VALIDATION REPORT

Mavi Consultants

Kuyucak 25.6 MW Wind Farm Project, Turkey

SGS Climate Change Programme
SGS United Kingdom Ltd
SGS House
217-221 London Road
Camberley Surrey
GU15 3EY
United Kingdom

Date of Issue:	**Project Number:**
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Project Title:	
Kuyucak 25.6 MW Wind Farm Project, Turkey	
Organisation:	**Client:**
SGS United Kingdom Limited	Mavi Consultants
Publication of PDD for Stakeholders Consultation	
Commenting Period:	31/07/2008 to 29/08/2008
First PDD Version and Date:	Version 01, 25/06/2008
Final PDD Version and Date:	Version 09, 23/09/2010

Summary:

Mavi Consultants has commissioned SGS to perform the validation of the VER-GS project

Kuyucak 25.6 MW Wind Farm Project, Turkey,

Pursuant to Art. 12 of the Kyoto Protocol and the Gold Standard Requirements.

Methodology used: ACM0002

Methodology Version and Date: version 07, 30/11/2007.

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations as well as Gold Standard Requirements. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of high quality emission reductions.

The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report as well as the site visit.

The report and the annexed validation describes a total of 6 findings which include:

- 4 Corrective Action Requests;
- 2 Clarification Requests.

Taking into account all information available until 10th December 2008 all CARs and CLs are closed out satisfactorily.

Therefore Kuyucak 25.6 MW Wind Farm Project, Turkey is recommended for registration under the precondition that the final micrositing of wind turbines ensures that noise immission levels for housing zone (morning-afternoon-night of 65; -60; -55 Db (A)) will be met and all permissions received.

Subject:		
Validation pursuant to Art. 12 of the Kyoto Protocol and Gold Standard requirements		
Validation Team:		
Dr. Jochen Gross – Lead Assessor Aslihan Cetin - Local Assessor Sectoral Scope Expert- Karen Tong Dina Bauer – Assessor		☒ No Distribution (without permission from the Client or responsible organisational unit)
Technical Review:	**Trainee Technical Reviewer:**	
Date: 28/04/2009 Name: Irma Lubrecht	Name: Not Applicable	☐ Limited Distribution
Authorised Signatory:		
Name: Siddharth Yadav Date: 18th November 2010		

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Abbreviations

ACM	Approved Consolidated Methodology
BAT	Best available technology
BM	Built Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CM	Combined Margin
CL	Clarification Request
COP/MOP	Conference of the Parties/Meeting of Parties
dB	Decibel, unit of acoustic pressure
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ENERCON	Wind Turbine Manufacturer, trademark, abbr. energy converter
ER	Emissions Reduction
GHG	Greenhouse Gas(es)
GS	Gold Standard
IETA	International Emissions Trading Association
IRR	Internal Rate of Return
ISC	Initial Stakeholder Consultation
LA	Local Assessment
LoA	Letter of Approval
MP	Monitoring Plan
MSC	Main Stakeholder Consultation
MW	Megawatt
MWh	Megawatt hour
NGO	Non-Governmental Organisation
ODA	Official Development Aid
OM	Operating Margin
PDD	Project Design Document
PP	Project Participants
VER	Verified Emission Reductions
SD	Sustainable Development
SGS	Société Générale de Surveillance
TEIAS	Turkish Electricity Transmission Company
UNFCCC	United Framework Convention on Climate Change
WWF	World Wide Fund for Nature (founded as World Wildlife Fund)

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Annexes:

1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Mavi Consultants to perform a validation for the first crediting period of the project:

Kuyucak 25.6 MW Wind Farm Project, Turkey.

The validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM), host country criteria, criteria by the Gold Standard organisation, as well as criteria given to provide for consistent project operations, monitoring and reporting.

SGS reviewed the project design documentation, using a risk based approach and conducted interviews during the site visit.

By generating electricity with wind turbines the project will deliver electricity to the Turkish grid, avoiding the dispatch of energy produced by fossil-fuelled thermal plants to that grid. The project activity will result in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

The total emission reductions from the project are estimated to be 1,503,142 t CO2e over a 3 x 7 years crediting period, averaging 71,578 t CO2e annually.

The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved assuming the underlying assumptions do not change.

In our opinion the Kuyucak 25.6 MW Wind Farm Project meets all relevant Gold Standard Organisation requirements and all relevant host country criteria. The project correctly applies methodology ACM0002 version 07. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. The Kuyucak 25.6 MW Wind Farm Project will hence be recommended by SGS for registration with the Gold Standard Foundation under the condition that the final micrositing of wind turbines ensures that noise immission levels for housing zone (morning-afternoon-night of 65; -60; -55 dB(A)) will be met and that all needed permission can be provided before start of realisation.

Signed on Behalf of the Validation Body by Authorized Signatory

Signature: 

Name: Siddharth Yadav

Date: 18th November 2010

2. Introduction

2.1 Objective

Mavi Consultants has commissioned SGS to perform the validation for the first crediting period of the project

“Kuyucak 25.6 MW Wind Farm Project, Turkey” with regard to the relevant requirements for CDM projects activities according to the Gold Standard.

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project’s compliance with relevant UNFCCC, Gold Standard and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Verified Emission Reductions (VER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board. Gold Standard criteria refer to the criteria set out in the Gold Standard Verification Manuals.

2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations as well as Gold Standard requirements. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of VERs.

The validation is not meant to provide any consulting towards the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2.3 GHG Project Description

This validation assessment is presented for the first crediting period of Kuyucak 25.6 MW Wind Farm Project, Turkey.

The project uses the approved consolidated methodology ACM0002 (Version 7) "Consolidated baseline methodology or grid-connected electricity generation from renewable sources”.

The project is located in the western part of Turkey. By generating electricity with wind turbines and the development of a high voltage transmission line between the proposed project area and the national grid the project will deliver electricity to the Turkish grid, avoiding the dispatch of an equal amount of energy produced by fossil-fuelled thermal plants to that grid.

Main benchmarks of the project can be seen in the following table.

Name of the wind farm	**Location**	**No. of turbines / installed load**	**Electricity production per year approx.**
Kuyucak	Kirkagac district, Manisa province, Turkey	14 / 25.6 MW	112,763 MWh

2.4 The Names and Roles of the Validation Team Members

Name	**Role**
Dr. Jochen Gross	Lead Assessor
Dina Bauer	Assessor
Aslihan Cetin	Local Assessor
Karen Tong	Technical Scope Expert

3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed as a document review of the publicly available project documents combined with a site visit in the office of the project proponent. The assessment is performed by trained assessors using a validation protocol.

The site visit is used to verify assumptions in the baseline and all other requirements.

A site visit was performed by both lead assessor and trainee lead assessor on 05/08/2008 and 06/08/2008 to confirm statements in the PDD through review of documents, and the results are summarized in annex 1. Local staff was also involved to confirm statements made in the PDD through review of documents. Direct contacts with key stakeholders except project developer were not carried out. From written statements, such as for e.g. from Greenpeace Mediterranean, familiarity with mainly positive environmental effects of wind farms can be concluded.

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects and Gold Standard projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification (CL) Request is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex 2 to this report

3.3 Findings

As an outcome of the validation process, the team can raise different types of findings.

