APPENDIX A

DETERMINATION PROTOCOL

for the VER - Project Activity "Methane Recovery Project Praktijkcentrum Sterksel, North Brabant, The Netherlands"

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 Art.6.1 (a)	**Only applicable if JI Track 2**	Section A.5., Annex 1: The PDD identifies The Netherlands as the party involved. No other Annex 1-country could be identified so far. The formal letter of approval from Ministry of Economic Affairs SenterNovem Catharijnesingel 59 P.O. Box 8242 3503 RE Utrecht has to be submitted to the audit team, if JI Track 2 is considered. The preliminary determination report is recommended as prerequisite for the approval as JI project. The other Annex 1-country, representing the potential buyer of ERUs has to be identified.
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)	OK	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)	OK	Germany has submitted its fourth national communication and a progress report (to UNFCCC in October and August 2006 respectively). Anyhow, it is not decided yet, who will be the sponsor Party at he end.

REQUIREMENT	Reference	CONCLUSION	Cross Reference / Comment
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)	OK	Germany is obliged to reduce its greenhose gas emissions by 21 percent compared to the level of 1990. The Climate Strategy of Germany combines domestic measures with the use of the Kyoto Protocol's flexible mechanisms, laid down in the Projekt-Mechanismen-Gesetz (ProMechG). It is not decided yet, who will be the sponsor Party at he end.
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	**Only applicable if JI Track 2**	The Netherlands have in place the relevant institutional framework and guidelines, procedures for the approval of JI projects. The Netherlands have submitted its fourth national communication to UNFCCC and a progress report (to UNFCCC in December 2006). The Designated National Focal Point is the Ministry of Economic Affairs SenterNovem Catharijnesingel 59 P.O. Box 8242 3503 RE Utrecht in The Netherlands. The communication of the project developer with the DFP with regard to the eligibility of the

REQUIREMENT	Reference	CONCLUSION	Cross Reference / Comment
			project under as a JI project has to be submitted to the audit team. The other Annex 1-country, representing the potential buyer of JI has to be identified.
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	OK	The Netherlands has ratified the Kyoto Protocol on 31.05. 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	OK	The Netherland's assigned amount of emission reductions is 94 % in comparison to the base year 1990. The Netherlands has submitted their National Inventory Report 2007 for 1990 – 2005 in April 2007 to UNFCCC.
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	OK	A national registry will be established and maintained by the host Party.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Marrakech Accords, CDM Modalities §31	OK	PDD and supporting documents were submitted to the audit team of the DOE / IE.
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	**Only applicable if JI Track 2**	It can be confirmed, that it was agreed not to make the PDD public available at this stage, where the project is considered as VER project activity, the conversion into a JI project activity is taking into account,

REQUIREMENT	Reference	CONCLUSION	Cross Reference / Comment
			which will be decided within this year depending on the relevant guidance of the Joint Implementation Supervisory Committee and other requirements. No publications are requested at the moment. The audit team has to be informed about the future publication requests.
11. Documentation on the analysis of the environmental impacts of the project activity, including trans boundary 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)	OK	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	OK	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	OK	Table 2, Section B.2
14. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan	Marrakech Accords,	OK	Table 2, Section D

REQUIREMENT	Reference	CONCLUSION	Cross Reference / Comment
	JI Modalities, §33(c)		
16. The project design document is in conformance with the UNFCCC JI-PDD format	Marrakech Accords	**Only applicable if JI Track 2**	The PDD is in conformance with version 01.1 of the Joint Implementation Project Design Document for small-scale projects (in effect as of 27th of October, 2006). The audit team has to be informed about the future publication needs, which might subsequently request a change of the PDD format (in case of a updated version at the time of publication).

