



**Biovet**

**Co-generation Gas Power  
Station Biovet**

**Determination Report**

KPMG Sustainability BV  
Amstelveen, 1 March 2005  
*BIOVT4/HH/me*

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# 1 **Determination Statement**

## **Introduction, responsibilities and scope**

The management of Biovet JSC asked us to validate the Project Design Document (PDD) "Co-generation Gas Power Station Biovet".

The management of Biovet is responsible for the preparation of the PDD in accordance with Article 6 of the Kyoto Protocol and the Guidelines for the implementation of Article 6 of the Kyoto Protocol in the Marrakech Accords and for the calculation of the baseline emissions and for the estimation of the project emissions and the forecasted emission reductions.

Our responsibility is to issue a determination statement on whether the PDD has been prepared in accordance with Article 6 of the Kyoto Protocol and the Guidelines for the implementation of Article 6 of the Kyoto Protocol in the Marrakech Accords and on the assumptions and methods applied for the calculation of the baseline emissions and for the estimation of the project emissions and the forecasted emission reductions.

## **Activities Undertaken**

Our activities included:

- Assessment of PDD in relation to compliance with Article 6 of the Kyoto Protocol and the Guidelines for the Implementation of Article 6 of the Kyoto Protocol in the Marrakech Accords;
- On site interviews with the staff in Biogas and CoGen Engineering involved in the preparation of the PDD and the collection of the reported data;
- Assessment of the internal documents used for preparing the Baseline Study;
- Review of the applied assumptions and methods for the calculation of the baseline emissions and for the estimation of the project emissions and the forecasted emission reductions. This review was limited to inquiries of company personnel, analytical procedures applied to the emission data and to the proper application of assumptions.

### **Determination Opinion**

In our opinion, the PDD has been properly prepared on the basis of Article 6 of the Kyoto Protocol and the guidelines for the implementation of Article 6 of the Kyoto Protocol in the Marrakech Accords<sup>1</sup>.

Based on our activities undertaken, assuming the project will be realized, nothing came to our attention that causes us to believe that the applied assumptions and methods do not provide a reasonable basis for the forecasted emission reductions compared to the selected most likely baseline scenario.

Actual emission reductions may differ from the forecast since anticipated events do not always occur as expected.

Amstelveen, 1 March 2005



**J. van der Kolk**  
*KPMG Sustainability BV*

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<sup>1</sup> Document reference FCCC/CP/2001/13/Add.2

## **2 Introduction**

Biogas JSC has commissioned KPMG Sustainability to validate the Project Design Document of the Joint Implementation Project related to the reduction of CO<sub>2</sub> emissions on its production site in Peshtera.

The project comprises the construction of a cogeneration plant on the Biovet site. The combined heat and power generation will result in lower CO<sub>2</sub> emissions as compared to the present situation, where both heat and power are generated separately.

This chapter describes the objective, scope, and determination methodology and determination team for this determination. Key data are included in Annex A.

### **2.1 Objective**

The aim of this determination is to evaluate the planned project activity against the requirements of the JI as set out in decision FCCC/CP/2001/13/Add.2 of 21 January 2002 on the basis of the PDD developed by the project proponent, Biovet.

Also the requirements of Senter Internationaal, the potential buyer of any ERU's and AAUs resulted from this project are taken into account. These requirements are set out in the Operational Guidelines for Project Design Documents of Joint Implementation Projects (volume 1: General guidelines and volume 2: Baseline studies and monitoring plans for specific project categories) of June 2003.

### **2.2 Scope**

The scope of this determination consists of assessing the following elements of the PDD against the requirements set out by UNFCCC and Senter Internationaal respectively.

The following elements of the PDD are evaluated. The results thereof are described in chapter 3.

- (i) Baseline study. The baseline study is intended to assess the level of greenhouse gas emissions attributable to human activities that would have occurred without the project. The baseline study also assesses the level of greenhouse gas emissions that will occur after implementation of the project.
- (ii) Monitoring plan, describing which data will be collected for monitoring purposes. The monitoring plan includes a description of the quality assurance and control provisions for monitoring, collecting and reporting.
- (iii) Environmental Impacts, providing documentation on the analysis of environmental impacts of the project. If the impacts are considered important,

conclusions and supporting documentation of an environmental impact assessment has to be provided. The environmental impact assessment has to be undertaken in accordance with the procedures of the country where the project is implemented.

- (iv) Stakeholder comments. The international stakeholder comments have been collected on the basis of a 30 day publication of the project design document on the CarbonCredits.nl website. The national stakeholder comments have been included in the PDD.

