Action Request No.9.</u> As conservative approach, the common practice analysis should be referred to all North East China Grid.		
B.5.11.	If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?	1, 2	See CAR9.	See CAR9	
B.5.12.	Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 5)?	1, 2	The CDM revenues will contribute to overcome the barriers mentioned above through reducing the financial and commercial risks of, and increasing the financial and commercial return to the project.	☒	
B.6. Emissions reductions					
B.6.1. Explanation of methodological choices					
B.6.1.1.	Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1, 2	The following steps are described in a transparent manner: - Calculation of the baseline emission due to displacement of electricity - Calculation of the baseline emission due to displacement of heat - Calculation of the baseline emission due to natural decay of biomass residues - Calculation of the project emission - Calculation of leakage emission - Calculation of emission reduction	☒	☒
B.6.1.2.	Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	1, 2	Yes, it is.	☒	☒
B.6.1.3.	Which conservativeness factor has been chosen and how is this choice justified	1, 2	NDRC published emission factors are used, but see CR4.	See CR4	☒

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B.6.1.4. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	<u>Corrective Action Request No.10.</u> The formula of PEFFy is missing partially. Please add the parameter of FFproject site,i,y into the calculation for the PEFFy. And please see CAR7.	CAR10 CAR7	☒
B.6.1.5. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Yes, formulae to calculate the baseline emission are correctly presented.	☒	☒
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 and / or monitored?	1, 2	<u>Corrective Action Request No.11.</u> Please describe why the Shandong Shiliquan straw mix with coal generation project will have sufficient biomass residues if the influence on the biomass price is so exorbitant. Moreover, it has to be mentioned why this project is no baseline scenario!	CAR11	☒
B.6.1.7. Are the formulae required for the determination of emission reductions correctly presented?	1, 2	Yes, it is.	☒	☒
B.6.2. Data and parameters that are available at validation The Emission reduction is estimated by the formula $ERY = ER_{heat, y} + ER_{electricity, y} + BE_{biomass, y} - PE_y - Ly$ ERY = Emissions reductions of the project activity during the year y (tCO ₂ /yr) $ER_{electricity, y}$ = Emission reductions due to displacement of electricity during the year y (tCO ₂ /yr) $ER_{heat, y}$ = Emission reductions due to displacement of heat during the year y (tCO ₂ /yr) $BE_{biomass, y}$ = Baseline emissions due to natural decay or burning of anthropogenic sources of biomass residues during the year y (tCO ₂ e/yr) PE_y = Project emissions during the year y (tCO ₂ /yr) Ly = Leakage emissions during the year y (tCO ₂ /yr) Depending on the project not all variables are relevant. Only relevant variables shall be considered following. Parameters that are not relevant shall be addressed as not relevant.				
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1, 2	Some parameters are missing regarding to the requirement of the applied methodology. <u>Corrective Action Request No.12.</u> Please add the missed parameter to the list regarding to the requirement of the methodology. All parameters that are available during validation	CAR12	☒

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		as input data for the calculation of the emission reductions should be mentioned.																				
B.6.2.2. Does the quantity of biomass residues refer to the dry weight?	1, 2	<u>Corrective Action Request No.13.</u> According to the feasibility study, the biomass residue consumption includes around 10% moisture. So the quantity of biomass residues in the projection has to be revised, as well the relevant statement in the PDD. The parameter: Biomass moisture content has to be listed in the chapter B.6.2 of the PDD.	CAR13	☒																		
B.6.2.3. Parameter Title: Global warming potential for CH4 GWP CH4	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.4. Parameter Title: Net quantity of electricity generated during the three most recent years in the fossil fuel fired captive power plant identified as baseline plant (P3) EG _{CP,historic,3y}	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.5. Parameter Title:	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td></td><td></td></tr></table>	Data Checklist	Yes / No			☒	☒														
Data Checklist	Yes / No																					

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Net quantity of electricity generated during the most recent three years in all power plants at the project site, generated from firing the same type(s) of biomass residues as in the project plant $EG_{\text{historic},3y}$		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.6. Parameter Title: Quantity of fossil fuel type i combusted during the most recent three years in the captive power plant $FF_{\text{CP,historic},3y}$	1, 2	Data Checklist	Yes / No	☒	☒
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.7. Parameter Title: Average net efficiency of heat generation in the project plant prior to project implementation $\epsilon_{\text{th_pre project}}$	1, 2	Data Checklist	Yes / No	☒	☒
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		

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B.6.2.8. Parameter Title: Average net efficiency of electricity generation in the project plant prior to project implementation $\epsilon_{el_pre\ project}$	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.9. Parameter Title: Average net efficiency of electricity generation in biomass residue fired power plants in the grid that fire the same type of biomass residues as the project plant. $\epsilon_{el_grid\ plants}$	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.10. Parameter Title: Average net energy efficiency of power / heat generation in the reference power / cogeneration plant that would use the biomass residues fired in the project plant in the absence of the project activity ϵ_{el} , reference plant / $\epsilon_{th_reference\ plant}$	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					

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B.6.2.11. Parameter Title: Average net efficiency of electricity / heat generation in the existing power / cogeneration plant(s) fired with the same type of biomass residue at the project siteε el, existing plant / ε _{th_existing plant}	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.12. Parameter Title: Net quantity of heat generated during the most recent three years in all cogeneration plants at the project site, generated from firing the same type(s) of biomass residues as in the project plant Q _{historic 3y}	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					
Measurement method correctly described?	N/A																					
B.6.2.13. Parameter Title: Net quantity of heat generated during the most recent three years in all boilers at the project site, generated from firing the same type(s) of biomass residues as in the project plant Q _{biomass historic 3y}	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	☒	☒		
Data Checklist	Yes / No																					
Title in line with methodology?	N/A																					
Data unit correctly expressed?	N/A																					
Appropriate description of parameter?	N/A																					
Source clearly referenced?	N/A																					
Correct value provided?	N/A																					
Has this value been verified?	N/A																					
Choice of data correctly justified?	N/A																					

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		Measurement method correctly described?	N/A																				
B.6.2.14. Parameter Title: Quantity of biomass residue type k that has been fired in boilers for heat generation during the most recent three years at the project site BF _k , Boiler, historic 3y	1, 2	<table> <tr> <th>Data Checklist</th> <th>Yes / No</th> </tr> <tr><td>Title in line with methodology?</td><td>N/A</td></tr> <tr><td>Data unit correctly expressed?</td><td>N/A</td></tr> <tr><td>Appropriate description of parameter?</td><td>N/A</td></tr> <tr><td>Source clearly referenced?</td><td>N/A</td></tr> <tr><td>Correct value provided?</td><td>N/A</td></tr> <tr><td>Has this value been verified?</td><td>N/A</td></tr> <tr><td>Choice of data correctly justified?</td><td>N/A</td></tr> <tr><td>Measurement method correctly described?</td><td>N/A</td></tr> </table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
Appropriate description of parameter?	N/A																						
Source clearly referenced?	N/A																						
Correct value provided?	N/A																						
Has this value been verified?	N/A																						
Choice of data correctly justified?	N/A																						
Measurement method correctly described?	N/A																						
B.6.2.15. Parameter Title: Energy efficiency of the biomass residue fired boiler that would be used in the absence of the project activity ε _{boiler biomass}	1, 2	<table> <tr> <th>Data Checklist</th> <th>Yes / No</th> </tr> <tr><td>Title in line with methodology?</td><td>No</td></tr> <tr><td>Data unit correctly expressed?</td><td>No</td></tr> <tr><td>Appropriate description of parameter?</td><td>No</td></tr> <tr><td>Source clearly referenced?</td><td>No</td></tr> <tr><td>Correct value provided?</td><td>No</td></tr> <tr><td>Has this value been verified?</td><td>No</td></tr> <tr><td>Choice of data correctly justified?</td><td>No</td></tr> <tr><td>Measurement method correctly described?</td><td>No</td></tr> </table> See CAR12, the conservative value is 100%, but this parameter should be listed.		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	See CAR12	☒
Data Checklist	Yes / No																						
Title in line with methodology?	No																						
Data unit correctly expressed?	No																						
Appropriate description of parameter?	No																						
Source clearly referenced?	No																						
Correct value provided?	No																						
Has this value been verified?	No																						
Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						
B.6.2.16. Parameter Title: Quantity of biomass residue type k used as fuel in all installations (power plants, boilers, etc) at the project site during the most recent three years prior to the implementation of the project activity BF _{historic, k, 3y}	1, 2	<table> <tr> <th>Data Checklist</th> <th>Yes / No</th> </tr> <tr><td>Title in line with methodology?</td><td>N/A</td></tr> <tr><td>Data unit correctly expressed?</td><td>N/A</td></tr> <tr><td>Appropriate description of parameter?</td><td>N/A</td></tr> <tr><td>Source clearly referenced?</td><td>N/A</td></tr> <tr><td>Correct value provided?</td><td>N/A</td></tr> </table>		Data Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided?	N/A	☒	☒						
Data Checklist	Yes / No																						
Title in line with methodology?	N/A																						
Data unit correctly expressed?	N/A																						
Appropriate description of parameter?	N/A																						
Source clearly referenced?	N/A																						
Correct value provided?	N/A																						

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		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.17. Parameter Title: Moisture content of each biomass residue type k or i	1, 2	Data Checklist	Yes / No	See CAR12	☒
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
		See CAR12			
B.6.2.18. Parameter Title: Net calorific values of fossil fuel type i NCV _i	1, 2	Data Checklist	Yes / No	See CAR12	☒
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
		See CAR12. Please choose the value in a conservative manner and justify the choice based on the methodology.			
B.6.3. Ex-ante calculation of emission reductions					
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1, 2	Yes.		☒	☒

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B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1, 2	Clarification Request No. 4. A comparison between NDRC grid values and the values required by the methodology (IPCC2006 default data) has to be submitted to the DOE, the more conservative values should be used.	CR4	☒
B.6.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1, 2	Yes, there is no contradiction.	☒	☒
B.6.3.4. Are calculation tools used? If so is the data used in the tools consistent with the stated in the PDD?	1, 2	Yes.	☒	☒
B.6.4. Summary of the ex-ante estimation of emission reductions				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1, 2	Yes, the project will use biomass residues to generate electricity and heat which 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, 2	Yes. The form is correctly applied.	☒	☒
B.6.4.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1, 2	See CAR5	See CAR5	☒
B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1, 2	Yes.	☒	☒
B.7. Application of the monitoring methodology and description of the monitoring plan				
B.7.1. Data and parameters monitored				
B.7.1.1. Is the list of parameters presented in chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1, 2	Yes, a list of parameters is clearly presented. Corrective Action Request No.14. Some listed parameters are not clearly presented. Please correct those parameters according to the requirements of the applied methodology.	CAR14	☒

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		The combustion parameters for all kind of biomass have to be monitored separately! The monitoring method has to be described. Especially the standards that are referred to the accuracy, the calibration method of the measurement equipment, the frequency of the calibration and the sampling method of the biomass samples (95% confidence interval) have to be indicated clearly. According to the methodology, the following parameters have to be monitored: According to the methodology, the following parameters have to be monitored: ; - $EF_{CH_4,BF}$: Average CO2 emission factor for the trucks during the year y - $EF_{CO_2,FF,i}$: CO2 emission factor for fossil fuel type i - NCV_k: Net calorific value of biomass residue type k - $CH_{4,k,y}$: CH4 emission factor for uncontrolled burning of the biomass residue type k during the year y $EF_{burning}$ - Quantity of biomass residues of type k that are utilized (e.g. for energy generation or as feedstock) in the defined geographical region - $EC_{PJ,y}$: On-site electricity consumption attributable to the project activity during the year y - ϵ boiler: Average net energy efficiency of heat generation in the boiler that would generate heat in the absence of the project activity - CO2 emission factor of the fossil fuel type i used for heat generation in the absence the project activity $EF_{CO_2,BL,heat,i}$ - all types of biomass fired in all grid connected power plants in the region - Surplus all types of biomass supply in the region.		

