Industrie Service

Determination Report

Determination of the AKB Fores JI Project

BULGARIA

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Industrie Service

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Client:	Global Carbon BV Muzenplein 145, 2511GK, The Hague - THE NETHERLANDS
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Summary:

The Certification Body ”Climate and Energy” of TÜV Industrie Service GmbH TÜV SÜD Group, has been ordered by the Dutch company “Global Carbon BV” based in The Hague and project correspondent for AKB Fores PLC., based in Sofia, Bulgaria, to determine the above mentioned project in the context of the ERUPT 5 programme.

The determination of this project has been performed by document reviews, interviews by e-mail and on-site inspections, audits at the locations of the project and interviews at the offices of the client.

As an outstanding issue, documents demonstrating the approval of the project from the donor country (The Netherlands) have to be presented to the audit team.

Taking this outstanding issue into consideration, it can be confirmed that otherwise the submitted project documentation is in line with all requirements set by the Marrakech Accords and the Kyoto Protocol.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amounts of emission reductions of 192.000 tCO_{2e} in the first phase (year 2007) of the intended over-all crediting period from 2007 – 2012 and of 886.000 tCO_{2e} (to be issued as ERUs) in the second phase (2008-2012) represent a conservative estimation using the assumptions given by the project documents.

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Abbreviations

CAR	Corrective action request
CR	Clarification request
DOE	Designated Operational Entity
DP	Determination Protocol
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
ERU	Emission Reduction Unit
GHG	Greenhouse gas(es)
JI	Joint Implementation
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

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1 INTRODUCTION

1.1 Objective

The Dutch company “Global Carbon BV” based in The Hague and project correspondent for AKB Fores PLC., based in Sofia, Bulgaria has commissioned TÜV Industrie Service GmbH TÜV SÜD Group, Carbon Management Service, to conduct a determination of the “AKB Fores JI Project”, Bulgaria , with regard to the relevant requirements for JI project activities. The determination serves as a conformity test of the project design and is a requirement for all JI projects. In particular, the project's baseline, the monitoring plan (MP), and the project’s compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions (in particular ERUs - in the first commitment period under the Kyoto Protocol).

UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords. As the project is submitted under the Dutch ERUPT 5 programme the terms of reference and currently valid programme guidelines for JI projects are moreover applicable to the project.

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document (PDD), the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual, employed a risk-based approach in the determination, focusing on the identification of significant risks for project implementation and the generation of emission reductions

1.3 GHG Project Description

The project comprises the design, construction, and operation of a portfolio of four co-generation gas power stations with a total power capacity of 29 MW• . The projects are located in Devnia, Kostenets, Kazanlak and Yambol.

The cogeneration modules (CHP) will have the following design and capacities:

- For factory Polimeri (Devnia) – a gas turbine of 10 MWe and heat energy capacity of 13 MWth
- For factory Kostenets HHI - a gas turbine of 10 MWe and heat energy capacity of 13 MWth
- For district heating Toplofikatsia Kazanlak: 2 gas engines with a capacity of 3.1 MWe and 2 x 3.6 MWth for hot water

- For district heating Toplofikatsia Yambol: one gas engine with a capacity of 3.1 MWe and 3.6 MWth for hot water
-

The objective of the project is to replace other fossil fuels (mostly mazut and coal) by gas for the energy supply in the factory. In addition the cogeneration units allow a more efficient operation of the systems.

The baseline scenario foresees a continuation of the current situation. Compared to this scenario the project avoids carbon dioxide emissions as gas is less carbon intensive than mazut and coal.

The project – ins tallation of the equipment – starts in August 2005. All measures will be implemented until end of 2006. The crediting period starts January 1, 2007 and last till the end of 2012.

The project documentation has been developed by Global Carbon BV.

2 METHODOLOGY

In order to ensure transparency, a determination protocol was customised for the project, according to the Validation and Verification Manual (VVM). The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The determination protocol serves the following purposes:

- It organises, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent determination process where TÜV SÜD has documented how a particular requirement has been validated and the result of the determination.

The determination protocol consists for this project of three tables. The different columns in these tables are described in Figure 1.

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

Determination Protocol Table 1: Mandatory Requirements			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the determination report. **O** is used in case of an outstanding, currently not solvable issue, **AI** means Additional Information is required.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent determination process.*

Determination Protocol Table 2: Requirement checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in six different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*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.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification** or **Additional Information** is used when the independent entity has identified a need for further clarification or more information.*

Determination Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action and additional Information requests	***Ref. to checklist question in table 2***	***Summary of project owner response***	***Determination conclusion***
If the conclusions from the draft determination are either a Corrective Action Request or a Clarification or Additional Information Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification or Additional Information Request is explained.*	*The responses given by the Client or other project participants during the communications with the independent entity should be summarised in this section.*	*This section should summarise the independent entity’s responses and final conclusions. The conclusions should also be included in Table 2, under “Final Conclusion”.*

2.1 Review of Documents

The project participants submitted project design document (PDD) including annexes as well as additional background documents related to the project design and baseline in February 2005. A review for all these documents has been performed in order to identify all issues for discussion during the follow-up interviews on-site and by phone or email. Subsequently revised project documentation has been submitted in April 2005 which has undergone renewed document review.

2.2 Follow-up Interviews

In the period between March 8, 2005 and March 10, 2005 TÜV SÜD performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of AKB Fores PLC in Sofia, Toplofikacia Kazanlak JSC in Kazanlak and at Kostenets HHI JSC in Kostenets have been interviewed.

The main topics of the interviews are summarised in Table 1. The complete and detailed list of all persons interviewed is enclosed in Annex 2 to this report.

Table 1: Interview topics

Interviewed organisation	Interview topics
AKB Fores PLC, Toplofikacia Kazanlak JSC Kostenets HHI JSC	Project design, baseline, monitoring plan, environmental impacts, stakeholder comments, additionality, monitoring procedures, documentation, archiving of data, approval of the project, national and sectoral policy

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified in order to achieve a positive conclusion during the assessment process. Clarification Requests raised by TÜV SÜD have been resolved totally by the revision of the project documentation submitted April 2005. Furthermore additional documents have been submitted separately in order to provide the required evidences. To guarantee the transparency of the determination process, the concerns raised and the responses given are summarised in chapter 3 below. The whole process is documented in more detail in the determination protocol in Annex 1.

3 DETERMINATION FINDINGS

In the following sections the findings of the determination are stated. The determination findings for each determination subject are presented as follows:

1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarised. A more detailed record of these findings can be found in the Determination Protocol in Annex 1.

2) Where TÜV SÜD has identified issues that needed clarification or that represented a risk to the fulfilment of the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Annex 1.

3) Where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in the determination report.

4) The conclusions of the determination are presented consecutively.

3.1 Project Design

3.1.1 Findings

A project design document (PDD) has been submitted in February 2005 to the audit team. The project’s spatial boundaries are herein clearly described for the project in chapter 3 of the PDD. The flowchart presented in the baseline study shows also a complete description of the project’s system.

The project system of Polimery encompasses the entire plant system with extern steam supply (from TPS) and extern electricity supply (from grid), including the future CHP generation process.

The project project system of Kostenets HHI encompasses the entire plant system with 3 existing steam boilers and extern electricity supply (from grid), including a CHP generation process in the future.

The project system of Toplofikatsia Kazanlak encompasses the 3 existing steam boilers (with 1.3 MPa and 190 °C) including a CHP generation process in the future. The 3 existing high pressure steam generators (with 3.9 MPa and 440 °C) with the 3 steam turbines are excluded and outside the project boundaries.

The project system of Toplofikatsia Yambol encompasses the 4 existing boilers for steam (with 1.3 MPa and 190 °C) and hot water, extern electricity supply and a CHP generation process in the future.

The employed technology does reflect current good practice. This statement applies to both sub-project types implemented under this project.

The project uses state of the art technology and will result in a significantly better performance than the commonly used technologies in the respective sectors in Bulgaria at the moment.

There are no significant indications that the technology used to implement the project could be substituted during the envisaged project period (crediting period) until 2012 as the current efficiency level of the implemented equipment does not allow significant improvements justifying a substitution with even more efficient equipment in the envisaged timeframe.

The utilizations of co-generation gas power stations (especially gasturbines and gasengines) are technologies that require a specific training and maintenance additional to the usual procedures.

No provisions regarding training and maintenance needs are described in the current PDD. During the visit on site the client confirmed that the contract with the equipment supplier will contain respective provisions. This is a standard approach for the assessed project type. Moreover, the staff on site is considered to be experienced in all power station related issues. Hence the chosen approach is considered to be appropriate.

Bulgaria is a Party to the Kyoto Protocol since August 2002. But the audit team has not received a Letter of Approval/ Letter of No Objection regarding the project from the Parties involved yet.