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **Clarification Request (CL)** specifying what additional clarification or information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).** A CAR is issued, where:

I. mistakes have been made with a direct influence on project results;

II. validation protocol requirements have not been met; or

III. there is a risk that the project would not be accepted as a GS project or that emission reductions will not be verified.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

Forward Action Requests (FARs) may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and Clarification Requests are raised in the draft validation protocol and detailed in a separate form (Annex A.2). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and Forward Action Request.

3.4 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

4. Validation Findings

4.1 Participation Requirements

Project activity meets Gold Standard participation requirements v.1. This validation assessment was done for the first crediting period. Turkey has no quantitative reduction target and is therefore eligible for voluntary GS projects, because it has not ratified the Kyoto Protocol.

Since Turkey has not ratified the Kyoto Protocol a LoA is not required by the Gold Standard. From the validation process, it is evident that participation is voluntary and that the project assists in achieving sustainable development. This is also supported by a letter of Greenpeace Turkey (Ref. 31).

International Stakeholders and NGOs are invited to comment on the validation requirements from 31/07/2008 to 29/08/2008. The information is published on the SGS website under

http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=543

This international stakeholder consultation was closed formally on 29/08/2008 (the end of the period above), no comments were received.

4.2 *Project Design*

The title of the project identifies the project activity. The PDD version and date are consistent with the time line of the project. The project does not use the current GS-VER template. Therefore CAR-6a was raised. The project participant showed subsequently that the use of the PDD template was clarified ex-ante with the Gold Standard Organisation (Ref. 87). CAR-6a was therefore closed out.

The description of section project description A.2 of the PDD ver. 01 was confirmed by the lead assessor during and following the site visit. At the time of the site visit not all information provided corresponded with the verified information and complete consistency was not given at that time. Therefore CAR 6j (micrositing and predicted generation) was raised.

The revised PDD ver. 03 and supporting documents dated 26/11/2008 consistency was achieved for all information provided in all sections of the PDD ver. 03 and therefore CAR-6j was closed out.

Other formal aspects not fulfilled during the site visit are described in CAR-6b-h: b) U.S. punctuation; c) contact details; d) coordinates; e) Headline number; f) EMRA data; g) time schedule h) Generation license. All findings CAR-6b to h are closed out due to final respond from PP on 26/11/2008,

Location of the project activity is correct and allows for a clear identification of the site.

The project activity is under scope 1 Energy Industries (renewable / non-renewable) of the UNFCCC and A1 of the GS: renewable energy project. With the information provided in the PDD and verified during the site visit it is clearly described how the project will reduce GHGs

4.3 *Baseline Selection and Additionality*

For the first crediting period, ACM0002 version 07 is the applicable methodology.

The choice of the methodology is correctly justified in the PDD. Since the project represents a capacity addition, there is only one baseline scenario to be taken into account according to the methodology, which is electricity production of the grid.

As the PPs decribed correctly in the PDD, the only plausible alternative to the PA is “alternative B”: the continuation of the current situation without realization of the proposed project activity. PPs company “Alize Enerji Elektrik Üretim A.S” belongs to “Demirer Holding” and only does have professional experience in the special field of wind energy investment As it is a private entity other alternatives as described in PDD cannot be alternatives for this special PP. We made an Internet research regarding Demirer Holding activities and only found wind energy power activities, so we assume that they only have license in this field of activities. As

per tool step 1a alternatives are related to technology and circumstances as well as to the investor. PPs explanation regarding the current practice as only possible alternative to the PA is convincing to us.

In PDD v.09 (Ref.110) PP shows that other renewable energy technologies are not comparable to the PA because they are different cost intensive for the same output and have also other environmental and social impacts than WPP. PP makes this comparison showing us the differences for HPPs, PV, solar thermal, geothermal or biomass, giving us reliable evidences. (Ref.111, 112).

In the Turkish law on utilization of renewable energy resources for the purpose of generating electricity energy (Ref.113) we can see, that the prices for renewable energy in Turkey are not distinguished, so for example PV, solar, geothermal and biomass power plants can not compete with hydro, wind or thermal on the Turkish market; a reason why only a few of these plants exists in Turkey. So they cannot be seen as alternatives for the PA, this is logical.

Another link (Ref.114, Ref.114a) given by the PP http://www.epdk.gov.tr/lisans/elektrik/lisansdatabase/verilentesistipi.asp in PDD version 09 shows that no other investor is planning a specific renewable energy or thermal power plant in Turkey as alternative to the project activity at district level. Table 7 in PDD v.09 shows that all wind farms in operation or under construction in Turkey are financed with certificates or are autoproducers. The source of these tables is correct and reliable, we checked this by our local assessor. This shows that windfarms in Turkey are not common practice.

This is discussed in the context of this PA and also is in compliance with the assessment teams' experience and recent discussions in the context of an SGS validation of another small scale GS project in Turkey (GUNAYSE 8.45 MW HYDROELECTRIC POWER PLANT). As an outcome of this discussion we got to know that in general renewable energy projects (for example also privately owned run-off-river HEPPs) are still not common practice in Turkey at a national level, realisation of those is only possible with revenues from carbon certificates, also if they are privately owned.

So the assessment team is convinced that the only realistic alternative to the PA would be the continuation of the current situation.

The project boundary is consistently chosen according to the methodology and comprises the project itself and all power plants of the Turkish grid, taking into account energy imports and exports.

The baseline comprehends the combined margin emission factor of the Turkish grid after the "Tool to calculate the emission factor for an electricity system" (version 01.1).

For calculating baseline emissions only CO_2 emissions from fossil fuel fired power plants are taken into consideration. Generation efficiencies of approx 39-39.5% used by the PP are conservative in comparison to 35% which is assumed as BAT in Turkey by DOE. Since the project represents a capacity addition, there is only one baseline scenario given in the methodology.

The baseline does not account for N_2O and CH_4 emissions from the baseline. As these would increase baseline emissions and therefore emission reductions, this is conservative approach. The project itself does not have significant emissions.

The baseline is represented by the combined margin (built and operating) grid emission factor for Turkey of **CM 0.635 t CO_2/MWh** (Ref. 38, 39, 56, 81).

Raw data for calculation of the grid emission factor are taken from an official annual report to the UNFCCC for 2004, for 2005-2006 from official data of grid operator (Ref. 44–54). Raw data from the report to the UNFCCC are not transparently showing a higher value for 2004 compared to calculated values for 2005 and 2006.

This leads to a higher grid emission factor, which is not conservative, but based on reliable information sources. In the end the calculated CM EF is low and conservative compared with other already validated projects where relevant conservative values have been applied. This was the case for emission factors and the omission of CH_4 and N_2O emissions in the baseline. Both lower the CM EF correspondingly. All calculations have been assessed and are free of errors.

For assessment and demonstration of additionality either barrier analysis or investment analysis can be conducted. In the case of the Kuyucak wind farm, the barrier analysis was chosen by the PP.

In a previous PDD PP presented us data regarding IRR analysis in the context of the investment barriers. PP decided then to take out these data, because loan conditions and carbon credit prices remain highly unknown to the project owner, as well the project costs and electricity prices are varying a lot and are difficult to forecast. The investment mentality in Turkey is difficult to foresee, it is often combined with political or cultural circumstances. It is not easy to conduct a very sound financial analysis, which the explanations given by the PP show in his document (Ref.103). We accepted this, because the presented investment barrier is very significant and proved by very reliable data, like a letter from the bank, declining of credit conditions because of economic crisis at national level, etc.. In our opinion this is significant enough as evidence, so that no IRR analysis etc. is necessary anymore.