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		- On-site electricity consumption attributable to the project activity during the year y $EC_{PJ,y}$																										
B.7.1.2. Parameter Title: Quantity of biomass residue type k combusted in the project plant during the year y $BF_{k,y}$	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> See CAR14	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	No	Has this value been verified?	Yes	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	No	See CAR14	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	No																											
Has this value been verified?	Yes																											
Measurement method correctly described?	No																											
Correct reference to standards?	No																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	No																											
B.7.1.3. Parameter Title: Moisture content of the biomass residues	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	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	See CAR14	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	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																											

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		See CAR14																										
B.7.1.4. Parameter Title: CH4 emission factor for the combustion of biomass residues in the project plant EF _{CH4,BF}	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> See CAR14	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	See CAR14	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											
Data unit correctly expressed?	No																											
Appropriate description of parameter?	No																											
Source clearly referenced?	No																											
Correct value provided for estimation?	No																											
Has this value been verified?	No																											
Measurement method correctly described?	No																											
Correct reference to standards?	No																											
Indication of accuracy provided?	No																											
QA/QC procedures described?	No																											
QA/QC procedures appropriate?	No																											
B.7.1.5. Parameter Title: Average round trip distance (from and to) between biomass fuel supply sites and the project site AVD _y	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	N/A	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	Yes																											
Correct reference to standards?	N/A																											
Indication of accuracy provided?	Yes																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.6. Parameter Title: Number of truck trips for the transportation of	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>	Monitoring Checklist	Yes / No	☒	☒																						
Monitoring Checklist	Yes / No																											

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biomass. N _y		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.7. Parameter Title: Average truck load of the trucks used for transportation of biomass. TL _y	1, 2	Monitoring Checklist	Yes / No	See CAR14	☒
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		See CAR14			
B.7.1.8. Parameter Title: Average CO2 emission factor for the trucks during the year y EF _{km,CO2,y}	1, 2	Monitoring Checklist	Yes / No	See-CAR14	☒
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		

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		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		See CAR14, please clearly indicate the data source.			
B.7.1.9. Parameter Title: Mass or volume unit $FC_{TR,i,y}$	1, 2	Monitoring Checklist	Yes / No	☒	☒
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.10. Parameter Title: CO2 emission factor for fossil fuel type i $EF_{CO2,FF,i}$	1, 2	Monitoring Checklist	Yes / No	See CAR14	☒
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		

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		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		See CAR14			
B.7.1.11. Parameter Title: CO2 emission factor of the fossil fuel type i used for heat generation in the absence the project activity EF _{CO2,BL,heat,i}	1, 2	Monitoring Checklist	Yes / No	See CAR14	☑
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.12. Parameter Title: Quantity of fossil fuel type i combusted in the biomass residue fired power plant during the year y FF _{project plant,i,y}	1, 2	Monitoring Checklist	Yes / No	☑	☑
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	Yes		
		QA/QC procedures described?	Yes		
		QA/QC procedures appropriate?	Yes		

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B.7.1.13. Parameter Title: Quantity of fossil fuel type i combusted at the project site for other purposes that are attributable to the project activity during the year y FF _{project site,i,y}	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>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>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table> See CAR14	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	See CAR14	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	No																											
Measurement method correctly described?	No																											
Correct reference to standards?	No																											
Indication of accuracy provided?	No																											
QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.14. Parameter Title: Quantity of steam diverted from other boilers to the project plant.	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?	N/A																											
Data unit correctly expressed?	N/A																											
Appropriate description of parameter?	N/A																											
Source clearly referenced?	N/A																											
Correct value provided for estimation?	N/A																											
Has this value been verified?	N/A																											
Measurement method correctly described?	N/A																											
Correct reference to standards?	N/A																											
Indication of accuracy provided?	N/A																											
QA/QC procedures described?	N/A																											
QA/QC procedures appropriate?	N/A																											
B.7.1.15. Parameter Title: Average net efficiency of steam generation in the plant(s) from where steam is diverted to the project plant	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	☒	☒																
Monitoring Checklist	Yes / No																											
Title in line with methodology?	N/A																											
Data unit correctly expressed?	N/A																											
Appropriate description of parameter?	N/A																											

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		<table><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A										
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.16. Parameter Title: Net quantity of electricity generated in the project plant during the year y EG _{project plant,y}	1, 2	<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>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> See CAR14 And the accuracy of the power meters in the figure of Annex 4 is not presented correctly.		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	No	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	No	See CAR14	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	No																												
Data unit correctly expressed?	No																												
Appropriate description of parameter?	No																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	No																												
B.7.1.17. Parameter Title: Net quantity of electricity generated in the fossil fuel fired captive power plant during the year y EG _{CP,y}	1, 2	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	☑	☑										
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												

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		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.18. Parameter Title: Net quantity of electricity generated in all power units at the project site, generated from firing the same type(s) of biomass residues as in the project plant, including the new power unit installed as part of the project activity and any previously existing units, during the year y $EG_{total,y}$	1, 2	Monitoring Checklist	Yes / No	☒	☒
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.19. Parameter Title: Net quantity of heat generated from firing biomass in the project plant $Q_{project\ plant,y}$	1, 2	Monitoring Checklist	Yes / No	See CAR14	☒
		Title in line with methodology?	No		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	No		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	Yes		
		Correct reference to standards?	Yes		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	Yes		

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		QA/QC procedures appropriate?	No																										
		See CAR14																											
B.7.1.20. Parameter Title: Net quantity of heat generated in all cogeneration units at the project site, generated from firing the same type(s) of biomass residues as in the project plant, including the cogeneration unit installed as part of the project activity and any previously existing units, during the year y $Q_{total,y}$	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	☒	☒
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.21. Parameter Title: Net calorific value of the fossil fuel type i NCV_i	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> See CAR14		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	No	See CAR14	☒
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	No																												
Correct value provided for estimation?	No																												
Has this value been verified?	No																												
Measurement method correctly described?	No																												
Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	No																												
B.7.1.22. Parameter Title: Net calorific value of biomass residue type k	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>		Monitoring Checklist	Yes / No	See CAR14	☒																						
Monitoring Checklist	Yes / No																												

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NCV _k		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		See CAR14			
B.7.1.23. Parameter Title: CH4 emission factor for uncontrolled burning of the biomass residue type k during the year y EF _{burning,CH4,k,y}	1, 2	Monitoring Checklist	Yes / No	See CAR14	☑
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		See CAR14			
B.7.1.24. Parameter Title: Average net energy efficiency of heat generation in the boiler that would generate heat in the absence of the project activity ε boiler	1, 2	Monitoring Checklist	Yes / No	See CAR14	☑
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		

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		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		See CAR14			
B.7.1.25. Parameter Title: Demonstration that the biomass residue type k from a specific source would continue not to be collected or utilized, e.g. by an assessment whether a market has emerged for that type of biomass residue (if yes, leakage is assumed not be ruled out) or by showing that it would still not be feasible to utilize the biomass residues for any purposes.	1, 2	Monitoring Checklist	Yes / No	See CAR14	☒
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
		See CAR14			
B.7.1.26. Parameter Title: Quantity of biomass residues of type k that are utilized (e.g. for energy generation or as feedstock) in the defined geographical region	1, 2	Monitoring Checklist	Yes / No	See CAR14	☒
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided for estimation?	No		
		Has this value been verified?	No		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		

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		<table><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> See CAR14		QA/QC procedures appropriate?	No																								
QA/QC procedures appropriate?	No																												
B.7.1.27. Parameter Title: Quantity of available biomass residues of type k in the region	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table> See CAR14		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	See CAR14	☒
Monitoring Checklist	Yes / No																												
Title in line with methodology?	No																												
Data unit correctly expressed?	No																												
Appropriate description of parameter?	No																												
Source clearly referenced?	No																												
Correct value provided for estimation?	No																												
Has this value been verified?	No																												
Measurement method correctly described?	No																												
Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.1.28. Parameter Title: Availability of a surplus of biomass residue type k (which can not be sold or utilized) at the ultimate supplier to the project and a representative sample of other suppliers in the defined geographical region.	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	☒	☒
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
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Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.29. Parameter Title: On-site electricity consumption attributable to	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>		Monitoring Checklist	Yes / No	See CAR14	☒																						
Monitoring Checklist	Yes / No																												

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the project activity during the year y EC _{PJ,y}		<table><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No			
Title in line with methodology?	No																										
Data unit correctly expressed?	No																										
Appropriate description of parameter?	No																										
Source clearly referenced?	No																										
Correct value provided for estimation?	No																										
Has this value been verified?	No																										
Measurement method correctly described?	No																										
Correct reference to standards?	No																										
Indication of accuracy provided?	No																										
QA/QC procedures described?	No																										
QA/QC procedures appropriate?	No																										
		See CAR14																									
B.7.1.30. Parameter Title: Use the latest approved version of ACM0002 to calculate the grid emission factor. If the power generation capacity of the project plant is less or equal to 15 MW, project participants may use the average CO2 emission factor of the electricity system, as referred to in option (d) in step 1 of the baseline determination in ACM0002. EF _{grid,y}	1, 2	Not applicable.		☒	☒																						
B.7.1.31. Parameter Title: Quantity of biomass residue type k combusted in all power plants at the project site during the year y Source of data: On-site measurements BF _{all plants,k,y}	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A		☒	☒		
Monitoring Checklist	Yes / No																										
Title in line with methodology?	N/A																										
Data unit correctly expressed?	N/A																										
Appropriate description of parameter?	N/A																										
Source clearly referenced?	N/A																										
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		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.32. Parameter Title: CO2 emission factor of the most carbon intensive fuel used in the country EF _{CO2,LE}	1, 2	Monitoring Checklist	Yes / No	☒	☒
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.33. Parameter Title: CO2 emission factor for the fossil fuel used in the captive power plant EF _{CP,CO2}	1, 2	Monitoring Checklist	Yes / No	☒	☒
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		

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B.7.2. Description of the monitoring plan					
B.7.2.1.	Is the operational and management structure clearly described and in compliance with the envisioned situation?	1, 2	National Liaoyuan Bio Energy Co., Ltd will be responsible for carrying out the monitoring plan.	☒	☒
B.7.2.2.	Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1, 2	The selected monitoring staff of Liaoyuan Bio Energy will be trained to collect and record the monitoring data.	☒	☒
B.7.2.3.	Does the monitoring plan provide current good monitoring practice?	1, 2	Yes, the monitoring application mainly includes the data management system and the CDM working group. The responsibility of the two groups is clearly described.	☒	☒
B.7.2.4.	If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1, 2	No. <u>Corrective Action Request No.15.</u> There is no sufficient information of the monitoring plan, especially how many measuring meters, how is the measuring range of the meters, and etc. Please provide a diagram describing the arrangement of the meters, as well as a list to show all the technical information of the monitoring plan.	CAR15	☒
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.	Is there any indication of a date when the baseline was determined?	1, 2	The baseline study and monitoring methodology for the proposed project was completed on 25/03/2007	☒	☒
B.8.2.	Is this consistent with the time line of the PDD history?	1, 2	Yes, but see CAR5.	See CAR5	☒
B.8.3.	Is the information on the person(s) / entity(ies) responsible for the application of the baseline	1, 2	Yes. Ms. Zhao Xin determined the baseline and monitoring methodology	☒	☒

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and monitoring methodology provided consistent with the actual situation?					
B.8.4.	Is information provided whether this person / entity is also considered a project participant?	1, 2	This person is not considered to be project participant.	☒	☒
C. Duration of the project activity / crediting period					
C.1. Duration of the project activity					
C.1.1.	Are the project's starting date and operational lifetime clearly defined and reasonable?	1, 2	Yes, the project starting date is 01/10/2006 and the expected operational lifetime of the project is 25 years. It's reasonable.	☒	☒
C.2. Choice of the crediting period and related information					
C.2.1.	Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1, 2	Yes. The max. 7 years with potential for 2 renewals is chosen as the crediting period.	☒	☒
D. Environmental impacts					
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts					
D.1.1.	Has the analysis of the environmental impacts of the project activity been sufficiently described?	1, 2 8	Yes, the environmental impacts of the project activity such as waste gas, waste water, noise and solid waste have been clearly described.	☒	☒
D.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 2 8	Yes, an EIA is a must in P. R. China for new construction projects, See CR1 the approval of EIA should be submitted to the DOE.	See CR1	☒
D.1.3.	Will the project create any adverse environmental effects?	1, 2 8	The project will create no negative environmental impacts.	☒	☒
D.1.4.	Were transboundary environmental impacts identified in the analysis?	1, 2 8	Whether there are transboundary impacts is not described in the PDD, but there are no transboundary effects to be expected.	☒	☒

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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					
D.2.1.	Have the identified environmental impacts been addressed in the project design sufficiently?	1, 2 8	Preventive measures like implementation of advanced Danish soot reduction technology, separate water drainage system, wastewater treatment, selection of low noise equipments, the utilization of ash as fertilizers have been clearly described.	☒	☒
D.2.2.	Does the project comply with environmental legislation in the host country?	1, 2 8	Yes. The project is conformity with the environmental legislation of P. R. China. But See CR1.	See CR1	☒
E. Stakeholders' comments					
E.1. Brief description how comments by local stakeholders have been invited and compiled					
E.1.1.	Have relevant stakeholders been consulted?	1, 2 21	Yes. The relevant stakeholders have been consulted via a questionnaire. 50 copies of questionnaires were distributed and 46 sheets with comments were gathered. No negative comments were given from the respondents. The documents have been reviewed by the DOE. <u>Corrective Action Request No.16.</u> Please clearly describe how the relevant stakeholders were selected? Was there a public announcement of the project prior to construction?	CAR16	☒
E.1.2.	Have appropriate media been used to invite comments by local stakeholders?	1, 2 21	Comments have been gathered by the questionnaire.	☒	☒
E.1.3.	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1, 2 21	There are no regulations/laws in China for carrying out the stakeholder consultation process for this project activity.	☒	☒
E.1.4.	Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1, 2 21	Yes. Confirmed with the detailed documents which are reviewed on site, the process is described in a complete and transparent manner.	☒	☒