No uniform project starting date (derived form start of first subproject) and lifetime (derived from shortest operational lifetime of a single subproject) has been defined in the PDD.

But the crediting period is defined as being from 2008 – 2012 in accordance with the first commitment period defined in the Kyoto Protocol.

Furthermore the sales of emission reductions (not ERUs) prior to 2008 is announced. That could be due to a bilateral agreement between Bulgaria and The Netherlands beyond the rules laid down in the Marrakech Accords and therefore outside the assessment criteria used for this validation.

3.1.2 Issued CARs/CRs

Outstanding Issue No. 1:

Documents demonstrating the approval of the project from both countries (The Netherlands and Bulgaria) have to be presented to the audit team.

Response:

The audit team received a Letter of Approval from the Bulgarian Ministry of Environment and Water, dated April 1, 2005. No approval document form the Dutch government has been submitted. Documents demonstrating the approval of the project from the investor country (The Netherlands) still have to be presented to the audit team.

Outstanding Issue No. 2:

National guidelines and procedures (G&P) are currently available for the Dutch tender but no specific guidelines are presented to the audit team regarding Bulgaria.

Response:

No specific guidelines are presented to the audit team regarding Bulgaria but as a Letter of Approval has been presented to the audit team, procedures exist and are operational.

Clarification Request No 1:

Several subprojects (Kostenets, Kazanlak and Yambol) foresee to operate with gas fired back up boilers in the future. At the same time it will still be possible to fire HFO. At the moment this option is not foreseen to be taken. But in order to ensure a proper recording of actual emission reductions this option should be reflected in the project description and also in the emission calculations as well as in the monitoring plan.

Response:

The PDD has been revised accordingly and the option to have HFO also as a fuel in the project scenario (in emergency cases) has been considered in the project description as well as in the monitoring plan.

Clarification Request No 2:

For the project Toplofikatsia Kazanlak it could be necessary to monitor also the heat and power generation of the 3 high-pressure steam generators and the 3 steam turbines outside the project boundaries in case they will feed their produced heat in the same system and a separate recording of the production will not be possible. A clear statement should be made regarding future operation mode of these components. Regarding all sub-projects it should be ensured that further energy generating capacities at the respective site are either disconnected from the project system or recorded in a separate manner in order to avoid any miscalculations of emission reductions. As all projects are still in the planning phase a conservative approach should be taken.

Response:

Toplofikatsia Kazanlak submitted a letter of confirmation in which Mr. Marinov confirms that the existing equipment will be decommissioned and hence no miscalculation can occur.

Clarification Request No 3:

Chapter 3.2 of the PDD does contain information regarding two sub-projects whereas only one subproject should be described per chapter. Clarification should be given to the audit team.

Response:

The misinformation is due to a misspelling. The respective section in the PDD has been corrected.

Clarification Request No.13:

A project starting date and operational lifetime of the project has to be announced. This timeframe should be realistic given the implemented equipment.

Response:

A project starting date and the operational lifetime of the project has been announced and are described in chapter 1.2.4 of the revised PDD. The timeframe for the project lifetime seems to be realistic given the implemented equipment.

3.1.3 Conclusion

The one outstanding issue (No. 1) is beyond the time horizon of the determination and must be considered as being outstanding. Otherwise the project fulfils the belonging criteria set for the approval of JI-projects.

3.2 Baseline and Additionality

3.2.1 Findings

The ERUPT 5 tender foresees that the project applies an approved baseline methodology for CDM projects in case such a methodology is available for the project type assessed herewith. At the time of the project design documentation has been developed (starting December 2004) no methodology has been approved by the CDM Executive Board covering the presented project type. The project developer has subsequently applied the generic baseline methodology defined in the ERUPT guidelines and aims towards the specific baseline methodology for CHP projects as far as applicable.

The discussion and selection of the baseline methodology is considered to be transparent although the project developer does not refer to any specific project type defined in the guidelines mentioned above. The baseline is established in a project specific manner.

The baseline does take into account the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described and their impact on the baseline and the project risk is evaluated. The description includes economic, legal, political and technological factors.

The fact that Bulgaria intends to introduce a mandatroy quota system for green electricity is not further described in the PDD. For the audit team this mandatory scheme is not considered to be a requirement which would not allow the baseline cases to be implemented but rather introduces a different set of rules in order to achieve an seperate objective from greenhouse gas emission reduction.

In the PDD not all data used is specified and documented.

Underlying calculations and formulae are correctly applied and give mainly a transparent picture of the application of the baseline methodology.

The data level regarding installation specific parameters and operation modes is plant specific whereas the emissions factors are derived from IPCC sources. All spatial levels are hence considered to be appropriate.

The discussion and determination of the chosen baseline is rather transparent. Due to the existence of four subprojects specific baselines for the single subprojects have to be chosen in order to reflect the situation as required due to existing local conditions.

But the baseline has not been determined using conservative assumptions where possible.

The calculations given in the PDD are mainly plausible given the technical equipment to be installed. For the audit team it is considered difficult to evaluate the anticipated activity level defined as except internal planning data no further documents are available. During the visit on site the information given in the PDD was confirmed by the project participants and the audit team got convinced that the technical frame conditions exist to implement the projects and the underlying production increase as envisaged. Hence currently there is no indication to question the prognosis data

Hence, the baseline does represent a likely scenario in the non project case as it conforms to all legal requirements and the prevailing practice in the Bulgarian energy and industry sector.

The PDD applies correctly the additionality test tool for CDM projects as required by the terms of reference of the ERUPT 5 tender. All steps are applied in a correct manner.

The assessment team has found indicating evidence that demonstrates that the project is not a business as usual project.

Alternatives scenarios and their compliance with legal obligations are described. But in step 2 as well as in step 3, further documentation is needed in order to confirm that the project can be considered as being additional. Step 4 and step 5 are applied correctly.

3.2.2 Issued CARs/CRs

Clarification Request No 4:

The PDD should in a consistent manner refer to the sources for all variables used in order to allow the audit team to assess the correctness of the applied data. This requirement should be fulfilled in all chapters of the PDD and applies especially for the following parameters:

- Efficiency data of boilers
- Future production capacity at single sites
- Heat demand at single sites

Response:

The efficiency data for the existing boilers in Polymeri is not supported by any sources, but explanations has been given in the revised PDD that the chosen figure is conservative. The audit team confirms this statement. The figure for Kazanlak has been supported by 2004 data. As data normally shows a certain variety according to the demand situation the chosen value can not be considered to be conservative but plausible. For Yambol inconsistent figures have been presented to the audit team. The figures have been revised and are now considered to be conservative.

Regarding the future production capacity reference has been made to technical specifications given by the producers. This is considered to be a sufficient approach.

Regarding heat demand no specific model has been presented as such a model does not exist. The presented figures are nevertheless considered to be plausible as they comply with typical performances of respective plants.

Clarification Request No 5:

A significant parameter for the determination of baseline emissions is the efficiency level of the existing equipment. The values of 80-85% seem to be plausible from a technical point of view, but should be supported by reliable sources. In case such sources do not exist conservative default values should be chosen in order to ensure that no overestimation of the emission reduction takes place.

The efficiency level for the subproject in Kostenets is very probably with 89% too high given the applied equipment. The wrong figure is caused by inappropriate measurement equipment. As the too high figure leads to conservative estimations of GHG reductions it is not necessary to correct the figure.

Response:

The efficiency data for the existing boilers in Polymeri is not supported by any sources, but explanations has been given in the revised PDD that the chosen figure is conservative. The audit team confirms this statement. The figure for Kazanlak has been supported by 2004 data. As data normally shows a certain variety according to the demand situation the chosen value can not be considered to be conservative but plausible. For Yambol inconsistent figures have been presented to the audit team. The figures have been revised and are now considered to be conservative.

Clarification Request No 6:

The parameter “LHV Heat – NG boilers on site” (line 39 of excel sheet) at the subproject Yambol derives from unclear sources. Clarification should be submitted to the audit team.

Response:

The source for the heat production associated with NG boilers has been given and the calculations have been adjusted accordingly.

Clarification Request No 7:

The efficiency levels of existing boilers at Polimery (0.85), Kazanlak (0.83) and Yambol (0.8 and 0.6) is plausible but can not be considered to be conservative given the fact that no further information has been submitted.

Response:

The efficiency data for the existing boilers in Polymeri is not supported by any sources, but explanations has been given in the revised PDD that the chosen figure is conservative. The audit team confirms this statement. The figure for Kazanlak has been supported by 2004 data. As data normally shows a certain variety according to the demand situation the chosen value can not be considered to be conservative but plausible. For Yambol inconsistent figures have been presented to the audit team. The figures have been revised and are now considered to be conservative.

Clarification Request No. 8 :

The figure given for capital availability should refer to a traceable source.