After the GS review (Ref. 97) PDD was revised by PP. In the revised PDD version 09 (Ref. 110) prevailing practice barrier was deleted and discussion of technological barriers is modified and incorporated to the investment barriers, focussing on the lack of infrastructure

In Chap. B.5, STEP 3 of the PDD the following barriers are explained:

- Investment -
- Other barriers.

These barriers are – in the eyes of the PP – barriers preventing the implementation of the wind farm project.

All barriers were discussed with the outcomes below.

In conclusion up to the site visit in August 2008 additionality was not proven in a satisfactory manner.

Regarding investment barriers CL-3a (licensing) and CL-3b (investment barrier) were raised.

- Investment barriers:

Regarding financial barriers up to 11/12/2008 real financial barriers have been presented in a satisfactory manner. A letter from GARANTI Bank (Ref. 60) confirms that the project is only feasible by taking carbon credits into account and confirms as well that WWP need a high level of financing and long repayment periods, a letter from a sworn financial consultant (Ref. 61) says that no public funding will be received and excerpts from the financial feasibility of a project from 2005 (Ref. 62) show some key indicators for that time from the running Alize wind farm project (Manistir) as an example. In addition on 26th November 2008 more detailed EXCEL-calculation concerning financial feasibility was delivered. Additional explanations on the very recent situation of the financial market at national level have been provided in the context of global financial crisis. Based on current developments the investment bank decided to invest in the Sarikaya project only based on revised equity / loan ratio of 42/58 % (instead of 25 / 75 % at 7 % interest) and increased interest rate to 11% (Ref. 62). PP had to contact various banks since the global financial crisis, because accorded loan rated later have been cancelled. But construction already started and logically the PP needed funds for that immediately. This is the reason why the PP had to accept very bad loan conditions and didn't have time and possibilities to look into more bank proposals. In our opinion this financial situation for the PPs is a very big problem and the most important barrier regarding PA. Financing of thermal power plants is easier, because of the above mentioned reasons, therefore getting finance for other plants is much easier.

Then CL-3b has been then closed out

Another part of the investment barrier is the fact that transmission line constructions are not in the annual investment plan of TEIAS - though are legally required to do it. The project is located in a remote location, therefore the project participants are required to pre-finance the 32 km-long transmission line in advance. Although associated costs are later "compensated" by TEIAS, the official internal price tariffs are structured such that this compensation is not based on actual costs, resulting in a significant loss on behalf of the project participant. This was first classified in previous PDDs as technological barrier. But he changed his argumentation during our discussion during GS review in PDD v.08 and explained it as an investment barrier, which in our eyes is correct.

ODA is not used for financing of the wind farm (Ref. 61).

The description of the investment barrier is detailed sufficiently in CL-3b and in PDD v.07 and is expressing in detail that due to the recent developments on the financial markets financing possibilities for the PA were extremely reduced (please see Ref. 62).

- Other barriers:

Regarding other barriers the PP explained in the PDD v.09, that TEIAS is limiting the wind power capacity at each transformer station without differentiating between different wind turbine specifications. Therefore, the Project had to apply for a generation license with a lower installed capacity, though they selected special wind turbines which are very grid friendly units, which would allow further expansion capacity of wind power plants in the grid. In the opinion of SGS this is a significant institutional barrier, which limits PPs to provide as much energy as possible to the grid.

In the context of legal and bureaucratic difficulties mainly the highly complex licensing process was described in the PDD and in CL-3a. Following subsequently provided documents (Ref. 58-59, 95), in combination with already received permissions, high complexity and long-standing procedures can be demonstrated to get all permissions needed. Procedures can be summarized as follows (Ref. 58): After obtaining the generating license, the overall permission and project approval process takes on average up to 4 years. There is no single authority or contact body for project developers; depending on the region and project properties, various different public authorities need to be contacted by the wind farm company, this also indicates that there might be some responsibility overlaps. We think the investment barrier is the most important one ambiguities, usually leading to delays and complexities. The legal framework does not describe in detail the permission process as a whole.Turkey has a central public administration structure, meaning that important decisions must be met in Ankara. Shortly, for each individual project the permission process is individual, without written process. For other power plants licensing is a lot easier, first of all because of their popularity and better (technical) experiences with those and also because for fossil fuel fired power plants, the land is generally acquired, is located in a more central area (not on hills without any road access) (Ref.103).

This shows that the licensing procedure for WPP is very complex and time consuming but common practice for wind farms.CL-3a was closed out. This barrier may be assessed as minor but acceptable by SGS.

Regarding sub-step 3b of the barrier analysis PP describes correctly in PDD how the identified barriers of the PA would not prevent other existing projects that were constructed without carbon credits.

- Regarding investment barrier:

WWP have a significant higher investment volume, which is shown by the following evidence: http://www.epdk.gov.tr/lisans/elektrik/kaynakbazinda/kaynakbazinda.htm . According to this, WWP have an investment rate of 2.000.000 YTL/MW_m while for example investment rate for the energy sources coal, natural gas/LPG and fuel oil is not more than 1.250.000 YTL/MW_m which shows the significant higher costs.

Fossil fuel fired power plants and other existing projects have a high familiarity among investors and authorities, so to get investment for those is a lot easier. This is shown by figures 3 (Electricity generation mix in Turkey) and 4 (Electricity Genration Forecasts) in PDD, supported by http://www.teias.gov.tr/istatistik2005/39.xls and http://www.teias.gov.tr/ist2006/36(06).xls and the report of TIAS for project planning 2007-2016 (Ref.108) which shows, that fossil fuel in electricity generation has been around 70-75% for the last five years. This shows the high popularity of those energy sources at national level. In our opinion according to this it is plausible, that finding investment for these energy generation projects is much more easier than for WWP.

The PPs explanation is plausible in Ref.103 (as answer to us to the GS comment). As above mentioned energy projects take the majyor part in Turkey amongst energy providers, good infrastructure for the operation of these power plants already exists. The public companies working in this field, for example DSI (State Hydraulic Works) and EUAS (Public Power Generation Company) have experienced local personnel already, with local knowhow this is plausible, because they provide the biggest part of power generation in the country (please see above) but still a lot of equipment is being imported, also for these power plants. But WPP are not that well known and only a few technical experts exist in the country, technical knowhow is still a barrier for these power plants and has to be imported, and infrastructure for running WPP is not well developed, because of the small popularity in Turkey. This also resolves in an “investment barrier” for PPs, which is a lot smaller for other running projects.

- Regarding other barriers (institutional and legal and bureaucratic barriers):

The Nabucco natural gas pipeline project from the Caspian and Central Asian region to Europe via Turkey is among the priority projects of the EU, it is all a part of the east-west corridor concept, which can be shown with Ref.104, 105, 106. These strategical plans at global level are the reason, why the Turkish State is supporting the existing power plants, this is logical and shows, that institutionally and bureaucratically it is a lot easier to get a license and all support for these projects, that for WPP. It can be seen as a minor barrier for WPPs, which makes it difficult for them to realise the projects (more than for other power plants) but doesn't make them un-practicable.