On the basis of the provided PDD and of the evaluation thereof (see above), we have formed an opinion on the basis of the following criteria (described in chapter 4):

- The relevance of the defined project boundaries, assuring that the covered greenhouse gas emissions appropriately reflect the greenhouse gas emissions of the project and that all relevant greenhouse gases have been taken into account;
- The completeness of assumptions, data, references and calculations applied in the definition of:
  - Project boundaries;
  - The emission level that would occur in the absence of the project;
  - The emission level that is likely to occur upon completion of the project;
  - Inclusion of all greenhouse gas emission sources and activities within the defined project boundaries, with any exclusions stated and specified;
  - Leakage – whether the project might in a net change of greenhouse gas emissions outside the project boundaries;
  - Additionality – whether the project activity is expected to result in reduction of greenhouse gas emissions that are additional to any that would occur in the absence of the proposed project.
- The consistency of the applied methodology and input data with:
  - The Marrakesh accords of November 2001, Draft decision -/CMP.1 (Article 6);
  - The “Operational Guidelines for Project Design Documents, of Joint Implementation Projects (volume 1: General guidelines and volume 2: Baseline studies and monitoring plans for specific project categories) of the Ministry of Housing, Spatial Planning and Environment of the Netherlands, June 2003.
- The transparency of the baseline study, based on:
  - Coherent and factual description and justification of all assumptions on the basis of which the baseline was calculated;

- The description and justification of all assumptions on the basis of which the emission levels after project completion were calculated;
  - Disclosure of underlying data and references that were used in compiling the baseline study.
- The accuracy of the greenhouse gas emission calculations, ensuring that these have the precision needed for their intended use, including the possibility of performing a sensitivity analysis.

### **2.3 Limitations**

The criteria for Joint Implementation Projects described in Article 6 of the Kyoto Protocol and the Guidelines for the implementation of Article 6 of the Kyoto Protocol in the Marrakech Accords are subject to different interpretations especially regarding whether the project is additional or not. Different interpretations can lead to different conclusions and it is not guaranteed that our interpretation will be equal to the interpretation that will be used by the Joint Implementation Supervisory Committee once this committee will be formed.

Quantitative criteria for additionality have not been defined like for instance a minimum change of the Internal Rate of Return or a minimum change of the Net Present Value caused by the transaction of ERU's. Also no maximum Internal Rate of Return without ERU's has been defined as limit. As a result of this we limited our activities regarding the additionality of the project to assessing whether the project developers demonstrated that the emission reductions are additional to any that would occur in absence of the proposed project<sup>2</sup>, by using at least one of the three additionality tests from the Senter instructions.

### **2.4 Determination methodology**

The determination consisted of a desk review of the PDD with its Annexes. The staff of Biogas and Cogen Engineering responsible for preparing the PDD has been interviewed.

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<sup>2</sup> Article 1 of Appendix B of the Guidelines for Implementation of Article 6 of the Kyoto Protocol: Criteria for Baseline Setting and Monitoring

## 2.5 **Determination team**

The following team has carried out the determination:

Name	Organization and role in the project
Eric Koudijs	KPMG Sustainability The Netherlands, Senior consultant, Project Leader
Henk Harmsen	KPMG Sustainability, The Netherlands, consultant

*Table 1: Determination team*



### 3 Determination

The activities carried out during determination and the period during which these have taken place are described in the following sections. The findings for each component of the PDD are compared with the requirements.

The source for the requirements is FCCC/CP/2001/13/Add.2, Draft Decision -/CMP.1, Appendix B, 21 January 2002, unless stated otherwise.

#### 3.1 Activities

KPMG Sustainability received the draft PDD on 3 May 2004. The draft documents were reviewed and discussed during the visit of Mr. Harmsen to the office of Cogen Engineering in Sofia and the office of Biovet JSC in Peshtera. After this review, Cogen Engineering made a number of changes in the documentation and on 25 May 2004 an updated version of the PDD was sent to KPMG. The corrective actions suggested by KPMG did not lead to a replacement of the PDD placed on the carboncredits.nl website between 26 April and 26 May 2004.

Date	Interviewee	Position
3, 4, 5 May 2004	Discussion with Cogen Engineering and team:	
	Dipl. Eng. Manev	Director Cogen Engineering
	Prof. Dr. Stankov	Technical University of Sofia, consultant Cogen Engineering
	Mr Assenov	Endress + Hauser, consultant Cogen Engineering
5 May 2004	Discussion with Biovet JSC and site visit:	Biovet, Technical Director
	Dipl. Eng. Michev	
5 May 2004	Mr. Jeliakov	Biovet, Executive Director

*Table 2: Overview of site visits and interviews*

KPMG submitted the PDD to Senter and the documentation was published between xx on the website carboncredits.nl. On this website a KPMG e-mail address was published where stakeholder could make comments or ask questions.