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E.2. Summary of the comments received					
E.2.1.	Is a summary of the received stakeholder comments provided?	1, 2 21	There is a summary of the stakeholder comments in chapter E.2. of the PDD.	☒	☒
E.3. Report on how due account was taken of any comments received					
E.3.1.	Has due account been taken of any stakeholder comments received?	1, 2 21	There is a summary regarding the concerns of some respondents in chapter E3 in the PDD. In conclusion the implementation of the project will not influence the water supply, and the fuel price. The emission of pollutants is below the national standards. Design of compact layout will also be adopted to reduce land occupation.	☒	☒
F. Annexes 1 - 4					
Annex 1: Contact Information					
F.1.1.	Is the information provided consistent with the one given under section A.3?	1, 2	Yes.	☒	☒
F.1.2.	Is the information on all private participants and directly involved Parties presented?	1, 2	Yes. The information about National Bio Energy Co. Ltd and The EDF Trading Limited are presented.	☒	☒
Annex 2: Information regarding public funding					
F.1.3.	Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1, 2	Yes. There is no public funding necessary; all costs are covered by private equity and bank loans.	☒	☒
F.1.4.	If necessary: Is an affirmation available that any such funding from Annex-I-countries does not result in a diversion of ODA?	1, 2	N/A	☒	☒
Annex 3: Baseline information					
F.1.5.	If additional background information on base-	1, 2	Yes. The NDRC released emission factors of Northeast China Grid are	☒	☒

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	line data is provided: Is this information consistent with data presented by other sections of the PDD?		adopted.		
F.1.6.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	See CR4.	See CR4	☒
F.1.7.	Does the additional information substantiate / support statements given in other sections of the PDD?	1, 2	Yes, the additional information support statements given in the chapter B.6.1 of the PDD.	☒	☒
Annex 4: Monitoring information					
F.1.8.	If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?	1, 2	N/A	☒	☒
F.1.9.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1, 2	See CAR15	See CAR15	☒
F.1.10.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1, 2	See CAR15	See CAR15	☒

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Table 2 Resolution of Corrective Action and Clarification Requests (ACM0006, Version 04)

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
The available PDD is indicated as 03 version dated 12/04/2007. <u>Corrective Action Request No.1.</u> The revision history should be included in the PDD.	A.1.2.	A revision history of the PDD has been described in A.1.	☒
The project is described partially. <u>Corrective Action Request No.2.</u> Please indicate the project developer in the PDD and include a time table with the main steps of project implementation for the past (documented) and for the future (expected) – see CAR5. The geographical data should be delivered including the seconds in chapter A.4.1.4.	A.2.1.	The main steps of the project have been provided and it has been described in part A.2 of the revised PDD. <u>DOE's First Response:</u> Please indicate the project developer (company) in the PDD Please indicate the seconds of the geographical coordinates (Chapter A.4.1.4) <u>Project Owner's Second Response:</u> The project developer is indicated clearly in the B.8 of the updated PDD. Because the project owner could not provide the geographical coordinates with seconds, a mail address and the postal code of the project are provided instead in the updated PDD.	☒
<u>Corrective Action Request No.3.</u> Please describe the technology implemented by the project activity in a transparent manner and give the detailed information about the key points especially regarding the electricity generation. A scheme would be helpful.	A.4.3.1.	Besides the technology of Straw Direct Burning boiler, other key points regarding the electricity generator, the turbine has been detailed described in A.4.3 of the revised PDD.	☒
The training materials for power plant staffs include the operating information and the CDM monitoring	A.4.3.9.	The training schedule has been provided and it has been shortly described in PDD.	☒ Included in Chapter B.7.2 of the

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regulations etc, these documents have been reviewed by the auditor, but there is no relevant statement in the PDD. <u>Corrective Action Request No.4.</u> Please deliver the training schedule and shortly describe it in the PDD.			PDD
<u>Corrective Action Request No.5.</u> The time schedule of the project implementation should be included in the PDD.	A.4.3.10	The time schedule has been provided and it has been described in part A.2 of the revised PDD.	☒
<u>Corrective Action Request No.6.</u> Please describe the collection procedure of maize stalk in a transparent manner.	B.2.5.	In order to guarantee the fuel supply of the project, four individual stalk collection stations around the project site are constructed. The farmers sell their maize stalks in the nearest stalk collection, which will be cut into pieces, bundled regularly and transported to the project site. The detailed collection procedure of maize stalk is described in A.4.3 of the revised PDD. <u>DOE's First Reponse:</u> Some additional information concerning average stored volumes, storage places (is there a main storage at the project site, which size?) and storage time (for how long will the material be stored) is missing. This is Important information for assessing possible biomass decay. <u>Project Owner's Second Response:</u> Additional information about the stalk collection stations, concerning average stored volumes, storage places and storage time have been added in the A.4.3 of the revised PDD. And there is no main storage will be constructed at the project site.	☒
<u>Corrective Action Request No.7.</u>	B.2.6.	It is assumed that the electricity consumption at the 4 bio-	☒

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According to the methodology, the electricity and the fuel consumption for the preparation of the biomass residue from the 4 biomass residue storage sites should be taken into account of the project emission. E.g. the packers used for the preparation of the biomass residue.		mass residue storage sites is 10 KWh/ton maize stalk consumed in power plant. Compared with the expected actual electricity consumption, this value is more conservative, and the meters will be installed at 4 biomass residue storage sites to measure the actual electricity purchased from the grid.	The information is included in Chapter B.6.1, Section 4 (Step 4) of the PDD. The electricity consumption applied for calculating the expected emission reductions is 3,710 MWh. This consumption corresponds to the calculation factors as described in the response.
Yes, the benchmark analysis is applied. <u>Corrective Action Request No.8.</u> The benchmark analysis should be only in English. The evidence for the quite high biomass price has to be delivered including an English translation, as well as other basic data resource should be delivered to the DOE, e.g. the heat supply agreement and the grid connection agreement. The Excel sheet of the IRR calculation has to be delivered for publication together with the PDD on the UNFCCC webpage.	B.5.1.	The benchmark analysis sheets are supplied to DOE for verifying including both Chinese and English. If needed, Chinese in the sheets will be removed for publication on the UNFCCC webpage. However, the heat supply agreement and grid connection agreement (or Power Purchase Agreement) is still in the pipeline. All the basic data resources are supplemented in the revised PDD and delivered to the DOE for verifying.	
The technology used in the proposed project has not been used in Jilin province until 2006. <u>Corrective Action Request No.9.</u> As conservative approach, the common practice analysis should be referred to all North East China Grid.	B.5.10.	The proposed project is the first biomass power generation project in Jilin Province, and the technology of straw-fired power generation applied to the proposed project is still at a nascent stage either in the region of North East China Grid or in China. The common practice analyses are expanded to North East China Power Grid in the revised PDD.	
<u>Corrective Action Request No.10.</u> The formula of PEFFy is missing partially. Please add the parameter of FFproject site,i,y into the calculation for the PEFFy. And please see CAR7.	B.6.1.4.	The formula has been revised	☑

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<u>Corrective Action Request No.11.</u> Please describe why the Shandong Shiliquan straw mix with coal generation project will have sufficient biomass residues if the influence on the biomass price is so exorbitant. Moreover, it has to be mentioned why this project is no baseline scenario!	B.6.1.6	In B.5, additional risks such as potential rising straw price are claimed. However, potential rising straw price risk exists due to without a long-term contract to hedge the straw price with dispersed farmers, not caused by other power plants using the same fuel because there is no other use of biomass within 50kms around the project site. The Shandong Shiliquan straw mix with coal generation project is just an example to demonstrate the real existence of straw price rising for biomass power project, which is far away outside the project boundary (It is in the region covered by North China Power Grid, however, the proposed project is in the Northeast China Power Grid).	☑ The Shandong Shiliquan straw mix with coal generation project is not related to the project under review. It is located in a different province.
Some parameters are missing regarding to the requirement of the applied methodology. <u>Corrective Action Request No.12.</u> Please add the missed parameter to the list regarding to the requirement of the methodology.	B.6.2.1.	The missed parameters has been listed regarding to the requirement of the applied methodology.	☑
<u>Corrective Action Request No.13.</u> According to the feasibility study, the biomass residue consumption includes around 10% moisture. So the quantity of biomass residues in the projection has to be revised, as well the relevant statement in the PDD. The parameter: Biomass moisture content has to be listed in the chapter B.6.2 of the PDD.	B.6.2.2.	The estimated annual maize stalks consumption and moisture content come from the Feasibility Report, which are 371,000 and 12% respectively. The value of dry matter will be calculated according to them in PDD, and the actual values will be monitored later, as described in the methodology. According to the methodology, the parameter, Biomass moisture content, should be listed in B.7.1, since the proposed project complies with the scenario 2.	☑ The missing parameter is included in Chapter B.7.1 of the PDD.
Yes, a list of parameters is clearly presented. <u>Corrective Action Request No.14.</u> Some listed parameters are not clearly presented, please correct those parameters according to the requirements of the applied methodology. The combus-	B.7.1.1.	The parameters already listed have been clearly presented. And some other parameters necessary for the proposed project have been added according to the applied methodology.	☑

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tion parameters for all kind of biomass have to be monitored separately! The monitoring method has to be described. Especially the standards that are referred to the accuracy, the calibration method of the measurement equipment, the frequency of the calibration and the sampling method of the biomass samples (95% confidence interval) have to be indicated clearly. According to the methodology, the following parameters have to be monitored: ; - $EF_{CH_4,BF}$: Average CO2 emission factor for the trucks during the year y - $EF_{CO_2,FF,i}$: CO2 emission factor for fossil fuel type i - NCV_k: Net calorific value of biomass residue type k - $CH_{4,k,y}$: CH4 emission factor for uncontrolled burning of the biomass residue type k during the year y - $EF_{burning}$ - Quantity of biomass residues of type k that are utilized (e.g. for energy generation or as feedstock) in the defined geographical region - $EC_{PJ,y}$: On-site electricity consumption attributable to the project activity during the year y - ϵ boiler: Average net energy efficiency of heat generation in the boiler that would generate heat in the absence of the project activity - CO2 emission factor of the fossil fuel type i		DOE's First Response: Monitoring information has been added to the description of the individual parameters in Section B.7.1 of the PDD. However, further review of the PDD revealed that some details are missing for the following parameters: - Moisture content of the biomass residues (B.7.1.3): Please add a standard or a brief description of the measuring technique for moisture analyzer HMT2. QA/QC procedure is missing. How often will the moisture content be determined? - Missing factor: "CH4 emission factor for the combustion of biomass residues in the project plant" (B.7.1.4), $EF_{CH_4,BF}$ - $EF_{CO_2,FF,i}$: CO2 emission factor for fossil fuel type I (B.7.1.10): Source for the value is not clear. - Missing factor: CO2 emission factor of the fossil fuel type i used for heat generation in the absence the project activity (B.7.1.11), $EF_{CO_2,BL,heat,i}$ - Quantity of fossil fuel type i combusted at the project site for other purposes that are attributable to the project activity during the year y, $FF_{project\ site,i,y}$ (B.7.1.13): Standard and accuracy are missing. - Net quantity of heat generated from firing biomass in the project plant, $Q_{project\ plant,y}$ (B.7.1.19): accuracy and standard are missing. - Missing value (B.7.1.21): Net calorific value of the fossil fuel type I, NCV_i - Missing factor (B.7.1.24): Average net energy efficiency of heat generation in the boiler that	

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used for heat generation in the absence the project activity $EF_{CO2,BL,heat,i}$ - all types of biomass fired in all grid connected power plants in the region - Surplus all types of biomass supply in the region. - On-site electricity consumption attributable to the project activity during the year y $EC_{PJ,y}$		would generate heat in the absence of the project activity, ε boiler - Please provide the biomass volumes (surplus) also in the respective parameter tables, not only in the PDD text. (quantity of maize stalks available or utilized in the defined region) General requirements In Section B.7.2 of the PDD please add monitoring information concerning data handling, data storage and data safety (backups!). Make sure that all important information such as electricity and heat generation data are saved regularly and stored in a safe place, including backups. Backup instruments and/or verification procedures should be defined. This may be important during the verification audit in case of problems with measuring devices or loss of data. <u>Project Owner's Second Response:</u> Details about the above-mentioned parameters are further supplemented in the B.7 of the updated PDD. <u>DOE's Second Response:</u> Some of the above described information could not be located in the PDD: - Moisture content of the biomass residues (B.7.1.3): Please add a standard or a brief description of the measuring technique for moisture analyzer HMT2. QA/QC procedure is missing. How often will the moisture content be determined? - Net quantity of heat generated from firing bio-	