It is shown herewith that identified barriers don´t prevent other power plant projects in Turkey from being constructed

Summing up, it can be stated that Kuyucak wind farm project is assessed as additional based on significant investment barriers, due to the decribed current developments on the financial market in the country regarding wind farm sector. In our opinion the financial barrier is the strongest for this PA and is only partly affecting other power plant investments. The initial investments of ongoing power plants is much lower than for projects like our WPP. Other power plant existing in the country (mostly fossil-fuel power plants) do have much more familiarity among investors, so finding investors is a lot easier for those projects than for WPPs. The lack of infrastructure, like the transmission line to connect the project site to the national grid, adds also more difficulties to finding funding for the initial investment budget. This is explanation of PP is plausible and this is a barrier which other power plant projects don't have (please see explanations above and Ref.109).

4.4 *Application of Baseline Methodology and Calculation of Emission Factors*

The approach used is in accordance with ACM0002 version 07.

The first version of the calculation of the baseline emission factor contained one error: In the official database false subtotals in the fuel consumption 2006 were found. Therefore CAR-1 was raised. In the revised calculation (Ref. 56), this error was corrected. The combined margin EF of 0.635 t CO2/MWh remains unchanged. Therefore CAR-1 was closed out.

The electricity generation is estimated to be 112,763 MWh per annum (Ref. 80, 81,102).

There are no project emissions associated to this project activity.

According to the PP a diesel auxiliary generator will be installed at the PA only for use in the office room lightning, kitchen and computers. For another GS wind project of the same PP, the annual consumption was checked by the verifying DOE very recently and the total consumption was (much) below 1000 liters for more than a year, which means spent less than 5 t Co2 per year (Ref.103). PPs explanation seems plausible for us and PPs experience with another GS project at verification stage is an evidence for us, showing, that the use of a diesel auxiliary generator can be neglected. The PP modified PDD v.08 accordingly in the part of the Monitoring plan, parts D2 and E3.

4.5 Application of Monitoring Methodology and Monitoring Plan

In the first version of the PDD (Ref. 1), insufficient monitoring plan and description of the metering systems were included. Therefore CL-2 and CAR-4 were raised.

The monitoring plan and related documents subsequently provided (Ref. 55, 65, 68-72) follow the requirements of ACM0002 version 07. Parameters and data available at validation were checked and are consistent with the methodology.

In revised PDD ver.03 (Ref. 80) all relevant information in section B and Annex 4 are included. CAR-4 was therefore closed out.

Following the site visit detailed and transparent descriptions of the uncertainty of the metering systems and its legal basis were provided (Ref. 55, 57, 67, 96,100 and answers to CL-2 in the annexed findings list). Same is applicable for the transparent description on how the self-consumption is measured and dealt with (Ref. 58, 66, 67 and answers to CL-2 in the annexed findings list). Metering uncertainty is below 1%. Therefore CL-2 was closed out.

Authorities and responsibilities are assigned to individuals (Ref. 65). Furthermore the PP will ensure that the relevant staff members are trained for their jobs (Ref. 68).

The main variable to be monitored is the net electricity generation of the turbines (Ref. 66). This can be cross checked with invoices of the grid operator and parameters given on its website. Emission reductions will be calculated from the net electricity generation.

For Gold Standard requirements the variable “Local Employment” is included in the revised monitoring plan as indicator for sustainable development (Ref. 55, 68).

The monitoring plan and procedures implemented are sufficient. The uncertainty level is low because the data related to the emission factor is derived from official sources. Quality control and quality assurance are implemented for the main variable “electricity generation” and hence for emission reductions calculations too.

Calibration frequency is 10 years as stated in PDD ver. 07,(please see Ref./57/ - TR-MeteringDeviceRegulation.pdf, Ref./67/ - Working Procedure kWh-Metering.pdf, Ref./96/ - Measurement and Measuring Tools Inspection Regulation in English). PA has no control over national technical regulations and calibration mechanism of TEIAS.

4.6 *Choice of the Crediting Period*

The project starting date and operational lifetime are defined in the PDD. According to PDD ver. 07, the project activity start date is 30/09/2008.

The start date is defined as the investment decisions were made by ordering the wind turbines.

Life time is given as 25 years (Ref. 80). During the lifetime of the project some parts of the wind turbines, e.g. rotor blades, will probably need to be replaced. But in principle wind turbines are expected to last 25 years.

The first crediting period is 7 years. The crediting period is expected to start on 01/07/2010.

The crediting period start date is defined as the beginning of the electricity generation.

The lifetime of the project is longer than the first crediting period and even longer than 21 years (assuming the crediting period gets renewed twice).

4.7 *Environmental Impacts*

According to a letter from the Ministry of Environment and Forestry, there is no EIA necessary for wind farm project (Ref. 19, 20). Hence the project activity complies with the environmental legislation in Turkey.

In the first version of the PDD (Ref. 1), the analysis of the environmental impacts was not covered in a sufficiently transparent way. Therefore CAR-5 a-c were raised with (a) referring to bird migration, (b) access roads and (c) EIA of transmission lines.

The EIA (Ref. 22) shows that the wind farm is established outside bird migration routes and birds should not be affected according to the experts´ opinion in the EIA. Therefore CAR-5a was closed out.

Within the EIA noise immissions for Kuyucak wind farm are stated to be acceptable.

For Kuyucak wind farm no information of access roads is given up to October 2008. Negative impacts on the environment of access roads are assumed minor compared to positive impacts of the wind farm. Protected areas are not affected. The balance for the environment is assumed positive. Therefore CAR-5b was closed out.

For EIA of the transmission line the grid operator TEIAS is responsible. Due to organizational problems no information is yet available. It is ensured that the transmission line can only by constructed if it is in compliance with environmental legislation. With other words, if it is not allowed to construct the transmission line than it is assured that the wind farm will not be constructed either. Therefore CAR-5c was closed out.

According the law for forestry areas (N° 6831) fees have to be payed for cutting trees and this has to be accorded with the government, which are the owners of forest areas. PP pays aforestation fees to the government, which will be used for tree plantation in other areas. So the effect for cutting trees will be minor and will have positive impact in other areas.

For additional Gold Standard requirements, SD-parameters have to be assessed. Therefore Annex 5 of PDD ver. 01 (Ref. 1) contains a detailed appraisal of the GS "Sustainable Development Assessment Matrix", which details the assessment of the environmental impacts in the ISC (see below).

According to this SD-Matrix, there are no negative environmental impacts. This is in line with the result of the local stakeholder consultation process (see ISC-Report (Ref. 42) and chapter 4.8 below). During the ISC a translation of the Checklist (Annex E, Ref. 2) was used. It should be remarked that not all questions raised in ISC represent actually concerns, e.g. electromagnetic waves emitting from wind turbines which can be closed out completely as environmental impact.

The PP also explains in F.1 and F.2 in PDD v9 that local people will be employed preferentially, as long as they fulfil the task requirements, which will provide local income to the population. An exact income distribution scheme is not possible to be provided yet, but in the context of corporate social responsibility actions some local community projects will have positive benefits, which is stated as well in F.2. of PDD.

In the Sustainable Development Matrix in PDD v.9 most of the indicators are scored with 0, which means no negative and no positive impact. For example the impact on soil contamination land use and increase of erosion risk is slightly negative. But after our opinion the slightly negative impact on soil conditions is compensated by the mitigation measure in form of renewable energy production and improvement of local infrastructure. It is questionable if monitoring of the impact on soil condition is relevant. .