### 3.2 Baseline study

The *baseline* for an Article 6 project (Joint Implementation) is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the project activities within the project boundary.

The project specific baseline has to be established by the project participants in accordance with UNFCCC requirements. The baseline has to describe in a transparent and conservative manner the choices of (i) approaches, (ii) assumptions, (iii) methodologies; (iv) parameters, (v) data sources, (vi) key factors and (vii) additionality, and (viii) take into account uncertainty.

The baseline requirements have been set out against our findings in the table 3. The source for the requirements is FCCC/CP/2001/13/Add.2, Draft Decision -/CMP.1, Appendix B, 21 January 2002.

Requirement	Findings
The baseline shall be established on a project specific basis and/or using a multi project emission factor.	The baseline has been based on the specific situations on the Biovet production site. Internal documents of Biovet (including energy consumption forecasts and historical consumptions, measurements of boiler efficiencies) and Senter grid factors forecasts have been used for setting the baseline.
The baseline shall be established in a transparent manner with regards to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors.	<p>The report structure of the Operational Guidelines of Senter has been used. All assumptions and calculations have been stated.</p> <p>The project proponent has not included CO<sub>2</sub> emissions from boilers and backup boilers inside the project boundary. The project proponent argues that these emissions are not reasonably attributable to the Article 6 project (section 3.3 of the PDD). The calculated CO<sub>2</sub> emission reduction is not influenced by this choice of the project boundary, as demonstrated in Annex 14.</p> <p>Please note that the estimated CO<sub>2</sub> emission reductions as stated in section 1.5.3 do not match with the calculated emission reductions in section 6 of the PDD.</p>
The baseline shall be established taking into account relevant national and/or sectoral policies and circumstances such as sector reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector.	The baseline took into account new legislation concerning cogeneration plants; availability of natural gas on the site; and forecasts of power and heat consumption of Biovet itself.

Requirement	Findings
The baseline shall be established in such a way that ERU's cannot be earned for decreases in activity levels outside the project activity or due to force majeure.	The baseline emissions and project emissions are based on measurable activity data. Decreased activity levels, in this case power and heat consumption, are directly linked to the baseline emissions.
The baseline shall be established taking into account uncertainties and using conservative assumptions.	Although forecasts are by nature always uncertain the baseline seems conservative, because of the conservative assumptions used. In this case, the efficiency of the boilers (heat generation, baseline scenario) is estimated rather high (89%). This results in a lower (and therefore more conservative) baseline scenario.
Explanation how the baseline was established in a transparent and conservative manner.	The spreadsheet calculating the baseline emissions has been attached to the baseline report. The efficiency factors in the current situation compared to the project scenario have been transparently described in the PDD and the spreadsheet. The main variable in the baseline scenario, boiler efficiency, has been estimated conservatively (see above).
Statement of how anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered JI project activity <sup>3</sup> .	In the absence of the project, heat and power would be generated separately. The CO <sub>2</sub> emissions related to the generation of power in Bulgaria are higher than the situation in which the power is generated on site with a cogeneration plant. This also saves distribution and transportation losses. Moreover, combined generation of power and heat is more efficient than separate generation. Therefore, CO <sub>2</sub> emissions are being avoided. The project developers have demonstrated that the Internal Rate of Return will significantly increase compared to a situation in which no funding is obtained through selling the ERU's. Also the investment barriers in Bulgarian industry have been described. Therefore it is demonstrated that the proposed project activity is not a likely baseline scenario and we conclude that the expected emission reductions of the project will be additional to any that would occur in absence of the proposed project.

*Table 3: Baseline emissions*

<sup>3</sup> Registration can only take place upon determination of the JI project activity.

### 3.3 Sensitivity analysis

According to the Operational Guidelines the project developer must assess systematically and through sensitivity analysis the extent to which the key factors affect the future baseline.

The main factors influencing the baseline are power and heat consumption forecasts and boiler efficiencies. The power and heat consumption forecast was made by Biovet on the basis of its current market expectations. The boiler efficiency was estimated conservatively (high end of efficiency range, based on long term measurements).

### 3.4 Monitoring plan

The monitoring plan describes the data collection and archiving systems that are required to estimate or measure the anthropogenic emissions by sources of greenhouse gases within the project boundary during the crediting period.

The requirements for the monitoring plan have been set out against our findings in table 4.