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		mass in the project plant, $Q_{\text{project plant},y}$ (B.7.1.19): accuracy and standard are missing. - Missing value (B.7.1.21): Net calorific value of the fossil fuel type i NCV_i - Missing factor (B.7.1.24): Average net energy efficiency of heat generation in the boiler that would generate heat in the absence of the project activity, ε boiler <u>Project Owner's third Response:</u> The part B.7 has been revised according to the suggestions mentioned above. <u>DOE's Third Response:</u> One of the above described information could not be located in the PDD: - Net quantity of heat generated from firing biomass in the project plant, $Q_{\text{project plant},y}$ (B.7.1.19): accuracy and standard are missing. <u>Project Owner's fourth Response:</u> The accuracy and standard have been involved.	
<u>Corrective Action Request No.15.</u> There is no sufficient information of the monitoring plan, especially how many measuring meters, how is the measuring range of the meters, and etc. Please provide a diagram describing the arrangement of the meters, as well as a list to show all the technical information of the monitoring plan.	B.7.2.4.	Since it's difficult to put the arrangement of the several different meters in a diagram, the arrangement, the type, accuracy, and other required information of the monitoring meters have been combined with the details of the monitoring measures in B 7.1, so that the respective monitoring processes of the parameters can be described in a clear way.	☑ Open issues raised under CAR 14
Yes. The relevant stakeholders have been consulted	E.1.1.	The relevant description has been added in E.1.	☑

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via a questionnaire. 50 copies of questionnaires were distributed and 46 sheets with comments were gathered. No negative comments were given from the respondents. The documents have been reviewed by the DOE <u>Corrective Action Request No.16.</u> Please clearly describe how the relevant stakeholders were selected? Was there a public announcement of the project prior to construction?			
<u>Clarification Request No. 1.</u> Please deliver the following documents to the DOE - Feasibility study approval - Project approval - EIA approval - Grid connection agreement	A.2.2.	These documents have been provided to DOE for verifying.	☒
Yes. According to the business plan reviewed by the validator, there is no public funding necessary; all costs are covered by bank loans and private equity. <u>Clarification Request No. 2.</u> Please deliver the bank loan contract to the DOE.	A.4.5.1.	The related document has been provided to DOE.	☒
<u>Clarification Request No. 3.</u> Please deliver the evidences for justification of the following statement: P3, P5, B2, B4, B5, B6,B7,B8, H3,H4, H5 to the DOE.	B.4.2.	These evidences are provided as footnotes in the revised PDD.	
<u>Clarification Request No. 4.</u> A comparison between NDRC grid values and the	B.6.3.2.	According to the NDRC grid values (http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=123)	☒

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values required by the methodology (IPCC2006 default data) has to be submitted to the DOE, the more conservative values should be used.		5), the Combined Emission Factor of Northeast China Grid is about 1.0518, which is larger than the value of 0.996 applied in the PDD. Therefore, the value of 0.997 is used as the conservative one.	

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Table 3 Conformity of Project Activity and PDD - Changes from methodology ACM0006 Version 04 to Version 06

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
B.3. Description of the sources and gases included in the project boundary														
B.3.9. Source: Waste water from the treatment of bio-mass residues Gas(es): CH4 Type: Project emissions	1, 2	<u>Corrective Action Request No.17.</u> According to the methodology (page 20, project boundary) the source “Waste water from the treatment of biomass residues” has to be mentioned in Table B.1. (section B.3.) of the PDD. Besides, it has to be indicated whether the source is included or excluded and justified why included/excluded. <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>No</td></tr><tr><td>Inclusion / exclusion justified?</td><td>No</td></tr><tr><td>Explanation / Justification sufficient?</td><td>No</td></tr><tr><td>Consistency with monitoring plan?</td><td>No</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	No	Inclusion / exclusion justified?	No	Explanation / Justification sufficient?	No	Consistency with monitoring plan?	No	CAR 17	☒
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	No													
Inclusion / exclusion justified?	No													
Explanation / Justification sufficient?	No													
Consistency with monitoring plan?	No													
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario														
B.4.8. Are biomass residues from different sources considered as different types of biomass residues? Are biomass residues with different uses in the absence of the project activity considered as different types of biomass residues k.? Does the PDD document for each type of bio-mass residues which quantities are used in which installations under the project activity and how these types and quantities of biomass residue would be used in the absence of the project activity, preferably using a table?	1, 2	<u>Clarification Request No. 5.</u> According to information provided in the PDD, it is not clear whether maize stalk is the only type of biomass residue which will be used in the proposed project activity. B.2. mentions maize stalk as predominant fuel and A.2. indicates that “the project will utilize local surplus biomass residues (mainly as maize stalk)...”. On the other side, B.4. mentions that “the proposed project mainly uses biomass residues from maize stalks and soybean straw”. Please clarify. In the case more than one type of biomass residue will be used (e.g. in the case that besides maize stalks as well soybean straw or others are used), the PDD has to document for each type of biomass residues which quantities are used in which installations under the proposed project activity and how these types and quantities of biomass residues would be used in the absence of the project activity. It is recommended to use a Table to illustrate it.	CR 5	☒										
B.4.9. Is the project activity categorized and is that retraceable?	1, 2	<u>Corrective Action Request No.18.</u> Table B.2. and Table B.4. (H3 and H5) have to be updated in the PDD according to version 6.2. of ACM0006.	CAR 18	☒										

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																					
		For power generation, the realistic and credible alternatives may include <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>P1</td><td>The proposed project activity not undertaken as a CDM project activity</td><td>Yes</td></tr><tr><td>P2</td><td>The continuation of power generation in an existing biomass residue fired power plant at the project site, in the same configuration, without retrofitting and fired with the same type of biomass residues as (co-)fired in the project activity</td><td>No</td></tr><tr><td>P3</td><td>The generation of power in an existing captive power plant, using only fossil fuels</td><td>No</td></tr><tr><td>P4</td><td>The generation of power in the grid</td><td>Yes</td></tr><tr><td>P5</td><td>The installation of a new biomass residue fired power plant fired with the same type and with the same annual amount of biomass residues as the project activity, but with a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project plant and therefore with a lower power output than in the project case.</td><td>No</td></tr><tr><td>P6</td><td>The installation of a new biomass residue fired power plant that is fired with the same type but with a higher annual amount of biomass residues as the project activity and that has a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project activity. Therefore, the power output is the same as in the project case.</td><td>No</td></tr></table>	Categories		Yes / No	P1	The proposed project activity not undertaken as a CDM project activity	Yes	P2	The continuation of power generation in an existing biomass residue fired power plant at the project site, in the same configuration, without retrofitting and fired with the same type of biomass residues as (co-)fired in the project activity	No	P3	The generation of power in an existing captive power plant, using only fossil fuels	No	P4	The generation of power in the grid	Yes	P5	The installation of a new biomass residue fired power plant fired with the same type and with the same annual amount of biomass residues as the project activity, but with a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project plant and therefore with a lower power output than in the project case.	No	P6	The installation of a new biomass residue fired power plant that is fired with the same type but with a higher annual amount of biomass residues as the project activity and that has a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project activity. Therefore, the power output is the same as in the project case.	No		
Categories		Yes / No																							
P1	The proposed project activity not undertaken as a CDM project activity	Yes																							
P2	The continuation of power generation in an existing biomass residue fired power plant at the project site, in the same configuration, without retrofitting and fired with the same type of biomass residues as (co-)fired in the project activity	No																							
P3	The generation of power in an existing captive power plant, using only fossil fuels	No																							
P4	The generation of power in the grid	Yes																							
P5	The installation of a new biomass residue fired power plant fired with the same type and with the same annual amount of biomass residues as the project activity, but with a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project plant and therefore with a lower power output than in the project case.	No																							
P6	The installation of a new biomass residue fired power plant that is fired with the same type but with a higher annual amount of biomass residues as the project activity and that has a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project activity. Therefore, the power output is the same as in the project case.	No																							

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		P7	The retrofitting of an existing biomass residue fired power, fired with the same type and with the same annual amount of biomass residues as the project activity, but with a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project plant and therefore with a lower power output than in the project case.	CAR 18		
		P8	The retrofitting of an existing biomass residue fired power that is fired with the same type but with a higher annual amount of biomass residues as the project activity and that has a lower efficiency of electricity generation (e.g. an efficiency that is common practice in the relevant industry sector) than the project activity.	CAR 18		
		P9	The installation of a new fossil fuel fired captive power plant at the project site.	CAR 18		
		For heat generation, realistic and credible alternative(s) may include,				
		Categories		Yes / No		
		H1	The proposed project activity not undertaken as a CDM project activity	Yes		
		H2	The proposed project activity (installation of a co-generation power plant), fired with the same type of biomass residues but with a different efficiency of heat generation (e.g. an efficiency that is common practice in the relevant industry sector)	No		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		H3	The generation of heat in an existing captive co-generation plant, using only fossil fuels	No		
		H4	The generation of heat in boilers using the same type of biomass residues	No		
		H5	The continuation of heat generation in an existing biomass residue fired cogeneration plant at the project site, in the same configuration, without retrofitting and fired with the same type of biomass residues as in the project activity;, and implementation of the project activity, not undertaken as a CDM project activity, at the end of the lifetime of the existing plant	No		
		H6	The generation of heat in boilers using fossil fuels	Yes		
		H7	The use of heat from external sources, such as district heat	No		
		H8	Other heat generation technologies (e.g. heat pumps or solar energy)	No		
		For the use of biomass residues , the realistic and credible alternative(s) may include, <i>inter alia</i> :				
		Categories		Yes / No		
		B1	The biomass residues are dumped or left to decay under mainly aerobic conditions. This applies, for example, to dumping and decay of biomass residues on fields.	Yes		
		B2	The biomass residues are dumped or left to decay under clearly anaerobic conditions. This applies, for example, to deep landfills with more than 5 meters. This does not apply to biomass residues that are stock-piled ¹ or left to decay on fields.	No		

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		B3	The biomass residues are burnt in an uncontrolled manner without utilizing it for energy purposes.	Yes		
		B4	The biomass residues are used for heat and/or electricity generation at the project site	No		
		B5	The biomass residues are used for power generation, including cogeneration, in other existing or new grid-connected power plants ²	No		
		B6	The biomass residues are used for heat generation in other existing or new boilers at other sites ³	No		
		B7	The biomass residues are used for other energy purposes, such as the generation of biofuels	No		
		B8	The biomass residues are used for non-energy purposes, e.g. as fertilizer or as feedstock in processes (e.g. in the pulp and paper industry)	No		
B.4.10. In cases where realistic and credible alternative(s) include the installation of new power and/or heat generation facilities at the project site – other than the proposed project activity: Has been identified the economically most attractive technology and fuel type (same service, technologically available and in compliance with regulations)? In case where several technologies and/or fuel types are available (which are similarly economically attractive): Is the least carbon intensive fuel type / the most efficient technology considered?	1, 2	Not applicable, as the alternative “installation of a new power and/or heat generation facility at the project site – other than the proposed project activity” is not included.			☒	☒
B.4.11. What kind of scenario combination has been applied according to table 2 of methodology?	1, 2	Scenario 2 which is listed in ACM0006 Table 2 is applied to this project.			☒	☒

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B.4.12. Does the PDD explain the specific situation of the project activity and demonstrate that the project activity and the most plausible baseline scenario correspond to the "description of the situation" in Table 2 and to the combination of baseline scenarios for power, heat and biomass use?	1, 2	Yes. The PDD explains the specific situation of the project activity and demonstrates that the project activity and the most plausible baseline scenario correspond to scenario 2 in Table 2 and to the combination of baseline scenarios for power (P4), heat (H6) and biomass use (B1 or B3). However, see B.4.9.	See CAR 18	☒
B.4.13. Does the PDD document: for each power plant that was operating at the project site during the most recent three years prior to the start of the project activity: the type and capacity of the power plant, types and quantities of fuels that have been used in the power plant during the most recent three years prior to the start of the project activity and whether the plant continues operation after the start of the project activity?	1, 2	Not applicable, as the proposed project activity involves the installation of a new plant. No plant was operating prior to the start of the project activity.	☒	☒
B.4.14. Does the PDD document: for each boiler or other heat generation equipment that was operating at the project site during the most recent three years prior to the start of the project activity: the type and capacity of the boiler, types and quantities of fuels have been used in the boiler during the most recent three years prior to the start of the project activity and whether the boiler continues operation after the start of the project activity?	1, 2	Not applicable, as the proposed project activity involves the installation of a new plant. No plant was operating prior to the start of the project activity.	☒	☒
B.4.15. Does the PDD document: for each boiler or power plant installed under the project activity: the type and capacity of boilers and/or power plants and which types and quantities of fuels are planned to be used?	1, 2	The PDD informs about the type and capacity of boilers, turbines and generators. Biomass quantities are provided.	☒	☒
B.4.16. Does the PDD document: for each new boiler or power plant that would be installed in the	1, 2	Not applicable, as no new boiler or power plant would have been installed in the absence of the project activity.	☒	☒