The following indictaors are scored with +1: Air quality, employment (including job quality, fulfilment of labour standards), employment (numbers). In our eyes this scoring is correct. There will be very few dust emission during construction and no dust emission during operation. The project is in a region with high ground level CO2 concentration, so the PA will have a positive impact concerning air quality, this explanation of the PP is plausible. Regarding employment quality, the population will have training and their skills will be diversificated, which will give population more job possibilties with safe and healthy circumstances, which is also a positive impact through the PA. Regarding employment numbers, local people will be preferred, so PA has a positive impact on employment numbers. Just very specialized/expertized people have to be provided from other countries/regions, because the local population is not qualified enough for these special tasks. This is why in our opinion scoring is not more than +1, as the PP explains in PDD ver. 07. In total 10 people will be employed for the PA, which can be qualified as positive impact (+1) in our opinion.

Regarding species living in the project region the PP mentions a link to IUCN (www.iucnredlist.org) as evidence where no species are under threat or are not vulnerable and the project is not located close to any bird migration route. All species mentioned in EIA report are categorized by IUCN as "least concern", which we proved with this link. Project is paying a significant amount for afforestation. In an interview on site it was explained that a part of 20-40% of the fee paid for rent will be used for afforestation (please see interview with PP 14. local assessment). On local stakeholder consultation no significant environmental concern was addressed. Explanation given regarding shadow flickering from PP in this section is plausible. Information provided by the PP is plausible and summarizes all environmental impact sufficiently. The PA is in compliance with local regulations of the host country

Since all GS-conditions for an exemption from an EIA are met and the host country does not require an EIA either this analysis of environmental impacts is sufficient.

For monitored SD-indicators see chapter 4.5:

4.8 *Local Stakeholder Comments*

According to the Gold Standard requirements, two local stakeholder consultations have to be carried out: initial stakeholder consultation (ISC) and main stakeholder consultation (MSC).

ISC took place as a public meeting in Kirkagac Belediye, Manisa on 22/05/2008 and by email consultation. Defined and invited stakeholder groups are local people and entities, local, national, especially GS supporting NGOs and project developers: As discussed on the site visit, the main groups who were participating in stakeholder consultation were representatives from municipalities and local authorities, majors, GS supporting NGOs (WWF, Greenpeace,...) local and regional authorities from parliamentarians and members of Ministry. All participants were invited without any type of prejudice, pre-selection, filtering-out or other

criteria. This mixture of participants on local stakeholder consultation in our eyes is sufficient and representative; governmental as well as non-governmental parties were involved, individuals from municipalities as well as regional authorities. The newspaper ”Safak”, where the stakeholder consultation was announced, is one of the major newspapers in PA region, according to our local assessor, because it is listed in: http://haberler.kanal59.com.tr/yerel_gazeteler.htm, means it is an important newspaper at local/regional level and provided the possibility to reach the majority of the local population in the project area..

A list of invited organizations as well as of the attendants of the meeting is included in the ISC Report (Ref. 42).

Relevant supporting documents as e.g. copies from newspapers, list of participants and correspondence were assessed. All are included in the detailed ISC report as part of the PDD (Ref. 1, 55, 80, 95, 101).

During ISC no major environmental concerns or adverse reactions were received. . Minor concerns affect the use of forestry area and noise immissions. The noise issue was answered in the meeting by PP and intensively assessed during validation. We accept the PPs expectation of minor noise from the PA. But as it was raised as a comment in stakeholder consultation, the PP included it in the monitoring plan by planning interviews with local people during verification. Forestry engineers and a representative from the Forestry Department participated in the meeting. PP´s answers given to question concerning forestry topics are correct.

MSC was carried out as an international stakeholder consultation by an email consulatation process which is in line with GS requirements.. The PDD was published from 31/07/2008 until 29/08/2008 on the website of SGS and Mavi Consultants as verified by visiting this website several times. In addition the project was made public available on the website of SGS.. During the MSC no comments were received neither by Mavi Consultants nor by SGS..

Revised PDD ver. 02 (Ref. 55), the ISC Report (Ref. 42) and the MSC Report (Ref. 78) delivered transparent and complete information of the stakeholder consultations.

Both consultations were carried out according to Gold Standard requirements. During both ISC and MSC a translation of the Checklist (Annex E, Ref. 2) was used.

No negative comments were received during both consultation processes. All positive comments were related to the employment opportunities of the project during construction and operation.

As no negative comments were received, no changes were made to the project design.

In SGS’ opinion this procedure of stakeholder consultation (including invitation procedure) regarding this PA was sufficient, and the comments were all addressed. In comparison with other projects the stakeholder report is excellent. This is the reason why we decided not to make interviews on site. The stakeholder report was transparent and there was no requirement for more evidences for the stakeholder consultation.

The stakeholder consultation report is reliable and reflects the stakeholder concerns. During the assessment there was no idication that the reported issues in the document were untrue.

5. Comments by Parties, Stakeholders and NGOs

In accordance with the Gold Standard Requirements, the project design document of a proposed GHG project activity shall be made publicly available and the comments on the validation requirements shall be invited from Parties, stakeholders and non-governmental organizations; said comments shall be made publicly available.

In addition, the PDD for the proposed GHG project activity was also made publicly available voluntarily on the SGS webpage. This chapter describes this process for the project in question.

5.1 Description of How and When the PDD was Made Publicly Available

The PDD was published from 31/07/2008 to 29/08/2008 on the website of SGS with the following link:

http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=543

5.2 Compilation of all Comments Received

Comment Number	Date Received	Submitter	Comment
0	---	---	---

5.3 Explanation of How Comments Have Been Taken into Account

The stakeholder consultation was formally closed on 29/08/2008 (the end of the period above). No comments were received.

Therefore no further correspondence, clarifications or changes in design of the project were necessary.

6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
05/08/2008	Cagla Balci Eris	Demirer Energji Üretim ve Ticaret A.S. Carbon Development Manager	Baseline calculation, uncertainty assessment; additionality; licenses and contracts; financing; time schedule, monitoring, barrier analysis, QA, technical details
05/08/2008	Salih Uysal	Demirer Holding A.S. Board Director	Baseline calculation, uncertainty assessment; additionality; licenses and contract; financing; time schedule
05/08/2008	Lale Capalov	Consultant Mavi Consultants	Baseline calculation, uncertainty assessment; additionality; licenses and contracts; financing; time schedule, monitoring, barrier analysis, QA, technical details
05/08/2008	Yagmur Karabulut	Consultant Mavi Consultants	Baseline calculation, uncertainty assessment; additionality; licenses and contracts; financing; time schedule, monitoring, barrier analysis, QA, technical details
06/08/2008	Cagla Balci Eris	Demirer Energji Üretim ve Ticaret A.S. Carbon Development Manager	Environmental impacts, access roads, bird migration, noise; Initial and main stakeholder consultations, GS principles
06/08/2008	Yagmur Karabulut	Consultant Mavi Consultants	Environmental impacts, access roads, bird migration, noise; Initial and main stakeholder consultations, GS principles
06/08/2008	Lale Capalov	Consultant Mavi Consultants	Environmental impacts, access roads, bird migration, noise; Initial and main stakeholder consultations, GS principles
06/08/2008	Erol Demirer	Demirer Energji Üretim ve Ticaret A.S. Board Director	Technical details, electricity generation, micrositing