Requirement	Findings
The monitoring plan shall include a plan for the collection and archiving of all relevant data necessary for estimating or measuring anthropogenic emissions by sources and/or anthropogenic removals by sinks of greenhouse gases occurring within the project boundaries.	The monitoring plan has been described in chapter 8 of the PDD. The monitoring methodology includes all relevant parameters, and combines them in a spreadsheet. This will make monitoring transparent.
The monitoring plan shall include a plan for the collection and archiving of all relevant data necessary for determining the baseline of anthropogenic emissions by sources and/or anthropogenic removals by sinks of greenhouse gases within the project boundary during the crediting period.	The monitoring plan contains a detailed data collection plan (table 7.1, section 8.1.2 of PDD)

Requirement	Findings
<p>The monitoring plan shall include a plan for the identification of all potential sources of, and the collection and archiving of data on increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of greenhouse gases outside the project boundary that are significant and reasonably attributable to the project during the crediting period. The project boundary shall encompass all anthropogenic emissions by sources and/or removals by sinks of greenhouse gases under the control of the project participants that are significant and reasonably attributable to the Article 6 project.</p>	<p>The PDD considers only CO<sub>2</sub> emissions originating from the CHP unit as project emissions (section 3.3 of PDD). However, heat supply and efficiency of existing boilers that will remain in operation are part of the monitoring plan. Emissions from dryers will not be affected by the project, since the activity level in both the baseline scenario and the project scenario are identical. The project scope delineated in section 3.3 of the PDD does therefore not influence the effectiveness and appropriateness of the monitoring plan.</p>
<p>The monitoring plan shall include a plan for collection and archiving information about environmental impacts, in accordance with procedures as required by the host Party, where applicable.</p>	<p>Management of environmental impacts will be subject of the host Party legal requirements.</p>
<p>The monitoring plan shall include a plan for quality assurance and control procedures for the monitoring process.</p>	<p>The quality control and quality assurance procedures are included in section 8.1.2 of the PDD.</p>
<p>The monitoring plan shall include a plan for procedures for the periodic calculation of the reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by sinks by the proposed Article 6 project, and for leakage effects, if any. Leakage is defined as the net change of anthropogenic emissions by sources and/or removals by sinks of greenhouse gases which occurs outside the project boundary, and that is measurable and attributable to the Article 6 project.</p>	<p>A spreadsheet for the calculation of avoided CO<sub>2</sub> emissions has been established (annex 15 of the PDD).</p> <p>The PDD defines existing boilers that will remain in operation as out of the project boundaries. Avoided CO<sub>2</sub> emissions by reduced operation of boilers would therewith qualify as "leakage". This issue does not influence the effectiveness and appropriateness of the monitoring plan, as the efficiency and heat production of the boilers will be monitored.</p>
<p>The monitoring plan shall include a plan for documentation of all steps involved in the calculations referred to in subparagraphs above.</p>	<p>The monitoring plan refers to the baseline report indicating that the same formulas and the same formats will be used as those used in the baseline report. The spreadsheet contains documentation on the calculations.</p>

*Table 4: Monitoring plan*

The annual CO<sub>2</sub> emission reductions have been projected by comparing expected baseline CO<sub>2</sub> emissions with the project emissions. The fuel consumption, the power and heat produced by the cogeneration plant are all measured. Moreover, heat supplied by the remaining boilers and the efficiency thereof is monitored.

### 3.5 Environmental impacts

The Bulgarian legislation requires Environmental Impact Assessments for the projects that can have a potential negative influence on the environment.

Requirements	Findings
Documentation on the analysis of environmental impacts, including transboundary impacts.	Biovet has submitted all relevant documentation to the Ministry of Environment and Waters, Preventive Activities Department. It is the task of this Department to assess whether or not an Environmental Impact Assessment has to be carried out. This assessment is done on the basis of the Environmental Protection Act of Bulgaria. The Department informed Biovet on 23 April 2004 that no Environmental Impact Assessment is deemed necessary for this project.
Conclusions and references of an Environmental Impact Assessment (EIA). An EIA has to be carried out if project participants or the host Party consider the impacts to be significant. The EIA has to be undertaken in accordance with the procedures as required by the host Party.	<p>The Department of Environment and Waters is of the opinion that combined cycle generation of heat and power reduces fuel consumption and therewith the emission of hazardous emissions. Moreover, the project is not located in an environmentally sensitive area, and no objections on behalf of the public or municipal administration of the town of Peshtera has been received.</p> <p>The Environmental Authorities therefore decided that no EIA needs to be prepared.</p>

*Table 5: Environmental impacts*

### 3.6 Stakeholder consultation

The opinion of stakeholders should be sought from both Bulgarian stakeholders and from international stakeholders.

The initiatives of the company regarding local stakeholder consultation have been described in chapter 10 of the PDD.

The Bulgarian stakeholder consultation was organized through active contact with stakeholders, including population in the vicinity of the site, the local administration and neighbouring companies. In chapter 10 of the PDD a summary of the stakeholder initiatives

and the stakeholder comments have been included. In summary, the comments from local stakeholders were positive.