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absence of the project activity: the type and capacity of the new boilers and/or power plants and which types and quantities of fuels would be used?																				
B.4.17. In case of scenarios 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16,17, 18, 19 a power plant was already operated in respective in case of scenarios 1, 2, 3, 4, 7, 8, 10, 11, 12, 13, 14, 15, 16,17, 18, 19 and 20 heat may already have been generated at the project site prior to the implementation of the project activity. Hence, the lifetime and age of baseline components need to be considered.	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Age of each component mentioned?</td><td>N/A</td></tr><tr><td>Expected lifetime of each component mentioned?</td><td>N/A</td></tr><tr><td>Does the ending date fall in the scheduled crediting period of the project?</td><td>N/A</td></tr><tr><td>Evidences clearly referenced?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Choice of data correctly justified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr></table>	Data Checklist	Yes / No	Age of each component mentioned?	N/A	Expected lifetime of each component mentioned?	N/A	Does the ending date fall in the scheduled crediting period of the project?	N/A	Evidences clearly referenced?	N/A	Has this value been verified?	N/A	Choice of data correctly justified?	N/A	Measurement method correctly described?	N/A	☒	☒
Data Checklist	Yes / No																			
Age of each component mentioned?	N/A																			
Expected lifetime of each component mentioned?	N/A																			
Does the ending date fall in the scheduled crediting period of the project?	N/A																			
Evidences clearly referenced?	N/A																			
Has this value been verified?	N/A																			
Choice of data correctly justified?	N/A																			
Measurement method correctly described?	N/A																			
B.5. Application of the Combined Tool to identify the baseline scenario and demonstrate additionality (only applicable if all potential alternative scenarios to the proposed project activity are available options to project participants)																				
B.5.13. 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, 2	The project's starting date is before the date of validation. <u>Corrective Action Request No.19.</u> 1. The date of this NBE Board meeting minutes is indicated with November 25, 2005 in B.5. of the PDD, thus not consistent with the original document. Please revise.	CAR 19	☒																
B.5.14. Are the following steps mentioned in the PDD and correctly applied: Step 1: Identification of alternative scenarios Step 2: Barrier analysis Step 3: Investment analysis (if applicable) Step 4: Common practice analysis	1, 2	Step 1,2 and 4 are mentioned in the PDD and correctly applied. Step 3 (investment analysis) is not applicable.	☒	☒																
B.5.15. Sub-Step 1a): Have all alternative scenarios that are available to the project participants	1, 2	Yes. B.4. of the PDD identifies all alternative scenarios for power, biomass and heat. It is appropriately explained in the PDD why this list	See CAR 18	☒																

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pants and that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity been identified and discussed by the PDD? Why can this list be considered as being complete?		can be considered to be complete. However, see B.4.9.		
B.5.16. Sub-Step 1b): Are the alternatives in compliance with all mandatory applicable legal and regulatory requirements?	1, 2	Yes. The alternatives are in line with the existing Chinese laws and regulations.	☒	☒
B.5.17. Are those alternative scenarios excluded which are not in compliance with legal and regulatory requirements? If not, it has to be shown that those applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is widespread in the country.	1, 2	Not applicable.	☒	☒
B.5.18. Step 2 (Barrier analysis): Is a complete list of barriers developed that prevent the different alternatives to occur?	1, 2	Yes. The PDD mentions investment, technological and lack of prevailing practice barriers.	☒	☒
B.5.19. Barrier analysis: Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2, 27, 28, 29	Yes. Evidences for the most fundamental barriers mentioned in the PDD have been submitted to the validation team.	☒	☒
B.5.20. Barrier analysis: Are those alternative scenarios eliminated which are prevented by the identified barriers?	1, 2	Yes. P1 and H1 are eliminated as prevented by the identified barriers.	☒	☒
B.5.21. Barrier analysis: Is a list of alternative scenarios to the project activity that are not prevented by any barrier provided?	1, 2	Yes. The alternative combination P4, H6 and B1,B3 is not prevented by the barriers and indicated in B.5. of the PDD.	☒	☒
B.5.22. Barrier analysis: Is explained how the registration of the project activity will alleviate the barriers that prevent the proposed project activity from occurring in the absence of the CDM? (only	1, 2	Yes. The PDD states that the CDM will alleviate the barriers by providing additional revenues for the project, which are needed to mitigate the additional risks raised by the identified barriers and will also create an incentive to develop the foreign and un-experienced	☒	☒

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applicable in the following cases): 1. One alternative scenario is not prevented by any barrier, and this alternative is not the proposed project activity undertaken without being registered as a CDM project activity. 2. Several alternative scenarios remain, but do not include the proposed project activity undertaken without being registered as a CDM project activity		technology in China and more particularly in Jilin province.		
B.5.23. Step 3: Investment analysis (if applicable) : Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2	Not applicable.	☒	☒
B.5.24. Investment analysis: Is the financial indicator calculated for all alternative scenarios remaining after step 2?	1, 2	Not applicable.	☒	☒
B.5.25. Investment analysis: Is the investment analysis presented in a transparent manner and does the analysis provide all the relevant assumptions?	1, 2	Not applicable.	☒	☒
B.5.26. Investment analysis: Is a clear comparison of the financial indicator for all alternative scenarios done and are the alternative scenarios ranked according to the financial indicator?	1, 2	Not applicable.	☒	☒
B.5.27. Investment analysis: Is a sensitivity analysis conducted in order to assess whether the conclusion regarding the financial attractiveness is robust to reasonable variations in the critical assumptions?	1, 2	Not applicable.	☒	☒
B.5.28. Step 4: Common practice analysis: Have other activities in the host country / region similar to the project activity been identified and	1, 2	In Northeast China, where the proposed project is located, no other project is in operation similar to the proposed project activity. There are some projects in construction, however all of them apply for	☒	☒

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are these activities appropriately analyzed by the PDD?		CDM.		
B.5.29. Common practice analysis: If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component	1, 2	Not applicable. See B.5.28.	☒	☒
Tool to calculate project or leakage CO2 emissions from fossil fuel combustion				
B.6.1.8. Is the formula required for the determination of CO2 project emissions from fossil fuel combustion correctly presented, enabling a complete identification of parameter to be used and / or monitored	1, 2	Yes. The formula for the determination of CO2 project emissions from fossil fuel combustion is correctly presented. However, see CAR 22. <u>Corrective Action Request No.20.</u> a) A.4.3. mentions that light diesel is necessary as boiler fire fuel, whereas B.6.1., step 3 mentions that the boiler does not need fossil fuel for start-ups. Please revise this inconsistency. b) It is not clear why the parameters $FF_{project\ plant,i,y}$ and $FF_{project\ site,i,y}$ are mentioned in B.6.1. of the PDD as they are not mentioned neither in the methodology nor in one of the formulae in the PDD. Please revise.	CAR 20	☒
B.6.1.9. Is option A (preferred approach) or option B chosen for the determination of the CO2 emission coefficient $COEF_{i,y}$ and is $COEF_{i,y}$ correctly determined?	1, 2	Since the necessary data is not available for Option A to calculate $COEF_{i,y}$, Option B is applied. The formula of the emission coefficient is correctly determined.	☒	☒
Tool to calculate project emissions from electricity consumption				
B.6.1.10. Do there exist project emissions from electricity consumption by the project activity and if yes is it clear which case (case A, B, C) is applied in the CDM project activity?	1, 2	Yes. There exist project emissions from electricity consumption and those have been identified in the PDD. Since the electricity consumed by the project activity is purchased from the grid, Case A, Electricity consumption from the grid, is applied. This is clearly indicated in the PDD.	☒	☒

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B.6.1.11. Case A: Is the formula required for the determination of CO2 project emissions from consumption of electricity from the grid correctly presented, enabling a complete identification of parameter to be used and / or monitored	1, 2	The formula required for the determination of CO2 project emissions from electricity consumption from the grid is correctly presented.	☒	☒
B.6.1.12. Case B: Does the PDD clearly determine which of the four options is chosen?	1, 2	Not applicable, as case A is chosen.	☒	☒
B.6.1.13. Is the formula required for the determination of CO2 project emissions from electricity consumption from an off-grid captive power plant correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Not applicable.	☒	☒
B.6.1.14. Case C: Does the PDD clearly determine which of the two options is chosen?	1, 2	Not applicable, as case A is chosen.	☒	☒
B.6.1.15. Is the formula required for the determination of CO2 project emissions from electricity consumption from the grid and (a) captive power plant(s) correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	Not applicable.	☒	☒
Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site				
B.6.1.16. Is the formula required for the determination of baseline emissions of methane from waste that would in the absence of the project activity be disposed at solid waste disposal sites (SWDS) correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2	The "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site" is not applicable, as the biomass residues would not decay under clearly anaerobic conditions (case B2) in the absence of the proposed project activity.	☒	☒
B.6.1.17. In case of renewal of the crediting pe-	1, 2	Not applicable.	☒	☒

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riod, the following data should be updated according to default values suggested in the most recently published IPCC Guidelines for National Greenhouse Gas Inventories: • Oxidation factor (OX) • Fraction of methane in the SWDS gas (F) • Fraction of degradable organic carbon (DOC) that can decompose (DOCf) • Methane correction factor (MCF) • Fraction of degradable organic carbon (by weight) in each waste type j (DOCj). • Decay rate for the waste type j (kj).																						
B.6.2.19. Parameter title: Average net energy efficiency of electricity or heat generation in the reference power plant after the retrofit that would take place in the absence of the project activity. $\epsilon_{el_reference\ retrofit\ plant}$ or $\epsilon_{th_reference\ retrofit\ plant}$	1, 2	Not applicable. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Choice of data correctly justified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided?		Has this value been verified?		Choice of data correctly justified?		Measurement method correctly described?		☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?																						
Data unit correctly expressed?																						
Appropriate description of parameter?																						
Source clearly referenced?																						
Correct value provided?																						
Has this value been verified?																						
Choice of data correctly justified?																						
Measurement method correctly described?																						
B.6.2.20. Parameter title: Energy efficiency of the boiler that would be used in the absence of the project activity to generated heat $\epsilon_{BL, boiler}$	1, 2	Not applicable, as this parameter is only applicable to scenario 20. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Choice of data correctly justified?</td><td></td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided?		Has this value been verified?		Choice of data correctly justified?		☒	☒		
Data Checklist	Yes / No																					
Title in line with methodology?																						
Data unit correctly expressed?																						
Appropriate description of parameter?																						
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		Measurement method correctly described?																						
B.6.2.21. Parameter title: CO2 emission factor for the fossil fuel type that would in the absence of the project activity be used in the reference plant EF _{CO2,FF,ref}	1, 2	Not applicable, as this parameter is only applicable to scenario 20. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Choice of data correctly justified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided?		Has this value been verified?		Choice of data correctly justified?		Measurement method correctly described?		☒	☒
Data Checklist	Yes / No																							
Title in line with methodology?																								
Data unit correctly expressed?																								
Appropriate description of parameter?																								
Source clearly referenced?																								
Correct value provided?																								
Has this value been verified?																								
Choice of data correctly justified?																								
Measurement method correctly described?																								
B.6.2.22. Parameter title: CO2 emission factor of the fossil fuel type used for heat generation in the absence of the project activity EF _{CO2,BL,heat}	1, 2	Not applicable, as this parameter is only applicable to scenario 20. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Choice of data correctly justified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided?		Has this value been verified?		Choice of data correctly justified?		Measurement method correctly described?		☒	☒
Data Checklist	Yes / No																							
Title in line with methodology?																								
Data unit correctly expressed?																								
Appropriate description of parameter?																								
Source clearly referenced?																								
Correct value provided?																								
Has this value been verified?																								
Choice of data correctly justified?																								
Measurement method correctly described?																								
B.6.2.23. Parameter title: Methane generation potential of the waste water B _{o,ww}	1, 2	Depending whether “Waste water from the treatment of biomass residues” is included into the project boundary or not, this parameter has to be included into B.6.2. or not. See B.3.9. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>See CAR 17</td></tr><tr><td>Data unit correctly expressed?</td><td>See CAR 17</td></tr><tr><td>Appropriate description of parameter?</td><td>See CAR 17</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	See CAR 17	Data unit correctly expressed?	See CAR 17	Appropriate description of parameter?	See CAR 17	See CAR 18	☒										
Data Checklist	Yes / No																							
Title in line with methodology?	See CAR 17																							
Data unit correctly expressed?	See CAR 17																							
Appropriate description of parameter?	See CAR 17																							