7. Document References

Reference ID	Title / Description	Comments
1	Ref._1_PDD-version_1_Kuyucak.pdf	Version 01, 25/06/2008
2	Gold Standard manual for validation and verification.pdf	
3	Ref._3_KuyucakGenerationLicense.pdf	production license (old), date of issue 12.09.2007, expire 12.11.2009
4	Not used	
5	Not used	
6	Not used	
7	Ref._7_Letter from Garanti bank	for earlier project (Keltepe wind farm) concerning concerning financial barrier, date 09.07.2008
8	Not used	
9	Not used	
10	Not used	
11	Not used	
12	ALIZE ENERJI letter, date 24.08.2007	accepting the request to connect to Soma transformer station
13	Not used	
14	Not used	
15	Not used	
16	WindPro 2, Kuyu_070110, calculation main results done by Demirer, 05.08.2008	
17	Not used	
18	Not used	
19	letter from Ministry of Environment and Forestry, date 13.06.2008	EIA is not necessary for wind farm
20	Regulaton No. 25318 Environmental assessment, annex 1, art. 28, date 16.09.2003	necessity of EIA for transmission lines (if 154 kV and > 15 km)
21	Not used	
22	EIA for wind farm Kuyucak including bird migration pathes, date 22.04.2008	
23	Not used	
24	Not used	

Reference ID	Title / Description	Comments
25	Not used	
26	Official Gazette No. 26809, date 07.03.2008: Cevresel Gürültünün Degerlendirilmesi ve Yönetimi Yönetmeligi (Regulation on Assessment and Management of Environmental Noise)	
27	Not used	
28	reply to EMRA, date 09.01.2004	
29	Not used	
30	map showing earth quake risc in Turkey	
31	letter from Greenpeace Turkey on the contribution towards sustainable development, part of the PDD	
32	http://www.teias.gov.tr/istatistik2005/39.xls	
33	Ref._33_ACM0002-V7.pdf, Valid Version of ACM0002 for "Consolidated methodology for grid-connected electricity generation from renewable sources – Version 7, dated 30.11.2007, last checked on http://cdm.unfccc.int on 29.07.2008	
34	Ref._34_Additionality_tool-V05.2pdf, Additionality tool, Version 05.2, dated 26/08/2008, last checked on http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v5.2.pdf (which was valid on 08/09/2008 – time of first submission to GS)	
35	Ref._35_Tool to calculate the emission factor for an electricity system-V01.1.pdf, valid version of the calculation tool, version 01.1, dated 29/07/2008, last checked on http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v1.1.pdf (which was valid 29/07/2008 until 15/10/2009)	
36	http://www3.ambest.com/ratings/cr/crisk.aspx	
37	http://www.teias.gov.tr/ist2006/45.xls	Heating Values of Fuels Consumed, 2006
38	Ref._38_Kuyucak-Calculations-20080530.xls	initial calculations for the wind farm
39	Ref._39_Kuyucak-Calculations-20080530-vers1-commentsRH.xls	initial calculations for the wind farm with assessment notes
40	http://www.enercon.de/de/_home.htm	Technical details of choosen wind turbine, data recording
41	http://www.maviconsultants.com	Stakeholder consultation, last assessed on 30.07.2008
42	Ref._42_Initial Stakeholder Consultation Report	Inital stakeholder consultation report, comments and answers of owner

Reference ID	Title / Description	Comments
43	Ref._43_nontechnical PDD	Nontechnical summary in turkish
44	http://www.teias.gov.tr/ist2006/30(84-06).xls	Net generation 1940-2006
45	http://www.teias.gov.tr/ist2006/40.xls	Gross Generation 2006
46	http://www.teias.gov.tr/istatistik2005/39.xls	
47	http://www.teias.gov.tr/ist2006/42.xls	Fuel Consumption by Power Plants 2000-2005
48	http://www.teias.gov.tr/ist2006/43.xls	Fuel Consumption by Power Plants 2006
49	http://www.teias.gov.tr/istatistik2005/47.xls	Heating Values of Fuels Consumed, 2000-2005
50	http://www.teias.gov.tr/ist2006/45.xls	Heating Values of Fuels Consumed, 2006
51	http://www.teias.gov.tr/istatistik/7.xls	2003 Capacity Additions
52	http://www.teias.gov.tr/istat2004/7.xls	2004 Capacity Additions
53	http://www.teias.gov.tr/istatistik2005/7.xls	2005 Capacity Additions
54	http://www.teias.gov.tr/projeksiyon/projeksiyon%20Temmuz2007.pdf	2006 Capacity Additions
55	Ref._55_PDD-version_2_Kuyucak.pdf	revised PDD of the project, Version 02, dated 08.10.2008
56	Ref._56_Kuyucak-Calculations-v2-20081002.xls	revised calculations for the wind farm
57	Ref._57_TR-MeteringDeviceRegulation.pdf	legal basis for handling of meters
58	Ref._58_TR-permitprocess-summary.pdf	legal barrier evidence
59	Ref._59_section5-scan.pdf	legal barrier evidence, Turkish
60	Ref._60_GarantiBankLetter_20081008.pdf	new letter from GB saying that project is only feasible with carbon credits
61	Ref._61_ODA-Kuyucak.pdf	any funding achieved
62	Ref._62_GB-Feasibility-Excerpts.pdf	part of older financal analysis
63	Ref._63_TR_Manistir Holding....pdf	prediction of electricity of a running wind farm
64	Ref._64_mare-comparison.xls	comparison of predicted and real electricity production of a running wind farm
65	Ref._65_JobDescriptions.pdf	

Reference ID	Title / Description	Comments
66	Ref.-66_SummaryTable.xls	template for calculation net electricity production, part of MP
67	Ref._67_Working Procedure kWh-Metering.pdf	ENERCON procedure
68	Ref._68_InternalTraining.pdf	ENERCON procedure
69	Ref._69_TechnicalInspection1.pdf	ENERCON procedure
70	Ref._70_TechnicalInspection2.pdf	ENERCON procedure
71	Ref._71_Emergency.pdf	ENERCON procedure
72	Ref._72_EnerconCertificates.pdf	from ENERCON for PP´s personnel
73	Not used	
74	Not used	
75	Not used	
76	Not used	
77	Ref._77_Micrositing-Kuyucak.pdf" WindPro 2, Kuyu_070101, calculation main results done by Demirer, 05.08.2008	net production 113,560 MWh
78	Ref._78_KuyucakMSC.pdf	MSC report
79	Ref._78_photographs	photographs of the project site
80	Ref._80_Kuyucak-GS-VER_PDD-v3_.pdf	revised PDD of the project, Version 03, dated 24.11.2008
81	Ref._81_Kuyucak-Calculations-v3-20081126.xls	revised calculations for the wind farm
82	Ref._82_KuyucakTurbine Contract Agreement.pdf	contract with ENERCON 10/09/2008
83	not used	
84	Ref._84_Kuyucak-ConnectionAgreement.pdf	
85	Not used	
86	Not used	
87	Ref._87_Mail19Aug2008GS.pdf	email correspondence Mavi Consultants - GS Foundation
88	not used	
89	Ref._89_KuyucakNewLicenceApproval.pdf	
90	Not used	
91	Ref._Mail14Nov2008.pdf	email correspondence SGS - Mavi Consultants