Response:

The table including the respective figures has been deleted and removed from the PDD. As the table is not considered to be mandatory for the discussion of the key factors this approach is considered to be acceptable.

Clarification Request No. 9 :

The benchmark set at 7 years payback period is substantiated so far only by a presentation of the energy efficiency agency of Bulgaria. But not documents from lending institutions have been submitted in order to give evidence for the benchmark set. But as the barriers set do only apply to a limited extend – gas cogeneration systems are not prevailing practice – the benchmark approach is a major importance to assess the additionality of the project.

Response:

A letter from Mr. Anton Kobakov from Project & Structured Finance of the Corporate Banking Division of BULBANK / UniCredit Group confirms the benchmark set. This evidence document is deemed to be acceptable.

Clarification Request No. 10 :

In order to assess the given figures in the benchmark analysis the business plan should be submitted to the audit team in a format that allows perform a sensitivity analysis.

Response:

Calculations in form of excel sheets have been submitted to the audit team. A business plan has not been submitted. The as the presented figures are consistent and the additional income effect of carbon credits is considered in an appropriate manner the approach is deemed sufficient.

Clarification Request No. 11 :

In order to assess the given figures in the sensitivity analysis the calculation tool should be submitted to the audit team in a format that allows to recalculate the figures.

Response:

Calculations in form of excel sheets have been submitted to the audit team. A business plan has not been submitted. The as the presented figures are consistent and the additional income effect of carbon credits is considered in an appropriate manner the approach is deemed sufficient.

Clarification Request No. 12 :

Major risks have to the baseline have to be determined.

Response:

A respective paragraph at the beginning of chapter 6 has been inserted in the revised PDD.

Clarification Request No.18:

The calculations in chapter 6 and 8 of the PDD are not consistent respectively do not follow the same approach to calculate the emission reduction.

Response:

The client acknowledges the two fold approach. As this inconsistency does not lead to any miscalculations it is deemed acceptable.

Clarification Request No 19:

The emission factors for coal applied in Polimery and Yambol should refer to traceable sources.

Response:

The additional explanation given in the revised PDD and the references made are plausible and appropriate.

Clarification Request No 20:

The date provided in chapter 1.5.3 of the PDD regarding energy production and consumption does – for Kazanlak and Yambol - not comply with the data in the calculations in chapter 8 of the PDD. This inconsistency should be clarified.

Response:

The table including the respective figures has been deleted and removed from chapter 1.5.3 of the PDD. As the table is not considered to be mandatory for the discussion of the activity level this approach is considered to be acceptable.

Clarification Request No 21:

In Yambol domestic systems have in the baseline case supplied heat to the consumers. A survey has been carried out to obtain data on the supply situation up to now. Further information should be submitted on the frame conditions for the survey: Responsibilities, methods, results, strength, weaknesses, robustness, etc. The final report should be submitted to the audit team.

Response:

The respective documentation has been submitted and gives a clear picture of the performed survey. The design and implementation of the survey appears to be sufficient for the intended use.

Clarification Request No. 22 :

The source for the figure average fuel to electricity efficiency in chapter 6.1.3 etc. of the PDD should be given.

Response:

Further explanation has been given.

Clarification Request No. 23 :

The audit team has reviewed plans which demonstrate that the factory Briquel TPP currently supplying fuel to households in Yambol will be closed by 2010. This should be reflected in the PDD and the baseline determination.

Response:

The issue has been reviewed in the revised PDD and it is demonstrated that the closure of the factory will not lead to reduced emissions but rather increase the baseline emissions.

3.2.3 Conclusion

All responses given to the indicated CRs are resolving the belonging issues. The project fulfils the criteria on baselines as set for the approval of JI-projects.

3.3 Monitoring Plan

3.3.1 Findings

The ERUPT 5 tender foresees hat the project applies an approved monitoring methodology for CDM projects in case such a methodology is available for the project type assessed herewith. At the time of the project design documentation (PDD) has been developed (starting December 2004) no methodology has been approved by the CDM Executive Board covering the presented project type. The project developer has subsequently applied the generic monitoring methodology defined in the ERUPT guidelines.

In general so far only a virtual monitoring plan can be developed as the final decision which equipment will be applied has not been made.

Nevertheless, the proposed monitoring methodology is considered to be a too limited approach given the project type. This is caused by the fact that the provisions are consistent with the project boundaries but it is not considered that back up boilers can also be fired with HFO.

The monitoring methodology does hence not fully allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions.

As the monitoring is based on the measurement of input and output streams it will be possible to check the plausibility of the results obtained. A detailed risk mitigation approach can not be defined up to now as the exact project design has not been defined.

The monitoring methodology is mainly based on existing reporting and quality assurances structures.

The current and future responsibilities and quality assurance procedures have been explained during the visit on site in a plausible manner but not specific written documentation has been submitted so far.

No provisions regarding training of monitoring personnel are described in the current PDD. During the visit on site the client confirmed that the personnel will be trained before project start.

No emergency cases resulting in unintended emissions are to be expected.

It is foreseen to calibrate and to maintain the monitoring equipment according to national standards. No project specific system will be applied.

It should be mentioned that the measurement devices described in the PDD are examples as no decision which type of equipment to buy has been made so far.

3.3.2 Issued CARs/CRs

Corrective Action Request No. 1:

The monitoring plan should include all input (fuel) and output (heat and electricity) streams within the project boundary and between the outside and inside of the project boundary. Hence also fuel use in back up boilers should be included in the monitoring plan.

Otherwise, the monitoring methodology does reflect current good practice and is moreover in line with the ERUPT guidelines.

Response:

The monitoring plan has been adjusted accordingly. In addition the design and set up of the measurement equipment has been explained and described in detail.

Clarification Request No.14:

The project management planning and operation including authorities and responsibilities should be documented in writing.

Response:

Further documentation on the project management planning and operation including authorities and responsibilities has been submitted to the audit team as Annex 3- 4 of the revised PDD.

Clarification Request No.15:

The procedures identified for training of monitoring personnel should be documented in writing.

Response:

Documentation on the planned training programme has been submitted to the audit team as Annex 5 of the revised PDD.

3.3.3 Conclusion

All responses given to the indicated CAR/CRs are resolving the belonging issues. The project fulfils the criteria on monitoring as set for the approval of JI-projects.

3.4 Calculation of GHG Emissions

3.4.1 Findings

The PDD gives a complete and transparent calculation of the project GHG emissions. Respective data are included in the PDD and have in addition (in excel sheets) been submitted to the audit team.

Emissions of CO_2, CH_4 , N2O, HFC’s, CF and SF 6 have been assessed and only CO_2 has correctly been identified as being relevant for the project.

Leakage calculations are under the assumption that the plants run in a normal manner not requested

The indicated amount of carbon dioxide emissions – under the condition that all CAR and CR mentioned in this report are resolved - should be a conservative level in case of an appropriate operation of the plants. All data is based either on default values or on the activity level of the project. Both components have been verified during the validation process. Regarding single parameters (mainly boiler efficiency) the audit team asks for clarification.

As the project emissions are calculated either based on default values or based on data from calibrated sources no additional risk mitigation measures are required.

But in general the PDD gives a complete and transparent calculation of the baseline and project GHG emissions.

3.4.2 Issued CARs/CRs

Clarification Request No.17:

The calculation of project GHG emissions for Polimery claims (line 35) that the TPS will be gas fired in the future. This is not in compliance with other information in the PDD.

Response:

The respective chapter has been adjusted according to the actual coal firing of the TPS.

3.4.3 Conclusion

The response given to the indicated CR is resolving the belonging issues. The project fulfils the criteria on calculation of GHG emissions as set for the approval of JI-projects.

3.5 Environmental Impacts

3.5.1 Findings

The PDD does not contain an analysis of the environmental impacts of the project.

Due to the project type and legislative frame conditions, there are no mandatory requirements for an EIA. But the project proponent has to submit project documentation in order to ask for the necessity of an EIA. This has been done for all four the sub-projects, but only regarding Kazanlak and Yambol an answer has been received so far. The answer says that an EIA is not necessary.

The project will not create any adverse environmental effects and complies with the environmental legislation in Bulgaria and is also considered to comply with EU legislation regarding site emissions.

3.5.2 Issued CARs/CRs

Corrective Action Request No. 2:

An analysis of the environmental impacts of the project should be included in the PDD.

Response:

Next to the approval of the projects by the authorities, an analysis of the environmental impacts of the project has been included in the revised PDD. The description is sufficient.

Clarification Request No.16:

The answer regarding the projects Polimery and Kostenets expected for end of March 2005 should be submitted to the audit team. In case no answer is available by the time the assessment ends, the respective documents should be part of the monitoring plan.

Response:

The answer regarding the project Kostenets and Polimery has been received. It has been decided that no necessity for an EIA is given.