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity *The project design is assessed.*					
A.1. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	PDD	DR	The project spatial boundaries have been defined and are clearly described in chapter A.2, A.4 (incl. a map) and B.4 of the PDD.	OK	OK
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	PDD	DR I	The project boundaries are defined, see B.4. The project system's boundaries are limited to the geographic area of the installation including its surrounded baseline sources (biomass, manure). The biogas plant of the project activity would receive swine manure from the own livestock situated in the stables of the Praktijkcentrum Sterksel. The Technical Description (A.4.) presented in the PDD, shows in general a complete description of the project's system. **CAR1:** It should supplemented in the PDD, that for emergency cases in order to avoid interruption of operation, additional facilities for emergency supply of and heat (backup-boiler) are installed. These issues were considered in the updated PDD under chapter A.4.3. and under D.2.	**CAR1**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
A.1.3. Is the project category suitably defined?	PDD	DR	The project belongs to sectoral scope 1 - Energy industries (renewable - / non-renewable sources) and sectoral scope 15 - Agriculture. The proposed project activity is in conformance with 2 project categories – Type I.C. (Thermal energy for the user) and Type III.D. (Methane recovery in agricultural and agro industrial activities). The project activity is not a debundled component of a larger project activity.	OK	OK
A.2. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.*					
A.2.1. Does the project design engineering reflect current good practices?	PDD	DR I	The project design engineering reflects good practices through the use of a biogas – CHP plant for the electricity and heat production, described in the project design documentation. This practice and technology is new and advanced in The Netherlands and in the Province of North Brabant.	OK	OK
A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	PDD	DR I	Yes. The common practice in The Netherlands is the open-air storing of manure applying it to fields unprocessed. The project activity employs state of the art technology which is above the local standard and had to be imported partly	**CL1**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			from Austria. The biogas plant will not only be fed with swine manure, it will supplemented with solid and fluid co-ferments like vegetable juice concentrates, crushed grain seeds, glycerine, fluid potato starch, fluid grain starch, grinded wheat. **CL1:** It has to be clarified, if the technology applied is in compliance with the permits issued by the local environmental authority for the operation of the biogas – CHP plant (EIA, equivalent to IPPC Law). The PDD should also be revised accordingly. A copy of the building permission and of the declaration of conformity of the project to the Dutch environmental law "Wet milieubeheer" have been received by the validation team.		
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR I	The project is unlikely to be replaced by other more efficient technologies for combined biogas and biomass utilzation in case of regular and predictive maintenance.	OK	OK
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PDD	DR I	Yes, the project requires initial training for operation and maintenance with special focus on process control, predictive maintenance and the monitoring tasks. These capabilities will be transferred to the operator Praktijkcentrum Sterksel through the suppliers of the different equipments and ARA Carbon Finance GmbH, who is responsible on behalf of the operator for	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			the implementation of the monitoring concept. The Praktijkcentrum Sterksel is also functioning as a demonstration project site for dissemination of the applied concept of the project as a voluntary greenhouse gas reduction project or VER project. The Praktijkcentrum Sterksel is basically a public owned research institute, which has the aim to disseminate the knowledge gained in the operation of a biogas plant to interested farmers and promote such plants in The Netherlands as they are thought to improve the social and economic standing of the regional farmers and hence contribute to the sustainable development in the region.		
A.2.5. Does the project make provisions for meeting training and maintenance needs?	PDD	DR I	Yes. The operator Praktijkcentrum Sterksel in cooperation with ARA Carbon Finance GmbH is responsible for organising the necessary training of the operational and maintenance staff with special focus on the implementation of the monitoring plan. **CL2:** It has to be clarified, in which steps the training is planned and how the responsibilities and tasks of the operator, CO_2 consultant and technology supplier are allocated. Training of the operating staff has been done by the technology supplier and by ARA during commissioning of the plant. The next trainings according to the monitoring processes are planned to take place both during the periodic	**CL2**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			meetings of the biogas group and before the annual project verifications. Tasks and responsibilities are allocated between the operator, CO2 consultant and technology supplier as described in section D.4 (Page 25/26).		
A.3. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	PDD	DR I	Yes, according to the information given in the PDD and during the on-site assessment the project is in line with relevant legislation in The Netherlands. **CL1:** It has to be clarified, if the technology applied is in compliance with the permits issued by the local environmental authority for the operation of the biogas – CHP plant (EIA, equivalent to IPPC Law). The PDD should also be revised accordingly. A copy of the building permission and of the declaration of conformity of the project to the Dutch environmental law "Wet milieubeheer" have been received by the validation team.	**CL1**	OK
A.3.2. Is the project in line with host-country specific JI requirements?	PDD	DR	In The Netherlands, national priorities for JI projects within The Netherlands at the moment are in the process of redefinition in connection with the current review of the EU-Linking	**Only appli-cable if JI**	**Only appli-cable if JI**