Reference ID	Title / Description	Comments
92	Responses_Mavi.zip	additional explaining documents from Mavi Consultants
93	Ref._93_Demirer Group - State of Loan Disc	letter from GARANTI bank, state of loan discussion
94	Ref._94_Kuyucak-GS-VER_PDD-v4_.pdf	revised PDD of the project, Version 04, dated 24.11.2008
95	Ref._95_Kuyucak-GS-VER_PDD-v6_1-20100603	revised PDD of the project, Version 06, dated 03/06/2010
96	Ref._96_Measurement and Measuring Tools Inspection Regulation in English	QA/QS, metering
97	Ref._97_Kuyucak GS576, 6-week Registration Review final-R1	GS comments only
98	Ref._98_ALIZE_SARKOY_GECICI_KABUL	Start operation and crediting period
99	Not used	
100	Ref._100_ http://www.emo.org.tr/ekler/231d0fc7a165f72_ek.pdf?dergi=5	link of „Chamber of Electrical Engineers“
101	Ref_101_Kuyucak-GS-VER_PDD-v7-20100818-final	Final PDD version 07 dated 18.08.2010
102	Ref._102_Kuyucak-BL-v4-20091109-final01	Final BL calculation
103	Ref._103_PPs feedback TR comments R03 - 20100826	Clients feedback to TR comments during GS review
104	Ref._104_Europe`s External Energy Policy and Turkey´s Accession Process	
105	Ref._105_Turkey. The key to caspian oil and gas	
106	Ref._106_The 2007-2009 State Medium Term Strategy paper	
107	Ref._107_Kuyucak-GS-VER_PDD-v8-20100913-final.pdf	
108	Ref._108_TEIAS-capacity projects 2007-2016.pdf	
109	http://www.epdk.gov.tr/lisans/elektrik/kaynakbazinda/kaynakbazinda.htm	
110	Ref._110_Kuyucak-GS-VER_PDD_v9-20100923-final.pdf	
111	Ref._111_CDMpipeline.xls_UNEP.xlsx	
112	Ref._112_globalstatusreport REN21_GSR_2010_full.pdf	
113	Ref._113_Law of Utilization of Renewable Energy Resources_ Turkey.pdf	
114	Ref.114_ plans for renewable energy PP in Turkey.pdf	
114a	Ref._114a Licenses database (2) - no other projects.xls	
115	Ref.115_information on license Alize Enerji Elektrik Üretim A.S. - research Aslihan Cetin.msg	

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for Kuyucak 25.6 MW Wind Farm Project, Turkey.

It serves as a "**reality check**" on the project that is completed by the trainee lead assessor and expert Dr. Reiner Huba.

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
1. Is there a governmental document confirming the projects contribution towards Turkeys sustainable development targets?	No governmental document available.	Interview	OK
2. Different statuses of no. of licenses, capacity in operation, capacity under construction	See 2		OK
3. Check the content of the generation licenses. Does they include the implementation licenses?	4 x copies of production licenses in Turkish (checked by AC)	Interview, document review	OK
4. Does the project need any otherkind of permits from the authorities?	Y, see 19, remember effects on fixed crediting period		OK
5. Are there changes to project design in relation to the status documented in the PDD?	Y, PDDs will be updated.	interview	CAR-6 No changes in design necessary (closed out, Ref. 55)
6. coordinates of wind turbines missing	Micrositing not finished	interview	CAR-6 provided by project proponent closed out, Ref. 77)
7. Coordinates for turbines missing	Micrositing not finished	interview	CAR-6 see 9 (Ref. 77)

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
8. Hub heights missing (all)	Not yet clear	interview	CAR-6 provided by project proponent (closed out, Ref. 55, 77)
9. Technical feasibility study, wind velocity etc?	Kuyucak: 7.4 m/s in 50m	interview	CAR-6 (closed out, Ref. 77)
10. Net electricity generation	Up to now only internal calculations available.	Interview, document review	CAR-6 revised internal calculation provided (closed out, Ref. 77)
11. Emissions reduction	Up to now only internal calculations available.	Interview, document review	CAR-6 will be calculated from net electricity generation (closed out, Ref. 55, 66, 77)
12. Financial feasibility, eeding-in tariffs, transmission fee, cost of turbines, costa of operation, IRR, loaning etc.	25 equity, 75% financed by banks, financial analysis not finished; draft will be delivered in 1 month; Investment decision not yet made, first contracts with banks not yet signed, contract agreement with ENERCON	interview	CAR-3b See closure of finding reported in Annex 2 below (closed out, Ref. 83) CAR-4b closed out, Ref. 82)
13. Fees paid for forestry area will be used by public institutions for new afforestation	All sites located in forested areas, just prepermissions to carry out the studies needed, no leasing contracts yet signed. Use of the fees could not be monitored by the project owner; tariffs yearly announced by Ministry of Environment and Forestry, Rent fee 0.5% of the investment, 0.25% for the investment period, a part of 20-40% of the fee will be used for afforestation; parameters not monitor able by the project proponent	interview	OK

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
14. Is there any proof for not using public funding/ODA?	No evidence was provided during site visit.	interview	CAR-4b letter from sworn financial consultant (closed out, Ref. 61)
15. EIA, Reference for non necessity	Available and locally checked for Kuyucak.	Interview, document review	documents propose CAR-5 letter for non necessity provided (closed out, Ref. 19)
16. EIA, bird migration paths taken into consideration?	Kuyucak according to EIA out of routes.	Interview, document review	Check weather sites are clearly out of the routes; if not expert opinion necessary CAR-5 EIA and maps delivered, birds not affected (closed out)
17. EIA, noise immissions in neighbourhood	Immission calculation with input of 106 dB(A), for Kuyucak in 525 m 48 bB(A)	Interview, document review	CAR-5 (still open)
18. Impact possibly underestimated (noise, birds)	see above		OK
19. Legal requirements for noise immissions?	Y, Regulation on Assessment and Management of Environmental Noise (Ref. 26), limit 65 dB(A)	Interview document review	CAR-5 see 21
20. Protected areas?	Not located in protected areas	Interview	OK

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
21. Located in forest?; access roads	project sits located in forest; roads will be improved, no asphalt, gravel roads, length not clear	Interview document review	CAR-5 data of road length provided, negative impact on the environment of access roads is assumed minor compared to positive impact of the wind farm (closed out)
22. Scoring ISC: different scores with identical explanations	For Kuyucak no reliable scoring from participants due to lack of people's capacity.	interview	OK
23. EIA Qualification of staff who has prepared section D in PDD v1	Official by Ministry of Environment and Forestry approved experts, content of EIA discussed with authorities in advance.	Interview, document review	OK
24. How were the relevant stakeholders identified?	Main groups are municipalities and local authorities, majors, GS supporting NGOs (WWF, Greenpeace...), parliamentarians, and members of Ministry; only local and regional authorities participating.	interview	OK
25. How have you select appropriate media?	Y, front of speaking, posters of other wind farms, sometimes no electricity available to use other media.	interview	OK
26. What about the comment on negative impacts on the view of the landscape? Have due account been taken of any stakeholder comment?	Y see ISC report	Interview document review	OK
27. How have SD indicators been properly identified?	Y see 31	Interview document review	OK