3.5.3 Conclusion

All responses given to the indicated CAR/CR are resolving the belonging issues. The project fulfils the criteria as set for the approval of JI-projects.

3.6 Local stakeholder process

3.6.1 Findings

Stakeholders for each sub-project have been consulted extensively via appropriate media.

A summary of the comments is provided in the PDD and its annex. There have been no comments, which would have required any further action.

3.6.2 Issued CARs/CRs

None

3.6.3 Conclusion

The project fulfils the criteria as set for the approval of JI-projects.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

A stakeholder process has taken place on the website of the ERUPT 5 programme (for details see www.carboncredits.nl). The stakeholder process started March 2, 2005 and lasted for 30 days. Comments could be submitted until April 1, 2005.

No comments have been received.

Industrie Service

5 DETERMINATION OPINION

TÜV SÜD has performed a determination of the "AKB Fores JI Project" in Bulgaria. The determination was performed on the basis of relevant JI criteria.

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 stated criteria.

As an outstanding issue, documents demonstrating the approval of the project from the investor country (The Netherlands) still have to be presented to the audit team.

Otherwise, the project meets all relevant UNFCCC requirements for JI.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amounts of emission reductions of 192.000 tCO_{2e} in the first phase (year 2007) of the intended over-all crediting period from 2007 – 2012 and of 886.000 tCO_{2e} (to be issued as ERUs) in the second phase (2008-2012) represent a conservative estimation using the assumptions given by the project documents. As these figures will depend on the future performance of the project, this confirmation gives no guarantee on the realisation.

The determination is based on the information made available to us and the engagement conditions detailed in this report. The determination has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as JI project. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

Munich, 2005-04-14

Werner Betzenbichler

Head of Certification Body "Climate and Energy"

Munich, 2005-04-14

Michael Rumberg

Responsible Project Manager

Industrie Service

Determination Protocol

Table 1 Mandatory Requirements for Joint Implementation (JI) Project Activities

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	O1	The audit team has not received a Letter of Approval/ Letter of No Objection regarding the project from the Parties involved yet. Outstanding Issue No. 1: Documents demonstrating the approval of the project from both countries (The Netherlands and Bulgaria) have to be presented to the audit team.
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	Kyoto Protocol Article 6.1 (b)	See below	Table 2, Section B.2
3. The sponsor Party shall not aquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	þ	The Netherlands fulfil the obligations as requested.
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3	Kyoto Protocol Article 6.1 (d)	þ	The project is additional to domestic actions.
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	Marrakech Accords, JI Modalities, §20	O2 þ	Both Parties have designated national focal points. Outstanding Issue No. 2: National guidelines and pro-

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			cedures (G&P) are currently available for the Dutch tender but no specific guidelines are presented to the audit team regarding Bulgaria.
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	þ	Bulgaria is a Party to the Kyoto Protocol since August 2002.
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts	Marrakech Accords, JI Modalities, §21(b)/24	þ	Bulgaria's assigned amount is 92% of emissions in 1990.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4	Marrakech Accords, JI Modalities, §21(d)/24	þ	This issue can not be answered by now as such as the JI system is not installed yet.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Marrakech Accords, JI Modalities, §31	þ	A project design document has been submitted in February 2005 to the audit team.
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments	Marrakech Accords, JI Modalities, §32	þ	A stakeholder process has taken place on the website of the ERUPT programme (for details see www.carboncredits.nl). The stakeholder process started March 2, 2005 and lasted for 30 days. Comments could be submitted until April 1, 2005.

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
			No comments have been received.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out	Marrakech Accords, JI Modalities, §33(d)	See below	Table 2, Section F
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project	Marrakech Accords, JI Modalities, Appendix B	See below	Table 2, Section B.2
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, JI Modalities, Appendix B	See below	Table 2, Section B.2
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	See below	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan	Marrakech Accords, JI Modalities, §33(c)	See below	Table 2, Section D

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity					
A.1. Project Boundaries					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	1, 2, 3	DR, I	The project's spatial boundaries are clearly described for the project in chapter 3 of the PDD.	þ	þ
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1, 2, 3, 4, 5, 9, 10, 17, 19, 20	DR, I	Yes, the flowchart presented in the baseline study shows a complete description of the project's system. The project system of Polimery encompasses the entire plant system with extern steam supply (from TPS) and extern electricity supply (from grid), including the future CHP generation process. The project project system of Kostenets HHI encompasses the entire plant system with 3 existing steam boilers and extern electricity supply (from grid), including a CHP generation process in the future. The project system of Toplofikatsia Kazanlak encompasses the 3 existing steam boilers (with 1.3 MPa and 190 °C) including a CHP generation process in the future. The	**CR 1-3**	þ

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			3 existing high pressure steam generators (with 3.9 MPa and 440 °C) with the 3 steam turbines are excluded and outside the project boundaries. The project system of Toplofikatsia Yambol encompasses the 4 existing boilers for steam (with 1.3 MPa and 190 °C) and hot water, extern electricity supply and a CHP generation process in the future. Clarification Request No 1: Several subprojects (Kostenets, Kazanlak and Yambol) foresee to operate with gas fired back up boilers in the future. At the same time it will still be possible to fire HFO. At the moment this option is not foreseen to be taken. But in order to ensure a proper recording of actual emission reductions this option should be reflected in the project description and also in the emission calculations as well as in the monitoring plan. Clarification Request No 2: For the project Toplofikatsia Kazanlak it could be necessary to monitor also the heat and power generation of the 3 high-pressure steam generators and the 3 steam turbines outside the project boundaries in case they will feed their produced heat in		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			the same system and a separate recording of the production will not be possible. A clear statement should be made regarding future operation mode of these components. Regarding all sub-projects it should be ensured that further energy generating capacities at the respective site are either disconnected from the project system or recorded in a separate manner in order to avoid any miscalculations of emission reductions. As all projects are still in the planning phase a conservative approach should be taken. <u>Clarification Request No 3:</u> Chapter 3.2 of the PDD does contain information regarding two sub-projects whereas only one subproject should be described per chapter. Clarification should be given to the audit team.		
A.2. Technology to be employed					
A.2.1. Does the project design engineering reflect current good practices?	1, 2, 3, 10, 16, 17, 20	DR, I	Yes, the employed technology does reflect current good practice. This statement applies to both sub-project types implemented under this project.	þ	þ
A.2.2. Does the project use state of the art technology or would the technology result in a significantly	1, 2,	DR, I	The project uses state of the art technology	þ	þ

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
better performance than any commonly used technologies in the host country?	3, 16		and will result in a significantly better performance than the commonly used technologies in the respective sectors in Bulgaria at the moment.		
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2, 3, 16	DR, I	There are no significant indications that the technology used to implement the project could be substituted during the envisaged project period (crediting period) until 2012 as the current efficiency level of the implemented equipment does not allow significant improvements justifying a substitution with even more efficient equipment in the envisaged timeframe.	þ	þ
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1, 2, 3, 14, 16	DR, I	The utilizations of co-generation gas power stations (especially gasturbines and gasengines) are technologies that require a specific training and maintenance additional to the usual procedures.	þ	þ
A.2.5. Does the project make provisions for meeting training and maintenance needs?	1, 2, 3, 14, 16	DR, I	No provisions regarding training and maintenance needs are described in the current PDD. During the visit on site the client confirmed that the contract with the equipment supplier will contain respective provisions. This is a standard approach for the assessed project type. Moreover, the staff on site is considered to be experienced in all power station related issues. Hence the	þ	þ

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			chosen approach is considered to be appropriate.		
B. Project Baseline					
B.1. Baseline Methodology					
B.1.1. Is the discussion and selection of the baseline methodology transparent?	1, 2, 3	DR, I	The ERUPT 5 tender foresees hat the project applies an approved baseline methodology for CDM projects in case such a methodology is available for the project type assessed herewith. At the time of the project design documentation has been developed (starting December 2004) no methodology has been approved by the CDM Executive Board covering the presented project type. The project developer has subsequently applied the generic baseline methodology defined in the ERUPT guidelines and aims towards the specific baseline methodology for CHP projects as far as applicable. The discussion and selection of the baseline methodology is considered to be transparent although the project developer does not refer to any specific project type defined in the guidelines mentioned above. Clarification Request No.18: The calculations in chapter 6 and 8 of the	**CR 18**	þ

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			PDD are not consistent respectively do not follow the same approach to calculate the emission reduction.		
B.1.2. Does the baseline methodology specify data sources and assumptions?	1, 2, 3, 11, 15, 18	DR, I	No, not all data used is specified and documented. <u>Clarification Request No 4:</u> The PDD should in a consistent manner refer to the sources for all variables used in order to allow the audit team to assess the correctness of the applied data. This requirement should be fulfilled in all chapters of the PDD and applies especially for the following parameters: • Efficiency data of boilers • Future production capacity at single sites • Heat demand at single sites <u>Clarification Request No 5:</u> A significant parameter for the determination of baseline emissions is the efficiency level of the existing equipment. The values of 80-85% seem to be plausible from a technical point of view, but should be supported by reliable sources. In case such sources do not exist conservative default	**CR 4, 5 and 19**	þ