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		Source clearly referenced?	See CAR 17			
		Correct value provided?	See CAR 17			
		Has this value been verified?	See CAR 17			
		Choice of data correctly justified?	See CAR 17			
		Measurement method correctly described?	See CAR 17			
B.6.2.24. Parameter title: Methane correction factor for the waste water MCF_{ww}	1, 2	Depending whether "Waste water from the treatment of biomass residues" is included into the project boundary or not, this parameter has to be included into B.6.2. or not. See B.3.9.			See CAR 18	☒
		Data Checklist	Yes / No			
		Title in line with methodology?	See CAR 17			
		Data unit correctly expressed?	See CAR 17			
		Appropriate description of parameter?	See CAR 17			
		Source clearly referenced?	See CAR 17			
		Correct value provided?	See CAR 17			
		Has this value been verified?	See CAR 17			
		Choice of data correctly justified?	See CAR 17			
		Measurement method correctly described?	See CAR 17			
B.6.2.25. Parameter title ("Tool to calculated project emissions from electricity consump-	1, 2	Not applicable.			☒	☒
		Data Checklist	Yes / No			

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tion”): Rated capacity of power plant i PPi		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
		Measurement method correctly described?			
Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site					
B.6.2.26. Parameter Title: φ - Model correction factor to account for model uncertainties		Not applicable.		☑	☑
		Data Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
B.6.2.27. Parameter Title: OX - Oxidation factor	1, 2	Not applicable.		☑	☑
		Data Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
B.6.2.28. Parameter Title: MCF - Methane correction factor	1, 2	Not applicable.		☑	☑
		Data Checklist	Yes / No		

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		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
		Measurement method correctly described?			
B.6.2.29. Parameter Title: DOC _f - Fraction of degradable organic carbon (DOC) that can decompose	1, 2	Not applicable.		☒	☒
		Data Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
		Measurement method correctly described?			
B.6.2.30. Parameter Title: DOC _j - Fraction of degradable organic carbon by weight in the waste type j	1, 2	Not applicable.		☒	☒
		Data Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
		Measurement method correctly described?			
B.6.2.31. Parameter Title: kj – Decay rate for the waste type j	1, 2	Not applicable.		☒	☒
		Data Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			

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		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
		Measurement method correctly described?			
B.6.2.32. Parameter Title: F, Fraction of methane in the SWDS gas	1, 2	Not applicable.		☑	☑
		Data Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided?			
		Has this value been verified?			
		Choice of data correctly justified?			
		Measurement method correctly described?			
B.7.1.33. Parameter Title: Quantity of biomass residue type k that has been transported to the project site during the year y where k are the types of biomass residues used in the project plant in year y BF _{T,k,y}	1, 2	Not applicable.		☑	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			
		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			
Parameters related to the “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”					
B.7.1.34. Parameter Title:	1, 2	<u>Corrective Action Request No.21.</u> Regarding the parameter “Quantity of fuel type i combusted in process		CAR 21	☑

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Quantity of fuel type i combusted in process j during the year y FC _{i,j,y}		j during the year y”: The parameter title should be corrected as per the Tool, the measurement method should be indicated in more detail, reference to a standard and accuracy of the meter should be indicated. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes		
Monitoring Checklist	Yes / No																											
Title in line with methodology?	No																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
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QA/QC procedures described?	Yes																											
QA/QC procedures appropriate?	Yes																											
B.7.1.35. Parameter title: Weighted average mass fraction of carbon in fuel type i in year y W _{C,i,y}	1, 2	Not applicable, as option B is chosen. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided for estimation?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr><tr><td>Correct reference to standards?</td><td></td></tr><tr><td>Indication of accuracy provided?</td><td></td></tr><tr><td>QA/QC procedures described?</td><td></td></tr><tr><td>QA/QC procedures appropriate?</td><td></td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided for estimation?		Has this value been verified?		Measurement method correctly described?		Correct reference to standards?		Indication of accuracy provided?		QA/QC procedures described?		QA/QC procedures appropriate?		☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?																												
Data unit correctly expressed?																												
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Correct reference to standards?																												
Indication of accuracy provided?																												
QA/QC procedures described?																												
QA/QC procedures appropriate?																												
B.7.1.36. Parameter title: Weighted average density of fuel type i in year y ρ _{i,y}	1, 2	Not applicable, as option B is chosen. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		☒	☒																		
Monitoring Checklist	Yes / No																											
Title in line with methodology?																												
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		Appropriate description of parameter?																											
		Source clearly referenced?																											
		Correct value provided for estimation?																											
		Has this value been verified?																											
		Measurement method correctly described?																											
		Correct reference to standards?																											
		Indication of accuracy provided?																											
		QA/QC procedures described?																											
		QA/QC procedures appropriate?																											
B.7.1.37. Parameter title: Weighted average net calorific value of fuel type i in year y NCVi,y	1, 2	<u>Corrective Action Request No.22.</u> Regarding the parameter “Weighted average net calorific value of fuel type i in year y”: The description should refer to diesel as used fuel. Besides, the year of the China Energy Statistical Yearbook should be indicated. The estimated value should be evidenced. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>See CAR 24</td></tr><tr><td>Has this value been verified?</td><td>See CAR 24</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</td><td>Yes</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	See CAR 24	Has this value been verified?	See CAR 24	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	N/A	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	Yes	CAR 22	☒
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	No																												
Source clearly referenced?	No																												
Correct value provided for estimation?	See CAR 24																												
Has this value been verified?	See CAR 24																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.1.38. Parameter title: Weighted average CO2 emission factor of fuel type i in year y EF _{CO2,i,y}	1, 2	<u>Corrective Action Request No.23.</u> Regarding the parameter “Weighted average CO2 emission factor of fuel type i in year y”: The parameter title should be corrected to EF _{CO2,FCi,y} , the description should refer to diesel.		CAR 23	☒																								

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		Monitoring Checklist	Yes / No																										
		Title in line with methodology?	No																										
		Data unit correctly expressed?	Yes																										
		Appropriate description of parameter?	No																										
		Source clearly referenced?	Yes																										
		Correct value provided for estimation?	Yes																										
		Has this value been verified?	Yes																										
		Measurement method correctly described?	Yes																										
		Correct reference to standards?	Yes																										
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	Yes																										
		QA/QC procedures appropriate?	Yes																										
Parameters related to the “Tool to calculate project emissions from electricity consumption”																													
B.7.1.39. Parameter title: Average technical transmission and distribution losses in the grid in year y for the voltage level at which electricity is obtained from the grid at the project site TDLy	1, 2	<u>Corrective Action Request No.24.</u> The parameter “Average technical transmission and distribution losses in the grid in year y for the voltage level at which electricity is obtained from the grid at the project site (TDLy)” has to be mentioned in B.7.1. of the PDD. <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><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	CAR 24	☒
Monitoring Checklist	Yes / No																												
Title in line with methodology?	No																												
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Has this value been verified?	No																												
Measurement method correctly described?	No																												
Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.1.40. Parameter title: Quantity of fossil fuel type i fired in the captive	1, 2	Not applicable <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr></table>		Monitoring Checklist	Yes / No	☒	☒																						
Monitoring Checklist	Yes / No																												

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power plant n in the time period t FC _{n,i,t}		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			
		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			
B.7.1.41. Parameter title: The total net amount of electricity produced by captive power plant n in the time period t EG _{n,t}	1, 2	Not applicable		☒	☒
		Monitoring Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			
		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			
B.7.1.42. Parameter title: Net quantity of heat co-generated in captive power plant n in time period t (GJ) HG _{n,t}	1, 2	Not applicable		☒	☒
		Monitoring Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			

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		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			
B.7.1.43. Parameter title: Net calorific value of fuel type i in the period t NCVi,t	1, 2	Not applicable		☑	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			
		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			
B.7.1.44. Parameter title: CO2 emission factor of fuel type i in the period t EF _{CO2,i,t}	1, 2	Not applicable		☑	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			
		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			

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Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site																												
B.7.1.45. Parameter title: f - Fraction of methane captured at the SWDS and flared, combusted or used in another manner	1, 2	Not applicable. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided for estimation?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr><tr><td>Correct reference to standards?</td><td></td></tr><tr><td>Indication of accuracy provided?</td><td></td></tr><tr><td>QA/QC procedures described?</td><td></td></tr><tr><td>QA/QC procedures appropriate?</td><td></td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided for estimation?		Has this value been verified?		Measurement method correctly described?		Correct reference to standards?		Indication of accuracy provided?		QA/QC procedures described?		QA/QC procedures appropriate?		☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?																												
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Source clearly referenced?																												
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Measurement method correctly described?																												
Correct reference to standards?																												
Indication of accuracy provided?																												
QA/QC procedures described?																												
QA/QC procedures appropriate?																												
B.7.1.46. Parameter title: GWPch4 – Global Warming Potential (GWP) of methane, valid for the relevant commitment period	1, 2	Not applicable. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided for estimation?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr><tr><td>Correct reference to standards?</td><td></td></tr><tr><td>Indication of accuracy provided?</td><td></td></tr><tr><td>QA/QC procedures described?</td><td></td></tr><tr><td>QA/QC procedures appropriate?</td><td></td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided for estimation?		Has this value been verified?		Measurement method correctly described?		Correct reference to standards?		Indication of accuracy provided?		QA/QC procedures described?		QA/QC procedures appropriate?		☒	☒
Monitoring Checklist	Yes / No																											
Title in line with methodology?																												
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Measurement method correctly described?																												
Correct reference to standards?																												
Indication of accuracy provided?																												
QA/QC procedures described?																												
QA/QC procedures appropriate?																												
B.7.1.47. Parameter title: Wx – Total amount of organic waste prevented from disposal in year x (tons)	1, 2	Not applicable. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		☒	☒																		
Monitoring Checklist	Yes / No																											
Title in line with methodology?																												
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		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			
		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			
B.7.1.48. Parameter title: $\rho_{n,j,x}$ –Weight fraction of the waste type j in the sample n collected during the year x	1, 2	Not applicable.		☒	☒
		Monitoring Checklist	Yes / No		
		Title in line with methodology?			
		Data unit correctly expressed?			
		Appropriate description of parameter?			
		Source clearly referenced?			
		Correct value provided for estimation?			
		Has this value been verified?			
		Measurement method correctly described?			
		Correct reference to standards?			
		Indication of accuracy provided?			
		QA/QC procedures described?			
		QA/QC procedures appropriate?			

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B.7.1.49. Parameter title: z – Number of samples collected during the year x	1, 2	Not applicable. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided for estimation?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr><tr><td>Correct reference to standards?</td><td></td></tr><tr><td>Indication of accuracy provided?</td><td></td></tr><tr><td>QA/QC procedures described?</td><td></td></tr><tr><td>QA/QC procedures appropriate?</td><td></td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided for estimation?		Has this value been verified?		Measurement method correctly described?		Correct reference to standards?		Indication of accuracy provided?		QA/QC procedures described?		QA/QC procedures appropriate?		☒	☒
Monitoring Checklist	Yes / No																											
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Measurement method correctly described?																												
Correct reference to standards?																												
Indication of accuracy provided?																												
QA/QC procedures described?																												
QA/QC procedures appropriate?																												
Amendment due to the revised PDD guidelines (EB 41)																												
A.2.5. Is the description delivering a transparent overview about the scenario existing prior to the start of the implementation of the project activity?	1, 2	<u>Corrective Action Request No.25.</u> a) Please provide information in A.2. about the pre-project situation including some essential information about pre-project equipment if relevant. b) In the case pre-project situation and baseline scenario is identical, this should be mentioned, otherwise the baseline scenario has to be indicated separately as well.	CAR 25	☒																								
A.2.6. Is the description delivering a transparent overview of the project activities, including a summary of the scope of activities/measures that are being implemented within the proposed project activity?	1, 2	A.2. mentions that the project will utilize local surplus biomass residues for generating heat and electricity. It will help reduce GHG emissions from the high-growth, coal-dominated power generation of Northeast China Grid. Moreover, the proposed project will use residues for energy purpose in high efficiency, which will reduce CH4 emissions because the biomass is dumped or left to decay or burned in an uncontrolled manner in the absence of the proposed project. However, see B.4.8.	See CR 5	☒																								