The PDD was published on the Senter website carboncredits.nl between 26 April 2004 and 26 May 2004 for obtaining stakeholder comments. No stakeholder comments concerning the PDD posted on the carboncredits.nl website were received.

### **3.7 Host Country Approval**

The Minister of the Ministry of Environment and Water of Bulgaria signed a Letter of Approval for the respective Joint Implementation project on 25 May 2004. A copy of this letter has been attached in appendix C.

### **3.8 Declaration of Approval**

The Dutch Ministry of Economic Affairs as National Authority approved the project by issuing a Declaration of Approval on 16 September 2004. A copy of this letter has been attached in appendix D.

### **3.9 Corrective action requests**

The corrective actions requested by KPMG Sustainability are included in Annex B.





## A Key data

<b>Project name</b>	<b>" Reduction of greenhouse gases by gasification of Sofia municipality"</b>
Project number (Sender)	ERU04/33
Project description	The project is for the design, building and operation of a high efficiency Gas Power Plant of the co-generation type and power capacity of approximately 18 MW. The Power Plant will produce electric energy and industrial steam (for technological needs and heating) to cover the needs of Biovet JSC. The surplus produced electric energy will be sold to the National Electric Company at preference prices, in accordance with the new Energy Law. The conception is based on the above and consists of one co-generation installation in accordance with the minimum technological steam needs of Biovet.
Project proponents	<p>Company name: Biovet JSC</p> <p>Visiting address: 39, Petar Rakov Str</p> <p>Zip code + city: 4550, Peshtera</p> <p>Country: Bulgaria</p> <p>Postal address: 4550, Petar Rakov 39, Peshtera</p> <p>Contact person: dipl.eng. Michev, Ivan</p> <p>Telephone number: + 359 350 85444, or + 359 889 302945</p> <p>E-mail: <a href="mailto:biovet@biovet-bg.com">biovet@biovet-bg.com</a></p>
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CO <sub>2</sub> reduction claimed by project	AAUs: 200 kton CO <sub>2</sub> (2005 to 2007); ERUs: 339 kton CO <sub>2</sub> (2008 to 2012)

*Table 6: Key data project*



## B Corrective action requests

On the basis of the examination of the draft PDD version of 23 April 2004, the following comments were made and questions were asked. On 26 May 2004 an updated PDD was received from the project developers.

Paragraph	Issue	Status
Front page, general	Titel of project exceeds 40 positions, page numbers missing, Annexes not yet included. PDD needs version numbers or exact date in order to distinguish the different versions.	Closed
General	Excel files on calculation of baseline, project emissions, emission reductions, and additionality tests missing.	Closed
General	Annexes – make sure that the final version contains all annexes, and that the text refers to the right annex numbers.	Closed
1.2.3	Last part of this section (from “The pharmaceutical industry...” to “...Biovet” is not relevant for this project. The pictures providing a general view of Peshkera are not relevant for this project. Missing is the location of the cogeneration plant on the Biovet site; is this a new site or an existing Biovet site? What is on this site now?	Closed
1.2.5	The first part of this section does not relate to the <i>construction starting date</i> (“The permission...alternative”), but to <i>background of the project</i> .	Closed
1.3.1	The background is too general. It refers to the power sector and the greenhouse gas emissions in Bulgaria. Required here is the <i>background of the project</i> , such as (for example): existing power supply and problems therewith; expansion of Biovet, energy price forecast making this investment feasible; spare capacity of natural gas supply pipeline.	Closed

Paragraph	Issue	Status
1.3.3	The relations between the project partners and related financial engagements are missing. What is the contract form under which this project is executed? What is the organization? The responsibilities of Biovet are missing. The descriptions of the project partners can be shortened. You should mention that Biovet has signed a contract with GE now.	Closed
1.4.1	Bullets 3,4,5 and 6 are sub bullets of bullet 2. A reduced loss of power via transformation and distribution losses is a desirable side effect, not a goal of this project.	Closed
1.4.3	The current text relates to the performance of the cogen in relation to Biovet needs; this is more suited for the detailed project description. Required here is something like: Concrete results: commissioning of a high efficiency cogeneration plant of 18 MW capacity that is able to deliver a secure power and steam supply for Biovet from 2005 onwards. The new cogen will operate in an integrated way with the existing boilers.	Closed
1.5.1	The present text is very detailed but missing here are: operational modes (integration with existing boilers; export of power and heat); power to heat ratios; efficiencies (power and heat); fuel input and supply situation, energy prices, government policy, and environmental legislation.	Closed.
1.5.2	Expected availability = are all the components, know-how etc. available in order to complete this project in 2005 Q1? The text here refers to expected <i>capacity</i> and project activity level (paragraph 1.5.3)	Closed