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			values should be chosen in order to ensure that no overestimation of the emission reduction takes place. The efficiency level for the subproject in Kostenets is very probably with 89% too high given the applied equipment. The wrong figure is caused by inappropriate measurement equipment. As the too high figure leads to conservative estimations of GHG reductions it is not necessary to correct the figure. Clarification Request No 19: The emission factors for coal applied in Polimery and Yambol should refer to traceable sources.		
B.1.3. Does the baseline methodology sufficiently describe the underlying rationale for the algorithm/formulae used to determine baseline emissions (e.g. marginal vs. average, etc.)	1-5	DR, I	Yes, underlying calculations and formulae are correctly applied and give mainly a transparent picture of the application of the baseline methodology. Clarification Request No 6: The parameter "LHV Heat – NG boilers on site" (line 39 of excel sheet) at the subproject Yambol derives from unclear sources. Clarification should be submitted to the audit team.	**CR 6**	þ
B.1.4. Does the baseline methodology specify types of	1-5	DR,	Yes, all types of variables are clearly and	þ	þ

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
variables used (e.g. fuels used, fuel consumption rates, etc)?		I	completely specified.		
B.1.5. Does the baseline methodology specify the spatial level of data (local, regional, national)?	1-5	DR, I	The data level regarding installation specific parameters and operation modes is plant specific whereas the emissions factors are derived from IPCC sources. All spatial levels are hence considered to be appropriate.	þ	þ
B.2. Baseline Determination					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1-5, 11, 26	DR, I	The discussion and determination of the chosen baseline is rather transparent. Due to the existence of four subprojects specific baselines for the single subprojects have to be chosen in order to reflect the situation as required due to existing local conditions. <u>Clarification Request No 20:</u> The date provided in chapter 1.5.3 of the PDD regarding energy production and consumption does – for Kazanlak and Yambol - not comply with the data in the calculations in chapter 8 of the PDD. This inconsistency should be clarified. <u>Clarification Request No 21:</u> In Yambol domestic systems have in the baseline case supplied heat to the consumers. A survey has been carried out to obtain data on the supply situation up to now. Fur-	**CR 20 and 21**	þ

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			ther information should be submitted on the frame conditions for the survey: Responsibilities, methods, results, strength, weaknesses, robustness, etc. The final report should be submitted to the audit team.		
B.2.2. Has the baseline been determined using conservative assumptions where possible?	1-5, 16, 26	DR, I	No, not for all parameters. Clarification Request No 7: The efficiency levels of existing boilers at Polimery (0.85), Kazanlak (0.83) and Yambol (0.8 and 0.6) is plausible but can not be considered to be conservative given the fact that no further information has been submitted.	**CR 7**	þ
B.2.3. Has the baseline been established on a project-specific basis?	1-5	DR, I	Yes the baseline is established in a project specific manner.	þ	þ
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	1-5	DR, I	Yes, the baseline does take into account the major national and/or sectoral policies, macro-economic trends and political developments. Relevant key factors are described and their impact on the baseline and the project risk is evaluated. The description includes economic, legal, political and technological factors. Clarification Request No. 8 : The figure given for capital availability should refer to a traceable source.	**CR 8**	þ

B.2.5. Is the baseline determination compatible with the available data?	1-5, 16	DR, I	The calculations given in the PDD are mainly plausible given the technical equipment to be installed. For the audit team it is considered difficult to evaluate the anticipated activity level defined as except internal planning data no further documents are available. During the visit on site the information given in the PDD was confirmed by the project participants and the audit team got convinced that the technical frame conditions exist to implement the projects and the underlying production increase as envisaged. Hence currently there is no indication to question the prognosis data Clarification Request No. 22 : The source for the figure average fuel to electricity efficiency in chapter 6.1.3 etc. of the PDD should be given. Clarification Request No. 23 : The audit team has reviewed plans which demonstrate that the factory Briquel TPP currently supplying fuel to households in Yambol will be closed by 2010. This should be reflected in the PDD and the baseline determination.	**CR 22-23**	þ
B.2.6. Does the selected baseline represent a likely scenario in the absence of the project?	1-5	DR, I	Yes, the baseline does represent a likely scenario in the non project case as it conforms to all legal requirements and the pre-	þ	þ

			vailing practice in the Bulgarian energy and industry sector.		
B.2.7. Is it demonstrated that the project activity itself is not a likely baseline scenario?	1-6, 23, 27	DR, I	The PDD applies correctly the additionality test tool for CDM projects as required by the TOR of the ERUPT 5 tender. All steps are applied in a correct manner. The assessment team has found indicating evidence that demonstrates that the project is not a business as usual project. Alternatives scenarios and their compliance with legal obligations are described. But in step 2 as well as in step 3, further documentation is needed in order to confirm that the project can be considered as being additional. Step 4 and step 5 are applied correctly. Clarification Request No. 9 : The benchmark set at 7 years payback period is substantiated so far only by a presentation of the energy efficiency agency of Bulgaria. But not documents from lending institutions have been submitted in order to give evidence for the benchmark set. But as the barriers set do only apply to a limited extend – gas cogeneration systems are not prevailing practice – the benchmark approach is a major importance to assess the additionality of the project. Clarification Request No. 10 :	**CR 9 - 11**	þ

			In order to assess the given figures in the benchmark analysis the business plan should be submitted to the audit team in a format that allows perform a sensitivity analysis. Clarification Request No. 11 : In order to assess the given figures in the sensitivity analysis the calculation tool should be submitted to the audit team in a format that allows to recalculate the figures.		
B.2.8. Have the major risks to the baseline been identified?	1-3	DR, I	No, the major risks have not been determined. Clarification Request No. 12 : Major risks have to the baseline have to be determined.	**CR 12**	þ
B.2.9. Is all literature and sources clearly referenced?	1-3, 21, 22	DR, I	No, see also comment above in chapter B.2.2 and B.2.4.	þ	þ
C. Duration of the Project/ Crediting Period					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1-3	DR, I	No uniform project starting date (derived form start of first subproject) and lifetime (derived from shortest operational lifetime of a single subproject) has been defined in the PDD. Clarification Request No.13: A project starting date and operational lifetime of the project has to be announced.	**CR13**	þ

			This timeframe should be realistic given the implemented equipment.		
C.1.2. Is the project's crediting time clearly defined?	1-3	DR, I	Yes the crediting period is defined as being from 2008 – 2012 in accordance with the first commitment period defined in the Kyoto Protocol. Furthermore the sales of emission reductions (not ERUs) prior to 2008 is announced. That could be due to a bilateral agreement between Bulgaria and The Netherlands beyond the rules laid down in the Marrakech Accords and therefore outside the assessment criteria used for this validation.	þ	þ
D. Monitoring Plan					
D.1. Monitoring Methodology					
D.1.1. Does the monitoring methodology reflect good monitoring and reporting practices?	1-3, 19	DR, I	The ERUPT 5 tender foresees hat the project applies an approved monitoring methodology for CDM projects in case such a methodology is available for the project type assessed herewith. At the time of the project design documentation (PDD) has been developed (starting December 2004) no methodology has been approved by the CDM Executive Board covering the presented project type. The project developer has subsequently applied the generic monitoring methodology defined in the ERUPT guidelines.	**CAR 1**	þ