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A.2.7. Is the baseline scenario identified as in section B.4. and described? In the case that baseline scenario and scenario prior to the start of implementation of the project activity is the same: Is this fact indicated in A.2. and A.4.3. of the PDD?	1, 2	See A.2.5.	See CAR 25	
A.2.8. Is it explained how the proposed project activity reduces GHG emissions making reference to the scenarios, emission sources and gases described in sections A.4.3. and B.3.?	1, 2	Yes. A.2. mentions that the proposed project activity will utilize local surplus biomass residues for generating heat and electricity, thus it will help to reduce GHG emissions from the high-growth, coal-dominated power generation of Northeast China Grid. Moreover, the proposed project will use biomass residues for energy purpose in high efficiency, which will reduce CH4 emissions because the biomass is dumped or left to decay or burned in an uncontrolled manner in the absence of the proposed project.	☒	☒
A.2.9. Is transparently explained how the project activity contributes to sustainable development?	1, 2	Yes. It is transparently explained how the proposed project activity will contribute to sustainable development.	☒	☒
A.4.3.11. Is a detailed description provided of the following items: a) Scenario existing prior to the start of the implementation of the project activity, with a list of the equipment(s) and systems in operation at that time? b) Scope of activities/measures that are being implemented within the project activity, with a list of the equipment(s) and systems that will be installed and/or modified within the project activity? c) The baseline scenario, as identified in section B.4. with a list of the equipment(s) and systems that would have	1, 2	See A.2.5. <u>Corrective Action Request No.26.</u> Please provide in A.2. a list of the equipment (that is further detailed in A.4.3.) that will be installed by the project activity.	See CAR 25 CAR 26	☒

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been in place in the absence of the project activity?				
A.4.3.12. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance? a) Is a list of the main manufacturing/production technologies, systems and equipments involved, provided, including information about age and average lifetime of the equipments based on manufacturer's specifications and industry standards, existing and forecast installed capacities, load factors and efficiencies? Is information about the monitoring equipment and their location in the systems provided? b) Is information provided about emissions sources and the GHG involved in the project activity as well as existing and forecast energy and mass flows and balances of the systems and equipments included in the project activity? c) Is information provided about the types and levels of services (usually in terms of mass or energy flows) provided by the systems and equipments that are being modified and/or installed under project activity and their relation (if any) to other manufacturing/production equipments and systems outside the project boundary? Is it	1, 2	<u>Corrective Action Request No.27.</u> Please still include the following information in A.4.3. of the PDD: a) Manufacturer of turbines and generators b) Age and average lifetime (based on manufacturer's specifications and/or industry standards) of boilers, turbines and generators c) Efficiency of the turbine/generator d) Information about the monitoring equipment and its location e) Regarding information of mass and energy flows: Please provide figures for the forecasted mass and energy flows. See also B.4.8. and B.4.15. f) Please inform how the energy flows would have been provided in the absence of the proposed project activity. See B.4.8. , See B.4.15.	CAR 27 See CR 5 See CAR 17	☒

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explained how the same types and levels of services provided by the project activity would have been provided in the baseline scenario?				
B.3.11. Is a flow diagram of the project boundary presented, physically delineating the project activity, including all the equipments, systems and mass and energy flows as well as emission sources and gases included in the project boundary and the monitoring variables?	1, 2	Yes.	☒	☒
B.5.30. In the case that starting date of the project activity is before the date of validation: Is an implementation timeline of the proposed project activity provided, including (where applicable), the date of investment decision, starting date of construction works, starting date of commissioning and date of start-up? Is a timeline provided of events and actions, which have been taken to achieve CDM registration, with description of the evidence used to support these actions?	1, 2	<u>Corrective Action Request No.28.</u> An implementation time schedule of the proposed project activity should be included in B.5. of the PDD. This time schedule should include amongst others the evidence for CDM consideration, date of investment decision, starting date of construction works and starting date of commissioning.	CAR 28	☒
C.1.2. Is a description provided how the project's starting date has been determined, and a description of the evidence available to support the starting date?	1, 2	<u>Corrective Action Request No.29.</u> According to C.1.1. of the PDD, the project's starting date is determined as the date when construction works began. Please describe the evidence available to support the starting date.	CAR 29	☒

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Table 4 Resolution of CARs and CRs - Changes from methodology ACM0006 Version 04 to Version 06

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response <i>Please provide your responses here with a clear indication where in the PDD the relevant information was inserted (if applicable).</i>	Validation team conclusion
<u>Corrective Action Request No.17.</u> According to the methodology (page 20, project boundary) the source "Waste water from the treatment of biomass residues" has to be mentioned in Table B.1. (section B.3.) of the PDD. Besides, it has to be indicated whether the source is included or excluded and justified why included/excluded.	B.3.9.	PDD modified	Wastewater is not treated anaerobically in the project. Emissions from wastewater are considered to be small. Therefore this source is excluded from the project boundary. ☒
<u>Corrective Action Request No.18.</u> Table B.2. and Table B.4. (H3 and H5) have to be updated in the PDD according to version 6.2. of ACM0006.	B.4.9.	PDD modified	☒
<u>Corrective Action Request No.19.</u> 1. Please provide the translation of the NBE Board meeting minutes, dated November 28, 2005. 2. The date of this NBE Board meeting minutes is indicated with November 25, 2005 in B.5. of the PDD, thus not consistent with the original document. Please revise.	B.5.13.	1. This translation was sent by email to the DOE on March 7 th 2008. We send it again. 2. PDD modified.	The date in the PDD has been corrected. The translation is available to the DOE. ☒
<u>Corrective Action Request No.20.</u> a) A.4.3. mentions that light diesel is necessary as boiler fire fuel, whereas B.6.1., step 3 mentions that the boiler does not need fossil fuel for start-ups. Please revise this inconsistency. b) It is not clear why the parameters $FF_{\text{project plant},i,y}$ and $F_{\text{project site},i,y}$ are mentioned in B.6.1. of the PDD as they are not mentioned neither	B.6.1.8.	a) PDD modified b) These parameters are mentioned in page 25 of ACM0006, as they are used to calculate $PEFF_y$. The PDD was modified in order to use rigorously the same parameter names as in ACM0006 (nota: the PDD previously used the parameters names in both ACM0006 and the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion", which are different, indeed inducing inconsis-	The information in the PDD is consistent. ☒

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response <i>Please provide your responses here with a clear indication where in the PDD the relevant information was inserted (if applicable).</i>	Validation team conclusion
in the methodology nor in one of the formulae in the PDD. Please revise.		tencies).	
<u>Corrective Action Request No.21.</u> Regarding the parameter "Quantity of fuel type i combusted in process j during the year y": The parameter title should be corrected as per the Tool, the measurement method should be indicated in more detail, reference to a standard and accuracy of the meter should be indicated.	B.7.1.34.	PDD modified.	☒
<u>Corrective Action Request No.22.</u> Regarding the parameter "Weighted average net calorific value of fuel type i in year y": The description should refer to diesel as used fuel. Besides, the year of the China Energy Statistical Yearbook should be indicated. The estimated value should be evidenced.	B.7.1.37.	PDD modified. Relevant scan of China Energy Statistical Yearbook 2005 was sent to the DOE	☒
<u>Corrective Action Request No.23.</u> Regarding the parameter "Weighted average CO2 emission factor of fuel type i in year y": The parameter title should be corrected to $EF_{CO_2,FCi,y}$, the description should refer to diesel.	B.7.1.38.	PDD modified	☒
<u>Corrective Action Request No.24.</u> The parameter "Average technical transmission and distribution losses in the grid in year y for the voltage level at which electricity is obtained from the grid at the project site (TDLy)" has to be mentioned in B.7.1. of the PDD.	B.7.1.39.	PDD modified	☒
<u>Corrective Action Request No.25.</u> 1. Please provide information in A.2. about the pre-project situation including some essential information	A.2.5.	The revised PDD guidelines adopted at EB41 are not applicable to the project (see item 10 of the revised PDD guide-	The required information was provided in the PDD.

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response <i>Please provide your responses here with a clear indication where in the PDD the relevant information was inserted (if applicable).</i>	Validation team conclusion
about pre-project equipment if relevant. 2. In the case pre-project situation and baseline scenario is identical, this should be mentioned, otherwise the baseline scenario has to be indicated separately as well.		lines). The PDD was not modified. DOE's First Response The information in §10 of the PDD Guidelines (Part I, General Information on the PDD) refer to revisions of the PDD template. Guidance has to be followed by all projects that are not yet registered. Background: It is assumed that guidance is providing information that already had to be known to the PPs and to be followed before the guidance was published. Please revise the PDD according to the CAR. PPs Response PDD modified (cf. A.2., 3 rd paragraph)	☒
<u>Corrective Action Request No.26.</u> Please provide in A.2. a list of the equipment (that is further detailed in A.4.3.) that will be installed by the project activity.	A.4.3.11.	The revised PDD guidelines adopted at EB41 are not applicable to the project (see item 10 of the revised PDD guidelines). The PDD was not modified. DOE's First Response The information in §10 of the PDD Guidelines (Part I, General Information on the PDD) refer to revisions of the PDD template. Guidance has to be followed by all projects that are not yet registered. Background: It is assumed that guidance is providing information that already had to be known to the PPs and to be followed before the guidance was published. Please revise the PDD according to the CAR.	The required information was provided in the PDD. ☒

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response <i>Please provide your responses here with a clear indication where in the PDD the relevant information was inserted (if applicable).</i>	Validation team conclusion
		PPs Response PDD modified (cf. A.2., 3 rd paragraph)	
<u>Corrective Action Request No.27.</u> Please still include the following information in A.4.3. of the PDD: a) Manufacturer of turbines and generators b) Age and average lifetime (based on manufacturer's specifications and/or industry standards) of boilers, turbines and generators c) Efficiency of the turbine/generator d) Information about the monitoring equipment and its location e) Regarding information of mass and energy flows: Please provide figures for the forecasted mass and energy flows. See also B.4.8. and B.4.15. f) Please inform how the energy flows would have been provided in the absence of the proposed project activity.	A.4.3.12.	The revised PDD guidelines adopted at EB41 are not applicable to the project (see item 10 of the revised PDD guidelines). The PDD was not modified. DOE's First Response The information in §10 of the PDD Guidelines (Part I, General Information on the PDD) refer to revisions of the PDD template. Guidance has to be followed by all projects that are not yet registered. Background: It is assumed that guidance is providing information that already had to be known to the PPs and to be followed before the guidance was published. Please revise the PDD according to the CAR. PPs Response PDD modified (cf. A.4.3., 3 rd paragraph).	The required information was provided in the PDD. ☒
<u>Corrective Action Request No.28.</u> Please provide a flow diagram of the project boundary, physically delineating the project activity, including all the equipments, systems and mass and energy flows as well as emission sources and gases included in the project boundary and the monitoring variables.	B.3.11.	The revised PDD guidelines adopted at EB41 are not applicable to the project (see item 10 of the revised PDD guidelines). The PDD was modified to remind the information already appears in A.2. DOE's First Response The information in §10 of the PDD Guidelines (Part I, General Information on the PDD) refer to revisions of the PDD template. Guidance has to be followed by all projects that	The required information was provided in the PDD. ☒

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Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response <i>Please provide your responses here with a clear indication where in the PDD the relevant information was inserted (if applicable).</i>	Validation team conclusion
		are not yet registered. Background: It is assumed that guidance is providing information that already had to be known to the PPs and to be followed before the guidance was published. Please revise the PDD according to the CAR. PPs Response PDD modified (cf. B.3).	
<u>Corrective Action Request No.29.</u> According to C.1.1. of the PDD, the project's starting date is determined as the date when construction works began. Please describe the evidence available to support the starting date.	C.1.2.	The construction start ceremony was indeed held on May 26th 2006. This is evidence by a web press article, the reference and translation of which are sent to the DOE.	☒

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Clarification Request No. 5. According to information provided in the PDD, it is not clear whether maize stalk is the only type of biomass residue which will be used in the proposed project activity. B.2. mentions maize stalk as predominant fuel and A.2. indicates that “the project will utilize local surplus biomass residues (mainly as maize stalk)...”. On the other side, B.4. mentions that “the proposed project mainly uses biomass residues from maize stalks and soybean straw”. Please clarify. In the case more than one type of biomass residue will be used (e.g. in the case that besides maize stalks as well soybean straw or others are used), the PDD has to document for each type of biomass residues which quantities are used in which installations under the proposed project activity and how these types and quantities of biomass residues would be used in the absence of the project activity. It is recommended to use a Table to illustrate it.	B.4.8.	Maize stalk will be the predominant fuel burnt in the project. Although, some soybean may also be used in substitution to maize stalk, there is no plan to include a pre-defined percentage of soybean stalk in the combustion process. Consequently, all the energy and mass balances described in the PDD only take into account maize stalk. However, the supply/demand balance of soybean stalk around Liaoyuan county has been included in the PDD. Nota: the monitoring of each type of biomass residues that will be combusted by the project is planned as per the PDD monitoring methodology.	☒
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Table 5 Conformity of Project Activity and PDD (Tool to calculate the emission factor for an electricity system, Version 01.1)