Paragraph	Issue	Status
1.5.3	<p>The text does not contain a load diagram. The text suggests that steam and power needs vary – what does this mean for the mode of operation and the efficiencies? Are the boilers or the cogen in baseload? The table suggests 147,0 MWhe/yr, whereas the table in 1.4.3 suggest 147,6 MWh/yr. The title of the paragraph is Expected <i>capability</i>, whereas you probably mean <i>capacity</i>.</p> <p>A table with a load diagram was included in the final version of the PDD.</p> <p>Table containing CO<sub>2</sub> emission reductions does not match with calculations in section 6.</p> <p>The emissions reductions in section 6 of the final PDD should considered the estimated emission reductions.</p>	Closed.
2	<p>“The company has its own power plant”: the flow diagram (section 3.1) only shows boilers. The steam plant suggests 9 boilers, the flow diagram (section 3.1) shows 5 boilers. The boilers are designed for light fuel oil, but are always gas-fired. Their efficiency is measured every month. The current status of the boilers (reliability, age) is not mentioned.</p> <p>The “no stopping for repairs” is unrealistic.</p> <p>The table does not match with those in sections 6 and 7. The text under the table is unclear. Not included in the present situation are: export of heat to Old River Ltd (up to 20% of heat), import of power from the grid and fuel combustion by dryers (up to 10% of gas consumption). There is no mention of power cuts in the current situation (see goals which led to this project 1.4.2).</p>	Closed
3.1	<p>Not included in the diagram is export of heat to Old River Ltd and emissions from dryers.</p>	Closed

Paragraph	Issue	Status
3.2	<ul style="list-style-type: none"> <li>■ The supply of excess power to the grid is inside the scope. Cogeneration leads to avoided emissions for power generation on the grid, which also leads to inclusion of grid into the scope.</li> <li>■ Boilers are not “back-up”, they will remain in function to supplement the CHP production in order to meet total heat demand of Biovet</li> <li>■ The boilers, if they remain in function, are inside the scope.</li> <li>■ The export of heat to Old River is inside the scope.</li> <li>■ The emissions from dryers are inside the scope.</li> <li>■ If CH<sub>4</sub> and N<sub>2</sub>O emissions are very small (&lt; 1% of total emissions) they should be omitted. Note that there are CH<sub>4</sub> emissions in the present situation as well (slip from the boilers).</li> <li>■ Please keep the explanation of the diagram short and per component (cogen, boilers, export to grid, dryers, export of heat, grid, CH<sub>4</sub> and N<sub>2</sub>O).</li> </ul> <p>The requested changes in the text of the PDD have been made in the text of the final version of the PDD as well as in the calculations of the emission reductions.</p>	Closed
3.3	<p>See remarks 3.2. Change flow diagram accordingly.</p> <p>In the final version of the PDD these changes have been made.</p>	Closed.

Paragraph	Issue	Status
3.4	<p>The direct and indirect emissions table should be revised in order to reflect the corrected scope. Please keep the format of page 16, volume 1 of Senter guidelines.</p> <p>In the calculations indirect emissions from the grid have been treated properly. Therefore this omission should be considered not critical.</p>	Closed.
4.1	<p>4.2.1 The description of the legislation development does not make clear that this is a key factor of the project. How does the described legislation development influence the project?</p> <p>4.2.2. The description of the sectoral reform projects does not make clear that this is a key factor for the project.</p> <p>4.2.4 The table of the fuel prices is incomplete. Calculations on feasibility were performed using 2003 data, which are missing. Units of this table are missing.</p> <p>Prices of power would be good to include here, since the financial feasibility calculation is based on this.</p> <p>The current pressure of the gas pipeline is too low for the cogen, and Bulgargaz must solve this.</p> <p>The last sentence is very vague: "Certain problems....no clarity on the issue at present". Please make clear what the issue is or delete.</p> <p>Issues were changed in the final version of the PDD.</p> <p>During our visit to the project in May 2004 Biovet was still in the process of discussing the pressure of the gas.</p>	Closed.
4.2.3	You refer to an annex 4, which does contain data for design of the cycle and heat balance.	Closed

Paragraph	Issue	Status
4.2.5	<p>Please state year for the credit contract (“contract is expected to be executed by the end of June”).</p> <p>Please do not refer to ERUs or AAU as “hazardous emissions”.</p> <p>If the payback period required is minimum of 6 years (text above table) and the maximum required term for payback is 6 years (text below table), then Biovet faces a serious problem in the execution of this project. Please clarify.</p>	Closed
Other key factors	<p>Not mentioned are:</p> <ul style="list-style-type: none"> <li>■ Permits</li> <li>■ Available local technology, skills and knowledge</li> <li>■ Social effects and local support</li> </ul>	Closed
5.1	<p>Construction of baseline scenario: must contain all elements that are in the current situation. See section 3.3.</p> <p>Since this is the baseline scenario (without project), please make sure that the description refers to the <i>existing situation</i> only (no CHP).</p>	Closed