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			Directive. The project owner has developed the project as climate protection project. The project is: environmentally additional contributes to sustainable development in the region with positive effects on the environment, economy and social development throughout additional employment + financially additional (Return on Equity < reference value without VERs or ERUs) + is not a project which is required by law + the projects faces barriers because of application of risky new technologies (difficult to get financing within The Netherlands respectively the Province of North Brabant, different technological path – not available in The Netherlands, little expertise, no previous experience within The Netherlands)	**Track 2**	**Track 2**
A.3.3. Is the project in line with sustainable development policies of the host country?	PDD	DR	Idem, the project is confirmed to be in line with current sustainable development priorities in The Netherlands.	**Only appli-cable if JI Track 2**	**Only appli-cable if JI Track 2**
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	PDD OSV	DR I	The project activity will also improve other environmental related conditions by minimizing odour from the open manure storage tanks.	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			During the construction and operation of the project activity local human resources or companies are employed respectively subcontracted. The project's containing technology transfer and improvement in technology and the training of the operational staff will enhance the capacity of local people in North Brabant and the further sphere of influence of the Praktijkcentrum Sterksel, which is also well-known and recognized in Limburg and other regions of The Netherlands as center for dissemination of know-how and transfer of best available environmentally sound tech-nologies.		
B. Project Baseline *The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	PDD	DR	**Baseline for the biogas capture:** The project is applying the approved CDM baseline methodology AMS III.D. "Methane recovery in agricultural and agro industrial activities". **Baseline for electricity production and heat production displaced:**	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			The project is applying the approved CDM baseline methodology AMS I.C. ”Thermal energy for the user”.		
B1.2. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified? .	PDD	DR	**Baseline for the biogas capture:** The selected baseline methodology AMS III.D. is the only approved small-scale methodology applicable for this kind of project activity. **Baseline for electricity production and heat production displaced:** The selected baseline methodology AMS I.C. is the only approved small-scale methodology applicable for this kind of project activity, component heat production through fossil fuels displaced. The other component displacement of electricity from the electricity grid, which would be covered by AMS I.D. , was not applied because of a conservative approach, in order to avoid any double counting with the NAP or any other conflicts with other legal acts in The Netherlands like MEP (Milieukwaliteit Elektriciteits Productie) subsidies for green electricity feed-in-tariffs, as well the national act of the EU linking directive .	OK	OK
B.2. Baseline Determination *The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario,*					