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PDD in GSP	Final PDD
F.2. Emissions reductions					
<i>F.2.1. Explanation of methodological choices</i>					
F.2.1.1.	Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1, 2	Yes. It is explained how the procedures provided in the methodology are applied by the proposed project activity.	☒	☒
F.2.1.2.	Is the relevant electric power system identified and justified? (step 1)	1, 2	Yes. The Northeast China Power Grid is identified as the relevant electric power system of the proposed project, which includes the grids of Heilongjiang Province, Jilin Province and Liaoning Province. The proposed project belongs to the Jilin Power Grid, which is part of Northeast China Power Grid.	☒	☒
F.2.1.3.	Is the choice of options to determine the operating margin justified in a suitable and transparent manner? (step 2)	1, 2	The Simple OM method is used. The choice is justified in an appropriate and transparent manner in B.6.1. of the PDD.	☒	☒
F.2.1.4.	Are the formulae required for the determination of the operating margin factor correctly presented, enabling a complete identification of parameter to be used and / or monitored? (step 3)	1, 2	Yes. The formula required for the determination of the operating margin factor is correctly presented in step 3 of B.6.1. of the PDD. Option C is chosen.	☒	☒
F.2.1.5.	Is the cohort of power units to be included in the build margin appropriately identified (step 4)	1, 2	Because of the limited availability of publicly available data, at present it is impossible to know how much generation of Northeast China Grid was from the newly built power plant and it is also impossible to find the exact newly built plants which comprise the 20% of the system generation. According to the EB's guidance on DNV's <i>Request for clarification on use of approved methodology AM0005 for several projects in China</i> , the EB accepted the following deviation: - Use of capacity additions during last 1 - 3 years for estimating the build margin emission factor for grid electricity; - Use the efficiency level of the best technology commercially available in	☒	☒

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		the provincial/regional or national grid of China, as a conservative proxy, for each fuel type in estimating the fuel consumption to estimate the build margin (BM).		
F.2.1.6. Are the formulae required for the determination of the build margin factor correctly presented, enabling a complete identification of parameter to be used and / or monitored? (step 5)	1, 2	The formula required for the determination of the build margin is correctly presented, bearing in mind the applied approach described in A.1.1.5. which was approved by the EB.	☒	☒
F.2.1.7. In case of alternative weighing factors for the Combined Margin: Is the quantification of the alternative weighing factor justified in a suitable and transparent manner?	1, 2	Not applicable.	☒	☒
F.2.1.8. In case of alternative weighing factors for the Combined Margin: Is the guidance for the PDD concerning the acceptability of alternative weights considered in the discussion?	1, 2	Not applicable.	☒	☒
F.2.2. Data and parameters that need to be monitored or need to be calculated only once for the crediting period and thus are available at validation, depending on the data vintage chosen				
F.2.2.1. Is the list of parameters presented in chapter B.6.2/B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1, 2	The list of parameters presented in chapter B.6.2. with regard to the requirements of this Tool is not considered to be complete. The parameter EGy is missing. <u>Corrective Action Request No.30.</u> Please include the parameter EGy into B.6.2. of the PDD.	CAR 33	☒
F.2.2.2. Is the choice of ex-ante or ex-post vintage of OM and BM factors clearly specified in the PDD?	1, 2	The ex-ante vintage for the OM factor is clearly specified, not however the vintage for the BM factor. <u>Corrective Action Request No.31.</u> Please mention explicitly in B.6.1. of the PDD that it is chosen the ex-ante vintage for the BM factor.	CAR 34	☒

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
F.2.2.3. Is the calculation of the OM and BM factors documented electronically in a spreadsheet attached to the CDM-PDD including all data used for calculation as per the tool (page 17,18)?	1, 2	Annex 3 of the PDD informs about the data used in the calculation of OM and BM factors.	☒	☒																		
Fill in the required amount of sub checklists for monitoring parameter and comment any line answered with “No”																						
F.2.2.4. Parameter Title: FC _{i,m,y} ; FC _{i,y} ; FC _{i,j,y} ; FC _{i,n,y} ; FC _{i,n,h} amount of fossil fuel type i consumed by power plant/unit <i>m,j,k</i> or <i>n</i> (or in the project electricity system in case of FC _{i,y}) in year y or hour <i>h</i> (mass or volume unit)	1, 2	The parameter title Fi,j,y is accepted by the validation team, as FCi,j,y is defined as the “Quantity of fuel type i combusted in process j during the year y” <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>N/A</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?	N/A	☒	☒
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?	N/A																					
F.2.2.5. Parameter Title: NCV _{i,y} Net calorific value of fossil fuel type i in year y (GJ/mass or volume unit)	1, 2	<u>Corrective Action Request No.32.</u> Regarding the parameter NCVi,y: 1. Please correct data unit to: GJ/mass or volume unit 2. Please correct description to: net calorific value of fossil fuel type <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>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	Yes	CAR 35	☒								
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	Yes																					

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	N/A		
F.2.2.6. Parameter Title: EF _{CO2,i,y} ; EF _{CO2,m,i,y} CO ₂ emission factor of fossil fuel type i in the year y	1, 2	<u>Corrective Action Request No.33.</u> Regarding the parameter “CO ₂ emission factor of fossil fuel type i in the year y”: 1. Please correct parameter Title to EF _{CO2,i,y} 2. Please correct data unit to tCO2/GJ 3. Please correct description to CO ₂ emission factor of fossil fuel type i		CAR 36	☑
		Data Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	N/A		
F.2.2.7. Parameter Title: EG _{m,y} ; EG _y ; EG _{j,y} ; EG _{k,y} ; EG _{n,h} Net electricity generated and delivered to the grid by power plant/unit <i>m,j,k</i> or <i>n</i> (or in the project electricity system in case of EG _y) in year y or hour <i>h</i> (mass or volume unit)	1, 2	See A.1.2.1.		See CAR 33	☑
		Data Checklist	Yes / No		
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
F.2.2.8. Applicable for the dispatch data OM Parameter Title: $EG_{PJ,h}$ Electricity displaced by the project activity in hour h of year y	1, 2	Not applicable. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Choice of data correctly justified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided?		Has this value been verified?		Choice of data correctly justified?		Measurement method correctly described?		☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?																						
Data unit correctly expressed?																						
Appropriate description of parameter?																						
Source clearly referenced?																						
Correct value provided?																						
Has this value been verified?																						
Choice of data correctly justified?																						
Measurement method correctly described?																						
F.2.2.9. Parameter Title: $\eta_{m,y}$ average net energy conversion efficiency of power unit m in year y	1, 2	Not applicable. <table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td></td></tr><tr><td>Data unit correctly expressed?</td><td></td></tr><tr><td>Appropriate description of parameter?</td><td></td></tr><tr><td>Source clearly referenced?</td><td></td></tr><tr><td>Correct value provided?</td><td></td></tr><tr><td>Has this value been verified?</td><td></td></tr><tr><td>Choice of data correctly justified?</td><td></td></tr><tr><td>Measurement method correctly described?</td><td></td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?		Data unit correctly expressed?		Appropriate description of parameter?		Source clearly referenced?		Correct value provided?		Has this value been verified?		Choice of data correctly justified?		Measurement method correctly described?		☒	☒
Data Checklist	Yes / No																					
Title in line with methodology?																						
Data unit correctly expressed?																						
Appropriate description of parameter?																						
Source clearly referenced?																						
Correct value provided?																						
Has this value been verified?																						
Choice of data correctly justified?																						
Measurement method correctly described?																						

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Table 6 Resolution of Corrective Action and Clarification Requests (Tool to calculate the emission factor for an electricity system, Version 01.1)

Clarifications and corrective action re-requests by validation team	Ref. to table 1	Summary of project owner response <i>Please provide your responses here with a clear indication where in the PDD the relevant information was inserted (if applicable).</i>	Validation team conclusion
<u>Corrective Action Request No.30.</u> Please include the parameter EGy into B.6.2. of the PDD.	A.1.2.1.	PDD modified	☒
<u>Corrective Action Request No.31.</u> Please mention explicitly in B.6.1. of the PDD that it is chosen the ex-ante vintage for the BM factor.	A.1.2.2.	PDD modified	☒
<u>Corrective Action Request No.32.</u> Regarding the parameter NCV _{i,y} : 1. Please correct data unit to: GJ/mass or volume unit 2. Please correct description to: net calorific value of fossil fuel type	A.1.2.5.	PDD modified	☒
<u>Corrective Action Request No.33.</u> Regarding the parameter "CO ₂ emission factor of fossil fuel type i in the year y": 1. Please correct parameter Title to EF _{CO2,i,y} 2. Please correct data unit to tCO ₂ /GJ 3. Please correct description to CO ₂ emission factor of fossil fuel type i	A.1.2.6.	PDD modified	☒

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Table 7 Forward Action Requests

Forward action requests by validation team	Id. of CAR/CR	Comments
-	-	-

Table 8 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

Final Report	01-03-2010	Validation of the “Jilin Liaoyuan 50MW Level Biomass Cogeneration Project” Information Reference List	Page 1 of 3	 Industrie Service
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Reference No.	Document or Type of Information										
1.	PDD in 1 st GSP: “Jilin Liaoyuan 50MW Biomass Cogeneration Project”, version 03, dated 12/04/2007										
2.	Consolidated methodology for grid-connected power generation from biomass residues ACM0006, Version 04 and Version 06										
3.	Combined tool to identify the baseline scenario and demonstrate additionality, Version 02.2										
4.	Participant list of on-site interview, signed on June, 7 th , 2007.										
5.	On-site interviews at the project site liaoyuan city, Jilin province , P.R, China., conducted on June 7th, 2007 by auditing team of TÜV SÜD: Validation team: <table> <tr> <td>Ms. Xiaoying Chen</td><td>GHG Auditor, Jiangsu TUV Product Service Ltd.</td></tr> </table> Interviewed persons: <table> <tr> <td>Mr. Li Weiguo</td><td>Manager of supervision department of “Liaoyuan Biomass Power Generation Co., Ltd”</td></tr> <tr> <td>Mr. Xiao Bing</td><td>Manager of CDM department of “National Bio Energy Co., Ltd”</td></tr> <tr> <td>Ms Li Huiying</td><td>CDM manager of “Liaoyuan Biomass Power Generation Co., Ltd”</td></tr> <tr> <td>Ms. Zhao Xin</td><td>CDM manager of EDF</td></tr> </table>	Ms. Xiaoying Chen	GHG Auditor, Jiangsu TUV Product Service Ltd.	Mr. Li Weiguo	Manager of supervision department of “Liaoyuan Biomass Power Generation Co., Ltd”	Mr. Xiao Bing	Manager of CDM department of “National Bio Energy Co., Ltd”	Ms Li Huiying	CDM manager of “Liaoyuan Biomass Power Generation Co., Ltd”	Ms. Zhao Xin	CDM manager of EDF
Ms. Xiaoying Chen	GHG Auditor, Jiangsu TUV Product Service Ltd.										
Mr. Li Weiguo	Manager of supervision department of “Liaoyuan Biomass Power Generation Co., Ltd”										
Mr. Xiao Bing	Manager of CDM department of “National Bio Energy Co., Ltd”										
Ms Li Huiying	CDM manager of “Liaoyuan Biomass Power Generation Co., Ltd”										
Ms. Zhao Xin	CDM manager of EDF										
6.	Feasibility Study Report for “Liaoyuan 50MW biomass cogeneration Plant”, issued by Shandong Luneng power design institute, dated March, 2006.										
7.	Approval of Feasibility Study Report of “Liaoyuan 50MW Biomass cogeneration Plant”, issued by development and reform commission, dated June, 2006.										
8.	EIA Approval Report for CDM project “Liaoyuan 50MW Biomass Power generation Plant”, issued by North East Normal University environmental and science institute, dated Jan, 2006.										
9.	Construction contract, signed between Heilongjiang province coal-fire first company and Liaoyuan Bio, dated June, 2006.										
10.	1*50MW boiler purchasing contract, dated Feb 8, 2006										
11.	1*50MW turbine engine purchasing contract, dated May, 2006 (purchasing turbines from another project)										
12.	Business license of Liaoyuan Bio, issued by Liaoyuan business and industry administration, dated 22nd March, 2007.										
13.	The taxation registration certificate, issued by Liaoyuan state administration of taxation, dated 28th March, 2007.										

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Reference No.	Document or Type of Information
14.	Fuel supply contract, signed between Liaoyuan Wuyi Co with Liaoyuan Bio, dated 30th May, 2006.
15.	Land use permission, issued by Liaoyuan government, dated 12th April, 2007.
16.	ERPA CDM emission reduction purchase agreement with EDF trading, dated 16th, March, 2007
17.	Liaoyuan straw price information, various documents with different dates
18.	Local Stakeholders' comments questionnaire sample, dated Nov, 2006.
19.	Bank loan certificate, dated 8 June 2007
20.	LoA of China, issued by NDRC, dated 22nd, May 2007.
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