Paragraph	Issue	Status
5.2	<p>“Predicted annual natural gas consumptions in Biovet are presented in table B1.” I could not find these gas consumptions this table.</p> <p>Note that the efficiencies of the boilers are measured every month, and that these efficiencies range between 84% and 89% (info: Biovet). The 89% is therefore a conservative estimate.</p> <p>The paragraph would increase in transparency if you would include the first 3 columns of table B1 and add 2 columns: 1 column = source, where does this number come from (if assumed); 1 column = calculation, how is this number calculated. The abbreviations are not included in my version.</p> <p>Table 5.2 should be completed according to Senter guidelines page 22, volume 2 and the redefined scope (for example: include boilers)</p>	Closed.
5.3	Units Qf, Qel, Qth are missing. I cannot reproduce these numbers.	Closed
5.4	<p>The title refers to greenhouse gases (GHG), whereas it only refers to CO<sub>2</sub>. In this case, you should refer to t CO<sub>2</sub>, not to t CO<sub>2</sub>-eq.</p> <p>Table 5.4 refers to the baseline emissions. I cannot see where this table comes from, since table 5.2 includes the baseline emissions already.</p>	Closed

Paragraph	Issue	Status
6	<p>Both 5.4 and refer to CO<sub>2</sub> emissions by the project. For “GHG”, see remark under 5.4.</p> <p>The first 2 tables with cogen specification are missing, please complete.</p> <p>Since the existing boilers remain in operation, we cannot agree with a scope that is limited to the cogen only. There is now no way to assess whether the produced heat has been replaced the boilers or by the cogen (and ditto with power from the grid and power from the cogen).</p> <p>The projected energy consumption by Biovet includes heat that is exported. A decrease of this heat will lower emissions and increase emission reductions. Therefore, export of heat should be included in the scope as well.</p> <p>Please complete this table according to the format given by the Senter guidelines and in line with the scope as defined in section 3.2.</p> <p>Units are now “kton”, whereas intended unit is “kton CO<sub>2</sub>”.</p> <p>Unit natural gas is KJ/m<sup>3</sup>, whereas intended is “kcal/m<sup>3</sup>”.</p> <p>The requested changes have been implemented in the final version of the PDD.</p>	Closed.

Paragraph	Issue	Status
7	<p>For “GHG”, see remark under 5.4.</p> <p>Please complete in line with Senter Guidelines.</p> <p>In general about the calculations: We did not have sufficient information in order to reproduce the calculations with the aid of the tables. Please include assumptions etc and increase transparency of calculations. Note that this is one of the most important parts of this document. It should therefore be clear for outsiders that do not want to read the whole document how the emission reductions are calculated from the tables only.</p> <p>Additional information has been included in the final version of the PDD.</p>	Closed.
8	<p>The monitoring plan must be changed to comply with the project scope as defined in 3.2 and 3.3.</p> <p>The crediting period is for more than 5 years (section 8.1).</p>	Closed
9	<p>The additionality test is based on data provided by Biovet. Please provide the sources of the main assumptions (power costs; average steam costs; selling price of power; maintenance costs). Please provide the excel sheet. Please note that export to the grid is foreseen for 1 year only in the PDD, whereas the table of additionality test foresees annual export to the grid. Please provide a corrected table.</p>	Closed
10	<p>The stakeholder comments section the results only. Senter specifically and explicitly asks for a description of the process of gathering stakeholder comments, and comments from stakeholders are incorporated in the project.</p> <p>The PDF file contains corrupted original letters (Annex 21). This has been changed in the final version of the PDD.</p>	Closed.

<b>Paragraph</b>	<b>Issue</b>	<b>Status</b>
11	Environmental impact: please include a copy of the letter of the Regional Inspectorate Environment and Waters in which the environmental impact assessment is waived.	Closed

## C Letter of Approval of the Host Country



**REPUBLIC OF BULGARIA**  
**MINISTRY OF ENVIRONMENT AND WATER**

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### Letter of Approval

Undersigned, as a legal and authorised representative of the Republic of Bulgaria,

Acknowledging that the Republic of Bulgaria has ratified the United Nations Framework Convention on Climate Change in 1995,

Taking into consideration that the Republic of Bulgaria has ratified the Kyoto Protocol in 2002,