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
and whether the baseline is complete and transparent.					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	PDD	DR I	Yes. The application of the chosen baseline methodology could be demonstrated in a transparent manner. The baseline scenario is the atmospheric release of methane to the atmosphere (AMS III.D.) and the displacement of fossil fuels by renewable energy (AMS I.C.) respectively. The project activity consists of the collection of manure and co-ferments (solid and liquid biomass or biodegradable waste) in order to produce biogas respectively electricity and heat in a CHP plant.	OK	OK
B.2.2. Has the baseline been determined using conservative assumptions where possible?	PDD	DR I	Yes. The baseline is using a conservative approach, both for the prediction of the biogas production and the electricity and heat production.	OK	OK
B.2.3. Has the baseline been established on a project-specific basis?	PDD	DR	Yes, the baseline methodology is applied taking into account project specific circumstances. This approach could be used also for other similar projects in The Netherlands and abroad with similar characteristics	OK	OK
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	PDD	DR	Yes. All the current relevant national and/or sectoral policies in The Netherlands were considered. TÜV Rheinland as the contracted DOE / IE was able to verify that the relevant national and/or sectoral policies, macro-economic trends and political aspirations were taking into account.	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			Throughout the annually ex post re-calculation of the emission reduction on the really measured emission reductions future trends can be easily incorporated in the baseline scenario.		
B.2.5. Is the baseline determination compatible with the available data?	PDD	DR I	Yes. The baseline scenario is supported by available data. The utilization of solid and liquid co-substrates in addition to the used swine manure has been initially assessed and evaluated within the PDD. **FCL1:** It has to be clarified, which effects this additional raw materials respectively fuels will have on the quantity of the produced biogas respectively heat and electricity and hence also the VERs and the related costs and financial indicators considering the to be expected highly varying quantities of raw-materials. An additional adjustment factor has been introduced, which will take into account variations of applied raw materials and which can be verified annually.	**FCL1**	OK
B.2.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	PDD	DR I	Yes, see B.2.1. In the absence of the proposed project activity, four alternatives have been identified: • BAU: Release of methane from manure to the atmosphere • Other renewable energy projects (i.e. wind, solar) at the same location	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			The only plausible baseline scenario remains the business as usual scenario (BAU) in absence of the project activity.		
B.2.7. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario (e.g. through demonstrating investment barriers, technology barriers, barriers to prevailing practices, and/or other barriers or through quantitative evidence that the project would otherwise not be implemented)?	PDD EA	DR I	The project proponents have only defined alternatives to the project activity to justify the BAU as baseline scenario and to demonstrate the environmental additionality of the project activity. Advanced biogas-CHP plants are at present not current practice in The Netherlands, and is currently not promoted due to the fact that the Dutch government abolished the MEP (Milieukwaliteit Elektriciteits Productie) subsidies for green electricity in August 2006. Moreover it can be stated, that the revenues generated from the sale of VERs or ERUs is the only source to achieve the required Return on Equity of at least 13 % for the project activity and will enable the project participants to go ahead with the project implementation in case of a successful ERPA. and sale of the VERs or ERUs of the project activity.	OK	OK
B.2.8. Have the major risks to the baseline been identified?	PDD	DR I	The baseline is based on available data, which are transparent. No major baseline risks are foreseen.	OK	OK
B.2.9. Is all literature and sources clearly referenced?	PDD	DR I	Yes. The used data and assumptions are reasonable.	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	PDD	DR I	Yes. The starting date is defined in the PDD on May 1st, 2006. The operational lifetime is 20 years. During the on-site assessment it could be confirmed, that the plant is not yet fully operational and is expected to be completed until end of 2007. Especially the heat consumers and the relevant monitoring equipment (heat meter) and the conversion unit for standard volume (Nm^3) is not yet completed. These parameters are also important control parameters, which have influence on the efficiency of the CHP-plant. **CL3:** The confirmed start of the project activity and the crediting period has to be adjusted and clarified, also the amount of emission reductions for the pre-JI- period 2006 – 2007 (before 2008) and after 2008. The table in section A.4.4.1. was amended accordingly.	**CL3**	OK
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or	PDD	DR	Yes. The crediting period is defined from 1st of May 2006 until April 2016	**CL3**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
fixed crediting period of max. 10 years)?			**CL3:** The confirmed start of the project activity and the crediting period has to be adjusted and clarified, also the amount of emission reductions for the pre-JI- period 2006 – 2007 (before 2008) and after 2008. The table in section A.4.4.1. was amended accordingly with a crediting period of ten years from May 2006 until April 2016.		
D. Monitoring Plan *The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed ((Blue text contains requirements to be assessed for optional review of monitoring methodology prior to submission and approval by CDM EB).*					
D.1. Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
D.1.1. Is the monitoring methodology previously approved by the CDM Methodology Panel?	PDD	DR I	Yes, the CDM approved monitoring methodology AMS III.D. and AMS I.C., which are an integral part of the applied CDM baseline methodologies AMS III.D. and AMS I.C., has been used in the project. For the project emissions caused by the own consumption of electricity and heat other assumptions outside of these methodologies were used, see under chapter 3.2. **CL4**: It has to be clarified, if besides of the already running heat meter for the office	**CL4**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			building and the stable for the sows also additional heat meters will be installed for: • The back stables and planned extension • The planned digestate drying • The supply of heat to the planned Epileptic Center (second project stage). According to the response of the project proponent it is planned to install a heat meter for the measurement of the heat consumption of the planned new heat consumers (stables; sold heat to Epileptic Center), see also A.4.3. and D.1. Instead of applying a digestate dryer is planned to separate the liquid and solid phase of the digestate, using filters without any heat consumption. With reference to A.4.3. and D.1. the new pig stable will probably be connected to the waste heat system of the gas engines and therefore also be equipped with a heat meter.		
D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	PDD	DR I	The monitoring methodology is the most applicable for this project, see PDD. The GHG emission reductions will be obtained through direct measurement according to the approved monitoring methodology and the approach described under chapter D.	OK	OK