			In general so far only a virtual monitoring plan can be developed as the final decision which equipment will be applied has not been made. Nevertheless, the proposed monitoring methodology is considered to be a too limited approach given the project type. Corrective Action Request No. 1: The monitoring plan should include all input (fuel) and output (heat and electricity) streams within the project boundary and between the outside and inside of the project boundary. Hence also fuel use in back up boilers should be included in the monitoring plan. Otherwise, the monitoring methodology does reflect current good practice and is moreover in line with the ERUPT guidelines.		
D.1.2. Is the selected monitoring methodology supported by the monitored and recorded data?	1-3, 19	DR, I	Yes, but see comment above.	þ	þ
D.1.3. Are the monitoring provisions in the monitoring methodology consistent with the project boundaries in the baseline study?	1-3, 19	DR, I	Yes, the provisions are consistent with the project boundaries except the fact that back up boilers can also be fired with HFO. See comment above.	þ	þ
D.1.4. Have any needs for monitoring outside the project boundaries been evaluated and if so, included as applicable?	1-3, 19	DR, I	Yes, due to the fact that back up boilers can also be fired with HFO. See comment above. In addition there might be a need for the	þ	þ

			project Toplofikatsia Kazanlak to monitor the heat and power generation of the 3 high-pressure steam generators and the 3 steam turbines outside the project boundaries. See comment chapter A.1.2		
D.1.5. Does the monitoring methodology allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions?	1-3, 19	DR, I	The monitoring methodology does not fully allow for conservative, transparent, accurate and complete calculation of the ex post GHG emissions. See comments above.	þ	þ
D.1.6. Is the monitoring methodology clear and user friendly?	1-3, 19	DR, I	Yes, the monitoring methodology is mainly based on existing reporting and quality assurances structures.	þ	þ
D.1.7. Does the methodology mitigate possible monitoring errors or uncertainties addressed?	1-3, 19	DR, I	As the monitoring is based on the measurement of input and output streams it will be possible to check the plausibility of the results obtained. A detailed risk mitigation approach can not be defined up to now as the exact project design has not been defined.	þ	þ
D.2. Monitoring of Project Emissions					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	1-3, 19	DR, I	Yes, except the parameters already discussed above.	þ	þ
D.2.2. Are the choices of project GHG indicators reasonable?	1-3, 19	DR, I	Yes.	þ	þ
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	1-3, 19	DR, I	Yes, but as the final decision about the equipment to be applied has not been	þ	þ

			made, this question can only be answered based on planning data and the assumption that state of the art equipment will be used.		
D.2.4. Will the indicators enable comparison of project data and performance over time?	1-3, 19	DR, I	Yes.	þ	þ
D.3. Monitoring of Leakage					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1-3, 9, 19	DR, I	No indicators have been defined in the PDD yet and no significant leakage emissions are expected according to the project design. But as the back up boilers which are outside the project boundary can fire two different types of fuels the monitoring plan needs to include the parameter fuel input to these back up boilers. See comment in chapter D.1.1. In addition it might be necessary to record heat production and fuel input to for the project Toplofikatsia Kazanlak to monitor the heat and power generation of the 3 high-pressure steam generators and the 3 steam turbines outside the project boundaries. See comment chapter A.1.2	þ	þ
D.3.2. Have relevant indicators for GHG leakage been included?	1-3, 19	DR, I	See comment above.	þ	þ
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	1-3, 19	DR, I	See comment above.	þ	þ
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	1-3, 19	DR, I	Yes.	þ	þ

D.4. Monitoring of Baseline Emissions					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline emissions during the crediting period?	1-3, 19	DR, I	A monitoring of baseline emissions is not foreseen in the project as the baseline is determined ex-ante.	þ	þ
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	1-3, 19	DR, I	See comment above	þ	þ
D.4.3. Will it be possible to monitor the specified baseline indicators?	1-3, 19	DR, I	See comment above	þ	þ
D.5. Monitoring of Social and Environmental Impacts					
D.5.1. Does the monitoring plan provide for the collection and archiving of relevant data on social and environmental impacts?	1-3, 19	DR, I	A monitoring of such data is not foreseen in the applied methodology and does subsequently not take place.	þ	þ
D.5.2. Will it be possible to monitor the specified impact indicators?	1-3, 19	DR, I	See comment above	þ	þ
D.6. Project Management Planning					
D.6.1. Is the authority and responsibility of project management clearly described?	1-3, 12, 13 19	DR, I	The current and future responsibilities and quality assurance procedures have been explained during the visit on site in a plausible manner but not specific written documentation has been submitted so far. <u>Clarification Request No.14:</u> The project management planning and operation including authorities and responsibilities should be documented in writing.	**CR14**	þ
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting	1-3, 12,	DR, I	See comment above.	þ	þ

	clearly described?	13 19				
D.6.3.	Are procedures identified for training of monitoring personnel?	1-3, 12, 13, 14, 19	DR, I	No provisions regarding training of monitoring personnel are described in the current PDD. During the visit on site the client confirmed that the personnel will be trained before project start. <u>Clarification Request No.15:</u> The procedures identified for training of monitoring personnel should be documented in writing.	**CR 15**	þ
D.6.4.	Are procedures identified for emergency preparedness where emergencies can result in unintended emissions?	1-3	DR, I	No emergency cases resulting in unintended emissions are to be expected.	þ	þ
D.6.5.	Are procedures identified for calibration of monitoring equipment?	1-3, 12, 13 19	DR, I	It is foreseen to calibrate the monitoring equipment according to national standards. No project specific system will be applied.	þ	þ
D.6.6.	Are procedures identified for maintenance of monitoring equipment and installations?	1-3, 12, 13 19	DR, I	It is foreseen to maintain the monitoring equipment according to national standards. No project specific system will be applied.	þ	þ
D.6.7.	Are procedures identified for monitoring, measurements and reporting?	1-3, 12, 13 19	DR, I	See comment in D.6.1 The measurement devices described in the PDD are examples as no decision which type of equipment to buy has been made so far.	**CR14**	þ
D.6.8.	Are procedures identified for day-to-day records	1-3,	DR,	See comment in D.6.1	**CR14**	þ

	handling (including what records to keep, storage area of records and how to process performance documentation)?	12, 13 19	I			
D.6.9.	Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	1-3, 12, 13 19	DR, I	See comment in D.6.1	**CR14**	þ
D.6.10.	Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1-3, 12, 13 19	DR, I	See comment in D.6.1	**CR14**	þ
D.6.11.	Are procedures identified for project performance reviews?	1-3, 12, 13 19	DR, I	See comment in D.6.1	**CR14**	þ
D.6.12.	Are procedures identified for corrective actions?	1-3, 12, 13 19	DR, I	See comment in D.6.1	**CR14**	þ
E. Calculation of GHG Emissions by Source						
E.1. Predicted Project GHG Emissions						
E.1.1.	Are all aspects related to direct and indirect GHG emissions captured in the project design?	1-5	DR, I	Yes, all aspects are covered. Emissions of CO_2, CH_4 , N2O, HFC's, CF and SF 6 have been assessed and only CO2 has correctly been identified as being relevant for the project.	þ	þ
E.1.2.	Are the GHG calculations documented in a complete and transparent manner?	1-5	DR, I	Yes, the PDD gives a complete and transparent calculation of the project GHG emis-	**CR 17**	þ

			sions. Respective data are included in the PDD and have in addition (in excel sheets) been submitted to the audit team. <u>Clarification Request No.17:</u> The calculation of project GHG emissions for Polimery claims (line 35) that the TPS will be gas fired in the future. This is not in compliance with other information in the PDD.		
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1-5	DR, I	Yes, the indicated amount of carbon dioxide emissions – under the condition that all CAR and CR mentioned in this report are resolved - should be a conservative level in case of an appropriate operation of the plants.	þ	þ
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1-5	DR, I	As the project emissions are calculated either based on default values or based on data from calibrated sources no additional measures are required.	þ	þ
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	1-5	DR, I	Yes.	þ	þ
E.2. Leakage Effect Emissions					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	1-5	DR, I	Leakage calculations are under the assumption that the plants run in a normal manner not requested	þ	þ
E.2.2. Have these leakage effects been properly accounted for in calculations?	1-5	DR, I	See comment above	þ	þ

E.2.3. Does the methodology for calculating leakage comply with existing good practice?	1-5	DR, I	See comment above	þ	þ
E.2.4. Are the calculations documented in a complete and transparent manner?	1-5	DR, I	See comment above	þ	þ
E.2.5. Have conservative assumptions been used when calculating leakage?	1-5	DR, I	See comment above	þ	þ
E.2.6. Are uncertainties in the leakage estimates properly addressed?	1-5	DR, I	See comment above	þ	þ
E.3. Baseline Emissions					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	1-5	DR, I	Yes, all data is based either on default values or on the activity level of the project. Both components have been verified during the validation process. Regarding single parameters (mainly boiler efficiency) the audit team asks for clarification. See comments in B.2.2.	þ	þ
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	1-5	DR, I	Yes.	þ	þ
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	1-5	DR, I	Yes, the PDD gives a complete and transparent calculation of the baseline GHG emissions. Respective data are included in the PDD and have in addition (in excel sheets) been submitted to the audit team.	þ	þ
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	1-5	DR, I	Yes. See also comments in B.2.2.	þ	þ
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documenta-	1-5	DR, I	No. See also comments in B.2.8.	þ	þ

	tion?					
E.3.6.	Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	1-5	DR, I	Yes.	þ	þ
E.4. Emission Reductions						
E.4.1.	Will the project result in fewer GHG emissions than the baseline scenario?	1-5	DR, I	Yes.	þ	þ
F. Environmental Impacts						
F.1.1.	Has an analysis of the environmental impacts of the project activity been sufficiently described?	1-3, 25	DR, I	No, the PDD does not contain an analysis of the environmental impacts of the project. <u>Corrective Action Request No. 2:</u> An analysis of the environmental impacts of the project should be included in the PDD.	**CAR 2**	þ
F.1.2.	Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1-3, 25	DR, I	Due to the project type and legislative frame conditions, there are no mandatory requirements for an EIA. But the project proponent has to submit project documentation in order to ask for the necessity of an EIA. This has been done for all four the sub-projects, but only regarding Kazanlak and Yambol an answer has been received so far. The answer says that an EIA is not necessary. <u>Clarification Request No.16:</u> The answer regarding the projects Polimery and Kostenets expected for end of March 2005 should be submitted to the audit team.	**CR 16**	þ