Recalling that the Republic of Bulgaria and the Kingdom of the Netherlands have signed a Memorandum of Understanding on Reducing Emissions of Greenhouse Gases under Article 6 of the Kyoto Protocol,

Referring to:  
Proposal number: 4977/10.05.04, named:

**CO-GENERATION GAS POWER STATION - BIOVET, PESHTERA**

hereafter to be referred to as "the JI project",  
located in the town of Peshtera, Bulgaria

by "Biovet AD", hereafter to be referred to as "the Supplier",

declares that:

1. Bulgaria has ratified the Kyoto Protocol.
  2. Bulgaria will comply with the requirements to participate in Article 6 Kyoto Protocol projects as stated in the Marrakech Declaration no later than 1 September 2006.
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3. Bulgaria recognises the JI project to be a Joint Implementation project in accordance with article 6 of the Kyoto Protocol and its underlying decisions.
  4. Bulgaria authorises the Supplier and any future owner of the JI project to generate ERUs, by operation of the JI project, in accordance with article 6 of the Kyoto Protocol.
  5. Bulgaria accepts the transfer of 339 000 of verified ERUs, generated through the JI project, to the Government of The Netherlands during the period 2008 – 2012 of the JI project, through the transfer of ERUs by Bulgaria.
  6. The transfer of ERUs from Bulgaria to the Netherlands will be free of any taxes or levies.
  7. The transfer of ERUs from Bulgaria to the Netherlands is irrespective of any legal or other transfer of the JI project to third parties.
  8. In case the Kyoto Protocol will not enter into force, Bulgaria shall transfer to the Netherlands greenhouse gas emission reductions and all rights derivable therefrom on a bilateral basis in an amount equal to the number of verified emission reductions.
  9. In case Bulgaria and the Netherlands fully comply with the participation requirements of the Marrakech accords, the transfer of ERUs will be based on article 23 of these accords (‘JI track one’).
  10. Bulgaria also confirms that it will set aside for the “Co-generation gas power station – Biovet, Peshtera” an amount of Assigned Amount Units (AAUs) corresponding to 200 000 t CO<sub>2</sub> equivalent expected to be generated by the Project prior to 2008 in accordance with the MoU between the Republic of Bulgaria and the Kingdom of the Netherlands.
  11. Bulgaria is currently in the process of establishing an AAU management and investment scheme for “greening” of AAUs transferred through the Emissions Trading mechanism of Article 17 of the Kyoto Protocol. Once the scheme is operational, latest at the beginning of 2006, the AAUs generated by the Project and agreed between the Host country and the Supplier, will be transferred to the Netherlands.
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12. The transfer of the amount of 200 000 AAUs will take place after the Bulgaria's Assigned Amounts Registry has been established, provided that
- (a) The Project Entity or the Netherlands have submitted Verification documents verifying the generation of an equivalent amount of emission reductions;
13. Bulgaria will comply with the participation requirements as stated under article 2 in the Annex to the Marrakech Declaration (Decision -/CP.7 (Article 17)) (Modalities, rules and guidelines for emissions trading), no later than September 1st 2006.
14. Should Bulgaria at any time consider to allocate allowances to the Project or otherwise include the Project in its national allocation plan in such a way that the Project shall no longer be able to generate ERUs, Bulgaria will, taking into account the early action taken by the Project Company, allocate a number of allowances to the Project that is equal to the number of tonnes CO<sub>2</sub>e that would have been emitted in the absence of the Project as expressed in the baseline.

Signed:



**Dolores Arsenova**

**Minister**

Date: 25/05/2004  
Sofia, Bulgaria

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**D Declaration of Approval**

Ministerie van Economische Zaken

THE STATE OF THE NETHERLANDS ACTING THROUGH THE NETHERLANDS' MINISTRY OF ECONOMIC AFFAIRS, being the competent national authority for approving Joint Implementation projects,

Referring to:  
Proposal number ERU04/33,  
named New co-generation station at the Biovet factory,  
located in Bulgaria,  
by Biovet JSC,

declares that:


it has ratified the Kyoto Protocol on 31 May 2002;

it has designated its Ministry of Economic Affairs as its National Authority for approving Joint Implementation projects;

it recognises the project to be a Joint Implementation project in accordance with article 6 of the Kyoto Protocol and its underlying decisions;

it is committed to meet all eligibility requirements for using Emission Reduction Units to contribute to compliance with part of its quantified emission limitation and reduction commitment under Article 3 of the Kyoto Protocol as determined by the COP or COP/MOP in due time;

it will consider the transfer of greenhouse gas emission reductions resulting from the project on a bilateral basis, in case the Kyoto Protocol eventually will not enter into force.



L.J. Brinkhorst  
Minister of Economic Affairs

Signed on 16/3/2007, The Hague