D.1.3. Does the monitoring methodology reflect good	PDD	DR	Yes, see also chapter D., detailed monitoring	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
monitoring and reporting practices?		I	arrangements and procedures according to the used monitoring plan will be applied during the periodic verification process. Given the nature of the project, the updated description of the monitoring and reporting in the PDD is deemed sufficient. The requested procedure and documentation and responsibilities assignation is in preparation and will be ensured by the project owner supported by the CO_2 consultant ARA Carbon Finance GmbH.		
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	PDD	DR I	Yes	OK	OK
D.2. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
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?	PDD	DR	According to the applied methodologies project emissions for own energy consumption have to be taking into account. **CL5:** It has to be confirmed, that within the monitoring plan, as documented in the PDD on pages 20 – 21, also the measurement of the project emissions caused by operation of the biogas-CHP plant and the back-up boiler, will be taken into account in the implementation of the project, e.g. throughout separate electricity meters, heat meters, measuring of additional fuel consumption and the relevant invoices.	**CL5**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			The monitoring plan was corrected accordingly, see section D.1. and D.2.		
			FCAR1: It has to be ensured that according to the applied methodology the following items have to implemented before the verification can take place: • Flow meters, sampling devices and gas analysers shall be subject to regular maintenance, testing and calibration to ensure accuracy. • The proper soil application (not resulting in methane emissions) of the final sludge must be monitored. • The monitoring plan should include on site inspections for each individual farm included in the project boundary where the project activity is implemented for each verification period. • Other applied organic fractions besides of manure, which lead to biogas production, have to be deducted from the baseline respectively from the biogas output. • As pre-requisite the relevant quantities and qualities have to be recorded reproducible as indicated in the monitoring plan.	**FCAR1**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			The monitoring plan was amended, see section D.1. – D.3. The responsibilities and procedures for the implementation of the monitoring plan are determined and further described within D.4. amd D.5.		
D.2.2. Are the choices of project GHG indicators reasonable?	PDD	DR	The choices of indicators is reasonable.	OK	OK
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	PDD	DR	Yes. It will be possible to monitor the specified project GHG indicators with the corresponding measurement equipment.	OK	OK
D.2.4. Will the indicators give opportunity for real measurements of achieved emission reductions?	PDD	DR	Yes. The monitored indicators allow the evaluation of the emissions due to the project activities.	OK	OK
D.2.5. Will the indicators enable comparison of project data and performance over time?	PDD	DR	Yes. The continuous measurement of data enables the comparability of project-phases on different time frames.	OK	OK
D.3. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	PDD	DR	As for AMS III.D. and AMS I.C. , leakage does not need to be considered and is also not associated with the project activity. New equipment will be used also for the heat generatring equipment according to AMS I.C.	OK	OK
D.3.2. Have relevant indicators for GHG leakage been included?	PDD	DR	Idem	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	PDD	DR	Idem	OK	OK
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	PDD	DR	Idem	OK	OK
D.4. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	PDD	DR I	The monitoring plan contains all data to be monitored. The monitoring plan and further related documentation will be the basis and guideline for the practical procedures of the collection and archiving of the requested data. The final numbers of VERs or ERUs will depend on the annual produced biogas and supplied heat, replacing fossil fuels, which will be both measured. **CL6:** It has to be confirmed, that within the monitoring plan, as documented in the PDD on pages 18 – 21, also the measurement of the project emissions caused by operation of the biogas-CHP plant and the back-up boiler, will be taken into account in the implementation of the project, e.g. throughout separate electricity meters, heat meters, measuring of additional fuel consumption and the relevant invoices. The monitoring plan was corrected accordingly,	**CL6**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			see section D.1. and D.2. Relevant cross checks will be performed additionally.		
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	PDD	DR	Yes, the choice made is reasonable and state of the art for the monitoring of the quantity and quality of biogases, electricity and heat.	OK	OK
D.4.3. Will it be possible to monitor the specified baseline indicators?	PDD	DR	Yes, on a regular basis according to the monitoring plan and the procedures defined.	OK	OK
D.5. Monitoring of Sustainable Development Indicators/ Environmental Impacts *It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.*					
D.5.1. Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	PDD	DR	No, as a monitoring of such data is not requested by the applied monitoring methodologies AMS III.D. and I.C. **CL7:** It has to be clarified, that also the Designated Focal Point for JI in The Netherlands does not require additional monitoring of sustainable development criteria respectively environmental impacts.	**CL7**	**Only appli-cable if JI Track 2**
D.5.2. Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?	PDD	DR	Idem	OK	OK
D.5.3. Will it be possible to monitor the specified sustainable development indicators?	PDD	DR	Idem	OK	OK
D.5.4. Are the sustainable development indicators in line with stated national priorities in the Host Country?	PDD	DR	Idem	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
D.6. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
D.6.1. Is the authority and responsibility of project management clearly described?	PDD OSV	DR I	The project owner and operator Praktijkcentrum Sterksel in cooperation with ARA Carbon Finance GmbH is responsible for the whole project management and supervision with regard to project operation, monitoring and reporting, which includes the implementation of the details of the monitoring plan according to above applied monitoring methodologies. The monitoring management will be handled by the project operator, with assistance of the CO_2 consultant ARA Carbon Finance GmbH. Given the nature of the project, the description of the monitoring and reporting in the PDD is deemed sufficient.	OK	OK
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD OSV	DR	Praktijkcentrum Sterksel in cooperation with ARA Carbon Finance GmbH has also the responsibility for the tasks related to monitoring.	OK	OK
D.6.3. Are procedures identified for training of monitoring personnel?	PDD OSV	DR I	Training was provided to the local employees as necessary once the equipment was installed and before the project started operation. This will be continued with special focus on process control and monitoring / recording tasks during the project period and in preparation of the periodic verification of the GHG emission reductions.	OK	OK
D.6.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	PDD	DR	According to the project design such emissions are not expected to occur for a long term.	**CAR 2**	OK