			In case no answer is available by the time the assessment ends, the respective documents should be part of the monitoring plan.		
F.1.3. Will the project create any adverse environmental effects?	1-3, 25	DR, I	No, the project will not create any adverse environmental effects.	þ	þ
F.1.4. Are transboundary environmental impacts considered in the analysis?	1-3, 25	DR, I	No, but it can be confirmed that there are no such impacts.	þ	þ
F.1.5. Have identified environmental impacts been addressed in the project design?	1-3, 25	DR, I	There are no such impacts.	þ	þ
F.1.6. Does the project comply with environmental legislation in the host country?	1-3, 25	DR, I	Yes the project complies with the environmental legislation in Bulgaria and is also considered to comply with EU legislation regarding site emissions.	þ	þ
***G.* Stakeholder Comments**		DR, I			
G.1.1. Have relevant stakeholders been consulted?	1-3, 24	DR, I	Yes, stakeholders for each sub-project have been consulted.	þ	þ
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	1-3, 24	DR, I	Yes.	þ	þ
G.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?	1-3, 24	DR, I	Yes.	þ	þ
G.1.4. Is a summary of the stakeholder comments received provided?	1-3, 24	DR, I	Yes.	þ	þ
G.1.5. Has due account been taken of any stakeholder comments received?	1-3, 24	DR, I	There have been no comments, which would have required any further action.	þ	þ

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
The audit team has not received a Letter of Approval/ Letter of No Objection regarding the project from the Parties involved yet. Outstanding Issue No. 1: Documents demonstrating the approval of the project from both countries (The Netherlands and Bulgaria) have to be presented to the audit team.	Table 1, Q 1	The audit team received a Letter of Approval from the Bulgarian Ministry of Environment and Water, dated April 1, 2005. No approval document form the Dutch government has been submitted.	Outstanding Issue No. 1: Documents demonstrating the approval of the project from the investor country (The Netherlands) have to be presented to the audit team.
Both Parties have designated national focal points. Outstanding Issue No. 2: National guidelines and procedures (G&P) are currently available for the Dutch tender but no specific guidelines are presented to the audit team regarding Bulgaria.	Table 1, Q 5	No specific guidelines are presented to the audit team regarding Bulgaria but as a Letter of Approval has been presented to the audit team, procedures exist and are operational.	þ
Corrective Action Request No. 1: The monitoring plan should include all input (fuel) and output (heat and electricity) streams within the project boundary and between the outside and inside of the project	Table 2, D.1.1	The monitoring plan has been adjusted accordingly. In addition the design and set up of the measurement equipment has been explained and described in detail.	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
boundary. Hence also fuel use in back up boilers should be included in the monitoring plan.			
Corrective Action Request No. 2: An analysis of the environmental impacts of the project should be included in the PDD.	Table 2, F.1.1	Next to the approval of the projects by the authorities, an analysis of the environmental impacts of the project has been included in the revised PDD. The description is sufficient.	þ
Clarification Request No 1: Several subprojects (Kostenets, Kazanlak and Yambol) foresee to operate with gas fired back up boilers in the future. At the same time it will still be possible to fire HFO. At the moment this option is not foreseen to be taken. But in order to ensure a proper recording of actual emission reductions this option should be reflected in the project description and also in the emission calculations as well as in the monitoring plan.	Table 2, A.1.2	The PDD has been revised accordingly and the option to have HFO also as a fuel in the project scenario (in emergency cases) has been considered in the project description as well as in the monitoring plan.	þ
Clarification Request No 2: For the project Toplofikatsia Kazanlak it could be necessary to monitor also the heat and power generation of the 3 high-pressure steam generators and the 3 steam turbines outside the project boundaries in case they will feed their produced heat in the same system and a separate recording of the production will not be possible. A clear statement should be made regarding future operation mode of these components. Regarding all sub-projects it should be ensured that further energy generating capacities at the respective site are either disconnected from the project system or recorded	Table 2, A.1.2	Toplofikatsia Kazanlak submitted a letter of confirmation in which Mr. Marinov confirms that the existing equipment will be decommissioned and hence no miscalculation can occur.	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
in a separate manner in order to avoid any miscalculations of emission reductions. As all projects are still in the planning phase a conservative approach should be taken.			
Clarification Request No 3: Chapter 3.2 of the PDD does contain information regarding two sub-projects whereas only one subproject should be described per chapter. Clarification should be given to the audit team.	Table 2, A.1.2	The misinformation is due to a misspelling. The respective section in the PDD has been corrected.	þ
Clarification Request No 4: The PDD should in a consistent manner refer to the sources for all variables used in order to allow the audit team to assess the correctness of the applied data. This requirement should be fulfilled in all chapters of the PDD and applies especially for the following parameters: • Efficiency data of boilers • Future production capacity at single sites • Heat demand at single sites	Table 2, B.1.2	The efficiency data for the existing boilers in Polymeri is not supported by any sources, but explanations has been given in the revised PDD that the chosen figure is conservative. The audit team confirms this statement. The figure for Kazanlak has been supported by 2004 data. As data normally shows a certain variety according to the demand situation the chosen value can not be considered to be conservative but plausible. For Yambol inconsistent figures have been presented to the audit team. The figures have been revised and are now considered to be conservative. Regarding the future production capacity reference has been made to technical specifications given by the producers. This is considered to be a sufficient approach. Regarding heat demand no specific model has	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
		been presented as such a model does not exist. The presented figures are nevertheless considered to be plausible as they comply with typical performances of respective plants.	
Clarification Request No 5: A significant parameter for the determination of baseline emissions is the efficiency level of the existing equipment. The values of 80-85% seem to be plausible from a technical point of view, but should be supported by reliable sources. In case such sources do not exist conservative default values should be chosen in order to ensure that no overestimation of the emission reduction takes place. The efficiency level for the subproject in Kostenets is very probably with 89% too high given the applied equipment. The wrong figure is caused by inappropriate measurement equipment. As the too high figure leads to conservative estimations of GHG reductions it is not necessary to correct the figure.	Table 2, B.1.2	The efficiency data for the existing boilers in Polymeri is not supported by any sources, but explanations has been given in the revised PDD that the chosen figure is conservative. The audit team confirms this statement. The figure for Kazanlak has been supported by 2004 data. As data normally shows a certain variety according to the demand situation the chosen value can not be considered to be conservative but plausible. For Yambol inconsistent figures have been presented to the audit team. The figures have been revised and are now considered to be conservative.	þ
Clarification Request No 6: The parameter “LHV Heat – NG boilers on site” (line 39 of excel sheet) at the subproject Yambol derives from unclear sources. Clarification should be submitted to the audit team.	Table 2, B.1.3	The source for the heat production associated with NG boilers has been given and the calculations have been adjusted accordingly.	þ
Clarification Request No 7: The efficiency levels of existing boilers at Polimery (0.85), Kazanlak (0.83) and Yambol (0.8 and 0.6) is plausible but can not be considered to be conservative given the fact that	Table 2, B.2.2	The efficiency data for the existing boilers in Polymeri is not supported by any sources, but explanations has been given in the revised PDD that the chosen figure is conservative.	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
no further information has been submitted.		The audit team confirms this statement. The figure for Kazanlak has been supported by 2004 data. As data normally shows a certain variety according to the demand situation the chosen value can not be considered to be conservative but plausible. For Yambol inconsistent figures have been presented to the audit team. The figures have been revised and are now considered to be conservative.	
Clarification Request No. 8 : The figure given for capital availability should refer to a traceable source.	Table 2, B.2.4	The table including the respective figures has been deleted and removed from the PDD. As the table is not considered to be mandatory for the discussion of the key factors this approach is considered to be acceptable.	þ
Clarification Request No. 9 : The benchmark set at 7 years payback period is substantiated so far only by a presentation of the energy efficiency agency of Bulgaria. But not documents from lending institutions have been submitted in order to give evidence for the benchmark set. But as the barriers set do only apply to a limited extend – gas cogeneration systems are not prevailing practice – the benchmark approach is a major importance to assess the additionality of the project.	Table 2, B.2.7	A letter from Mr. Anton Kobakov from Project & Structured Finance of the Corporate Banking Division of BULBANK / UniCredit Group confirms the benchmark set. This evidence document is deemed to be acceptable.	þ
Clarification Request No. 10 : In order to assess the given figures in the benchmark analy-	Table 2, B.2.7	Calculations in form of excel sheets have been submitted to the audit team. A business plan	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
sis the business plan should be submitted to the audit team in a format that allows perform a sensitivity analysis.		has not been submitted. The as the presented figures are consistent and the additional income effect of carbon credits is considered in an appropriate manner the approach is deemed sufficient.	
Clarification Request No. 11 : In order to assess the given figures in the sensitivity analysis the calculation tool should be submitted to the audit team in a format that allows to recalculate the figures.	Table 2, B.2.7	Calculations in form of excel sheets have been submitted to the audit team. A business plan has not been submitted. The as the presented figures are consistent and the additional income effect of carbon credits is considered in an appropriate manner the approach is deemed sufficient.	þ
Clarification Request No. 12 : Major risks have to the baseline have to be determined.	Table 2, B.2.8	A respective paragraph at the beginning of chapter 6 has been inserted in the revised PDD.	þ
Clarification Request No.13: A project starting date and operational lifetime of the project has to be announced. This timeframe should be realistic given the implemented equipment.	Table 2, C.1.1	A project starting date and the operational lifetime of the project has been announced and are described in chapter 1.2.4 of the revised PDD. The timeframe for the project lifetime seems to be realistic given the implemented equipment.	þ
Clarification Request No.14: The project management planning and operation including authorities and responsibilities should be documented in writing.	Table 2, D.6.1	Further documentation on the project management planning and operation including authorities and responsibilities has been submitted to the audit team as Annex 3- 4 of the revised PDD.	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
Clarification Request No.15: The procedures identified for training of monitoring personnel should be documented in writing.	Table 2, D.6.3	Documentation on the planned training programme has been submitted to the audit team as Annex 5 of the revised PDD.	þ
Due to the project type and legislative frame conditions, there are no mandatory requirements for an EIA. But the project proponent has to submit project documentation in order to ask for the necessity of an EIA. This has been done for all four the sub-projects, but only regarding Kazanlak and Yambol an answer has been received so far. The answer says that an EIA is not necessary. Clarification Request No.16: The answer regarding the projects Polymeri and Kostenets expected for end of March 2005 should be submitted to the audit team. In case no answer is available by the time the assessment ends, the respective documents should be part of the monitoring plan.	Table 2, F.1.2	The answer regarding the project Kostenets and Polimery has been received. It has been decided that no necessity for an EIA is given.	þ
Clarification Request No.17: The calculation of project GHG emissions for Polimery claims (line 35) that the TPS will be gas fired in the future. This is not in compliance with other information in the PDD.	Table 2, E.1.2	The respective chapter has been adjusted according to the actual coal firing of the TPS.	þ
Clarification Request No.18: The calculations in chapter 6 and 8 of the PDD are not consistent respectively do not follow the same approach to calculate the emission reduction.	Table 2, B.1.1	The client acknowledges the two fold approach. As this inconsistency does not lead to any miscalculations it is deemed acceptable.	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
Clarification Request No 19: The emission factors for coal applied in Polimery and Yambol should refer to traceable sources.	Table 2, B.1.2	The additional explanation given in the revised PDD and the references made are plausible and appropriate.	þ
Clarification Request No 20: The date provided in chapter 1.5.3 of the PDD regarding energy production and consumption does – for Kazanlak and Yambol - not comply with the data in the calculations in chapter 8 of the PDD. This inconsistency should be clarified.	Table 2, B.2.1	The table including the respective figures has been deleted and removed from chapter 1.5.3 of the PDD. As the table is not considered to be mandatory for the discussion of the activity level this approach is considered to be acceptable.	þ
Clarification Request No 21: In Yambol domestic systems have in the baseline case supplied heat to the consumers. A survey has been carried out to obtain data on the supply situation up to now. Further information should be submitted on the frame conditions for the survey: Responsibilities, methods, results, strength, weaknesses, robustness, etc. The final report should be submitted to the audit team.	Table 2, B.2.1	The respective documentation has been submitted and gives a clear picture of the performed survey. The design and implementation of the survey appears to be sufficient for the intended use.	þ
Clarification Request No. 22 : The source for the figure average fuel to electricity efficiency in chapter 6.1.3 etc. of the PDD should be given.	Table 2, B.2.5	Further explanation has been given.	þ
Clarification Request No. 23 : The audit team has reviewed plans which demonstrate that the factory Briquel TPP currently supplying fuel to households in Yambol will be closed by 2010. This should be re-	Table 2, B.2.5	The issue has been reviewed in the revised PDD and it is demonstrated that the closure of the factory will not lead to reduced emissions but rather increase the baseline emissions.	þ