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	OSV	I	**CAR2** Additional GHG emissions caused by the backup-boiler have to be monitored and recorded. The monitoring plan was corrected accordingly, see section D.1. and D.2.		
D.6.5. Are procedures identified for calibration of monitoring equipment?	PDD OSV	DR I	Yes, such procedures are in place already within other biogas projects, which ARA Carbon Finance GmbH has assisted before, and will be adopted to the planned project and will be also an integral part of the monitoring management.	OK	OK
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	PDD OSV	DR I	Idem. The specific training for predictive maintenance will be also adopted to the planned project.	OK	OK
D.6.7. Are procedures identified for monitoring, measurements and reporting?	PDD OSV	DR I	Yes. Procedures are identified. The implementation of the measures will be part of the monitoring management.	OK	OK
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	PDD OSV	DR I	Idem, according to applied monitoring methodology and monitoring management.	OK	OK
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	PDD OSV	DR I	This issue was identified as well as counter measures to be implemented as part of the monitoring management.	OK	OK
D.6.10. Are procedures identified for review of reported results/data?	PDD OSV	DR I	The appropriate procedures and measures to be taken according to the applied methodology will be part of the monitoring management. **CL8:** It has to be confirmed, that all these measures and procedures according to D.6.1. –	**CL8**	OK

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			D. 6.13. will be part of the monitoring management and will be implemented prior to the start of the crediting period and the initial verification. The responsibilities and procedures for the implementation of the monitoring plan are determined and further explained within D.4. amd D.5., which includes the measures described within D.6.1. – D.6.13 of the validation protocol.		
D.6.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PDD OSV	DR I	Idem	OK	OK
D.6.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	PDD OSV	DR I	Idem	OK	OK
D.6.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD OSV	DR I	Idem	OK	OK
E. Calculation of GHG Emissions by Source *It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.*					
E.1. Predicted Project GHG Emissions *The validation of predicted project GHG emissions focuses on*					

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
transparency and completeness of calculations.					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	PDD	DR	The project itself does not generate any significant emissions. **CL9:** It has to be clarified if the project emissions are below the limits defined in the applied methodologies respectively can be neglected. This has to be shown especially for the project emissions caused by transportation of the raw materials (especially manure and a variety of co-ferments). The justification of the project proponent is as follows: There is hardly truck transportation in the Sterksel project as the manure is received through underground pipes from the stables on the same estate. Co-Ferments would also be disposed by truck without the project.	**CL9**	OK
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	PDD	DR	Idem	OK	OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	PDD	DR	Idem	OK	OK
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD	DR	No major uncertainties are foreseen.	OK	OK
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	PDD	DR	Idem	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
E.2. Leakage *It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.*					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	PDD	DR	Leakage does not need to be considered outside the project boundaries according to the applied methodology AMS III.D. Also it is not applicable for this project with regard to AMS I.C., because only new equipment is installed within the CHP plant.	OK	OK
E.2.2. Have these leakage effects been properly accounted for in calculations?	PDD	DR	Idem	OK	OK
E.2.3. Does the methodology for calculating leakage comply with existing good practice?	PDD	DR	Idem	OK	OK
E.2.4. Are the calculations documented in a complete and transparent manner?	PDD	DR	Idem	OK	OK
E.2.5. Have conservative assumptions been used when calculating leakage?	PDD	DR	Idem	OK	OK
E.2.6. Are uncertainties in the leakage estimates properly addressed?	PDD	DR	Idem	OK	OK
E.3. Baseline Emissions *The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.*					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference	PDD	DR I	Yes.the baseline indicators selected are relevant and transparent. The ex-ante estimation of emission reductions is based on the contracted	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
for baseline emissions?			manure and co-ferments supply, based on conservative assumptions. Besides of this already conservative estimation, the actual emission reductions will be directly measured, resulting in the actual VERs or ERUs, that have to be annually verified by an IE.		
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	PDD	DR I	Yes, the baseline boundaries are clearly defined in the PDD, see also under A1.1 and A1.2.	OK	OK
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	PDD	DR I	Yes. The calculations are transparently documented.	OK	OK
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	PDD	DR I	Yes. The calculations assumptions have been done in a conservative manner, with using benchmarks of other biogas and biomass plants based on own experiences of the CO_2 consultant ARA Carbon Finance GmbH and other relevant expert opinions and sources.	OK	OK
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	PDD	DR I	Yes	OK	OK
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	PDD	DR I	Yes. The baseline emissions were calculated according to AMS III.D. and AMS I.C. Project emissions caused by own consumption of electricity and heat are foreseeen to occur and will therefore be additionally measured and monitored in a conservative manner.	OK	OK
E.4. Emission Reductions					