Draft report clarifications and corrective action requests by validation team	Ref. to check-list question in table 1 and 2	Summary of project owner response	Validation team conclusion
flected in the PDD and the baseline determination.			

Industrie Service

Determination Reference List

Reference No.	Document or Type of Information
1.	On-site interview with the project owners conducted on March 8, 9 and 10, 2005 at AKB Fores PLC (central office) in Sofia, Toplofikacia Kazanlak JSC (central office and plant site) in Kazanlak and at Kostenets HHI JSC (central office and plant site) in Kostenets, Bulgaria by auditing team of TÜV SÜD Validation team on-site: Eberhard Rothfuss — TÜV Industrie Service GmbH TÜV SÜD Group Kiril Bacharev — TÜV Industrie Service GmbH TÜV SÜD Group (Freelancer) Interviewed persons: Ulia Cirkova — AKB Fores PLC. Rangel Tanev — AKB Fores PLC Plamen Edrev — AKB Fores PLC Stefan Manev — CoGen Engineering Ltd. Ivaylo Marinov — Toplofikacia Kazanlak JSC Nikola Stankov — CoGen Engineering Ltd. Asen Asenov — CoGen Engineering Ltd. / Technical University Sofia Evgeni Totev — Kostenets HHI JSC Krum Ivanov — Kostenets HHI JSC Ivan Genev — Kostenets HHI JSC
2.	Final Project Design Document, submitted February 2005
3.	Revised Final Project Design Document, submitted April 2005
4.	Calculation of emission reductions for each site (Excel sheets), submitted February 2005
5.	Revised calculation of emission reductions for each site (Excel sheets), submitted April 2005
6.	UNFCCC, CDM: Tool for the demonstration and assessment of additionality” approved by the EB (EB 16, annex 1).
7.	Validation and Verification Manual, IETA/World Bank (PCF), http://www.vvmanual.info
8.	Letter of Approval, issued by the Ministry of Environment and Water, Republic of Bulgaria, dated April 1, 2005
9.	Letter of confirmation from Mr. Marinov, Chairman of Toplofikatsia Kazanlak on future plans regarding the existing equipment, dated March 30, 2005
10.	General layouts of the factories (Annex 1 to the Revised Final Project Design Document), submitted April 2005
11.	Prognostic development for production of the factories (Annex 2 to the Revised Final Project Design Document), submitted April 2005
12.	Organisation structure for the single projects (Annex 3 to the Revised Final Project Design Document), submitted April 2005

Reference No.	Document or Type of Information
13.	Project planning and administration (Annex 4 to the Revised Final Project Design Document), submitted April 2005
14.	Training programme for the project portfolio (Annex 5 to the Revised Final Project Design Document), submitted April 2005
15.	Load profile of thermal energy demands (Annex 6 to the Revised Final Project Design Document), submitted April 2005
16.	Technical description of the envisaged equipment (Annex 7-11 to the Revised Final Project Design Document), submitted April 2005
17.	Thermal flow schemes (Annex 12 to the Revised Final Project Design Document), submitted April 2005
18.	Boiler efficiency in 2004 for Toplofikatsia Kazanlak and Yambol (Annex 13-14 to the Revised Final Project Design Document), submitted April 2005
19.	Description of measurement devices and monitoring models (Annex 15, 19 and 20 to the Revised Final Project Design Document), submitted April 2005
20.	Schematic description of electrical lines of the factories (Annex 16 to the Revised Final Project Design Document), submitted April 2005
21.	Excerpts of the prices lists approved by the State Committee on Energy Regulation (Annex 17 to the Revised Final Project Design Document), submitted April 2005
22.	Natural gas certificate for 2004 (Annex 18 to the Revised Final Project Design Document), submitted April 2005
23.	Financial calculations for the project with and without revenue streams from carbon credits (Annex 21-23 to the Revised Final Project Design Document), submitted April 2005
24.	Letters from stakeholders (Annex 24 to the Revised Final Project Design Document), submitted April 2005
25.	Letters from Regional Environmental Agency (Annex 25 to the Revised Final Project Design Document), submitted April 2005
26.	Survey on district heating network Yambol (Annex 26 to the Revised Final Project Design Document), submitted April 2005
27.	Statement from Mr. Anton Kobakov from Project & Structured Finance of the Corporate Banking Division of BULBANK / UniCredit Group, dated March 31, 2005