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	PDD	DR I	Yes. The calculation results in emission reductions summarized on page 11 of the PDD, with 2,118 tCO_2 equivalent annually. The project applies conservative and sound assumptions for this ex-ante estimation. A further adjustment will be performed taken into account the results from the final ex-post measurements and monitoring of other indicators, which will be annually verified by an IE.	OK	OK
F. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD OSV	DR I	Yes. The environmental impacts have been assessed in the PDD, chapter F.1. **CL1:** It has to be clarified, if the technology applied is in compliance with the permits issued by the local environmental authority for the operation of the biogas – CHP plant (EIA, equivalent to IPPC Law). The PDD should also be revised accordingly. A copy of the building permission according to the Dutch building law "Wet op Ruimtelijke Ordening" and of the declaration of conformity of the project to the Dutch environmental law	**CL 1**	OK

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			"Wet milieubeheer" have been received by the validation team, see chapter F. The permit covers the installation and operation of the biogas power plant including all components such as storage, feeders, fermenters, CHP modules, etc. An environmental impact check (a full EIA is not required) did not videntify significant impacts to the requirement.		
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD OSV	DR I	See F.1.1.	**CL 1**	OK
F.1.3. Will the project create any adverse environmental effects?	PDD OSV	DR I	No significant negative impacts like noise originating from construction and operation phase are anticipated from the project. Positive effects are predominating like reduction of GHG emissions, reduction of odours and other harmful emissions, risk reduction of fires throughout uncontrolled burning.	OK	OK
F.1.4. Are transboundary environmental impacts considered in the analysis?	PDD OSV	DR I	No transboundary environmental impacts to other regions or countries have been identified.	OK	OK
F.1.5. Have identified environmental impacts been addressed in the project design?	PDD OSV	DR I	Environmental impacts have been identified in the PDD within section F.1, but are not significant and therefore negligible.	OK	OK
F.1.6. Does the project comply with environmental legislation in	PDD	DR	The project activity is approved and	**CL 1**	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
the host country?	OSV	I	implemented with conformance of the environmental legislation and requirements in The Netherlands according to the interviews with the project owner during the on-site assessment. **CL1:** It has to be clarified, if the technology applied is in compliance with the permits issued by the local environmental authority for the operation of the biogas – CHP plant (EIA, equivalent to IPPC Law). The PDD should also be revised accordingly. A copy of the building permission and of the declaration of conformity of the project to the Dutch environmental law "Wet milieubeheer" have been received by the validation team, see chapter F. The permit covers the installation and operation of the biogas power plant including all components such as storage, feeders, fermenters, CHP modules, etc.		
G. Stakeholder Comments *The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.*					
G.1.1. Have relevant stakeholders been consulted?	PDD STH C	DR I	Yes. A local voluntary stakeholder consultation process has been conducted, see under chapter G.1.3. In addition were a lot of public activities and media use documented by the project owner	OK	OK

CHECKLIST QUESTION	Ref.	MoV *	COMMENTS	Draft Concl.	Final Concl.
			and could be shown for evidence to the audit team during the on-site assessment.		
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	PDD STH C	DR I	Idem	OK	OK
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?	PDD STH C	DR I	Yes, as part of the Dutch building law, the so-called “Wet op de Ruimteliijke Ordening” and the Dutch “Wet milieubeheer” environmental law.	OK	OK
G.1.4. Is a summary of the stakeholder comments received provided?	PDD STH C	DR I	Yes, the positive effects of the project activity with focus on environment and economic and social effects in the region could be presented to the audit team during the on-site assessment.	OK	OK
G.1.5. Has due account been taken of any stakeholder comments received?	PDD STH C	DR I	No negative comments were expressed. Hence no corrective actions have been taken.	OK	OK