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
28. Which data have been collected to monitor the projects performance on the sustainable development indicators? Which baseline for SD indicators?	NO During local assessment monitoring plan was not completed.	Interview document review	CAR-4 local employment will be monitored as SD-indicator (closed out, Ref. 55)
29. Which SD indicators have been identified?	See ISC report.	Interview document review	CAR-4 see 33 (closed out, Ref. 55)
30. Are crucial indicators identified?	Felling trees, noise	Interview document review	CAR-5 negative impact on the environment of felling trees is assumed minor compared to positive impact of the wind farm Ministry of Environment and Forestry is responsible for mitigation measures, out of control from project (closed out, Ref. 79) CAR-5b (noise, still open)
31. Does the project need any kind of permits from the authorities?	Yes, the project needs several permits, e.g. generation / operation permit, permit to connect the plant to the grid construction permit. These can only be obtained if EIA is approved by authority for environment and forestry.	interview	OK

A.2 Annex 2: Validation Protocol

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website), Gold Standard

Requirement	Reference	Comments	Conclusion
All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	Marrakech Accords, CDM Modalities §30	N/A, the project is a voluntary project according to the Gold Standard (GS), Kyoto ratification is therefore not required	OK
Is the host country eligible for GS-VER-Projects?	2	Turkey as a host country is eligible for GS-VER-Projects, because it has not ratified the Kyoto Protocol and has consequently no quantitative reduction target.	OK
The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	Marrakech Accords, CDM Modalities §29 and §30	N/A, The project is a voluntary project. CDM modalities do not apply here, see No. 1 above	OK
The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a	N/A, The project is a voluntary project. CDM modalities do not apply here, see No. 1 above The project received a letter from Greenpeace Turkey stating that "*this project is in line with sustainable development targets of Turkey*" (Ref. 31).	OK

Requirement	Reference	Comments	Conclusion
Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	The PDD was published from 31/07/2008 to 29/08/2008 open for comments on the homepage of SGS under the following link: http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=543 No (0) Comments were received.	OK
The project design document shall be in conformance with the UNFCCC CDM-PDD format	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	The project uses the *"CLEAN DEVELOPMENT MECHANISM PROJECT DESIGN DOCUMENT FORM (CDM-PDD) - Version 031. - in effect as of: 28 July 2006".* The actual version of the PDD form is 03.2. Therefore CAR-6a was raised. CAR-6a: The project does not use the correct form of the Project Design Document. CAR-6a was closed out.	Not OK CAR-6a OK, corrected in PDD vers. 02 (Ref. 55)
The project has correctly completed a GS-Project Design Document, using the current version and exactly following the guidance.	2	See No. 6 above The project uses the UNFCCC PDD form. This is not in line with the GS requirements. Therefore CAR 6a was raised. CAR 6a: The project does not use the correct GS-Project Design Document. PDD vers. 03 uses GS template	Not OK again CAR-6a (done, Ref. 80)
The project participants shall submit a letter on the modalities of communication (MoC) before submitting a request for registration	EB-09 F_CDM_REG form	N/A, The project is a voluntary project. CDM modalities do not apply here.	OK

Requirement	Reference	Comments	Conclusion
Does the GS-PDD use accurate and reliable information that can be verified in an objective manner?	2 1 80, 85, 86	The PDD in conjunction with all documents supplied by the project participants or reviewed so far don't give completely accurate and reliable information that was verified in an objective manner.	Not OK See CARs and CLs 1-6
For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?		N/A, The project is not an AR project.	OK

Table 2 PDD

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
General Description of Project Activity					
Project Title					
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1	DR	Yes, the project title clearly enables the identification of the project. The project title is: Kuyucak 25.6 MW Wind Farm Project, Turkey	OK	OK
A.1.2. Are there an indication of a revision number and the date of the revision?	1	DR	Yes, there are. Revision numbers and dates are as following. Version 01, 25/06/2008 Version 02, 08/10/2008 Version 03, 24/11/2008 Version 04, 11/12/2008	OK	OK
A.1.3. Is this in consistency with the time line of the project's history?	1	DR	Yes, it is. PDD is continuously updated.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Description of the Project Activity					
A.1.4. Is the description delivering a transparent overview of the project activities?	1 55, 66, 67	DR	The project will use wind turbines to produce electricity resulting in emission reduction by substituting otherwise electricity generation by the use of fossil fuels. Numbers of wind turbines (wt), estimated annual amount of electricity generated and expected emission reduction are as following. 14 wt, 112,763 MWh, 71,578 t CO_2 Firstly projected electricity generation and in consequence annual emissions reductions could not be verified. Therefore CAR-6j was raised. CAR-6: Projected net electricity generation and in consequence annual emissions reductions could not be verified. Additional information must be provided (see also proposed documents). Measuring net electricity generation and out of this calculation of emission reduction is clearly described in the revised monitoring plan and adjacent documents. Therefore CAR-6j was closed out The contribution to sustainable development is documented in the GS Sustainable Development Indicators Matrix (Table 1). The benefits comprise among others the improvement of air quality, local employment and technological self reliance.	Not OK CAR-6j OK	OK
A.1.5. Is all information provided in compliance with actual situation or planning?	1	DR	During the site visit no evidence was found, that the PPD does not reflect the actual status of the project.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

A.1.6. Is all information provided consistent with details provided in further chapters of the PDD?	1 55 80	DR	The information given in the PDD ver. 1 was not in consistency with other documents. Therefore CAR-6j was raised. CAR-6j: Consistency is not given and must be established. With the revised PDD vers. 3 and adjacent documents consistency could be show. Therefore CAR-6 j was closed out. See also A.2.1	Not OK CAR-6j	OK
Project Participants					
A.1.7. Is the table required for the indication of project participants (PP) correctly applied?	1 55	DR	Yes, the table in Chap. A.3 is correctly applied. It contains name of private entities for operation and carbon management, respectively. Annex 1 contains contact data, but doesn't show contact details of all project participants. Therefore CAR-6c was raised. CAR-6c: Annex 1 doesn't show contact details of all project participants. In the revised PDD ver. 02 contact details are corrected. Therefore CAR-6c was closed out.	not OK CAR-6c	OK
A.1.8. Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1 80	DR	See A.3.1	not OK again CAR-6j	OK

Technical Description of the Project Activity					
A.1.9. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points)	1 77	DR	Overall maps were provided. Latitudes and longitudes are not provided for each wind turbine. Therefore CAR-6j was raised. CAR-6j: Exact latitudes and longitudes must be provided which is a prerequisite for prediction of electricity generation. Exact coordinates are given in the revised micrositing done by the project proponent. Therefore CAR-6j was closed out.	Not OK again CAR-6j	OK
A.1.10. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	3	DR / I	Licences are announced but in amendment form only not provided until site visit. Contracts, e.g. concerning land ownership are not mentioned. Therefore CAR-6 was raised. CAR-6j and proposed documents no. 7. Licenses and contracts should be provided. Generation licence was not provided. Permit for grid connection was also not provided.	Not OK again CAR-6	OK Not OK
A.1.11. Is the category(ies) of the project activity correctly identified?	1	DR	The project belongs to GS Category A1 – Renewable Energy	OK	OK
A.1.12. Does the project design engineering reflect current good practices?	1	DR	State-of-the-art wind turbines from ENERCON are used. The training is provided to local staff by the manufacturer of turbines. Ill in the entire project will lead to the transfer of environmental safe and sound technologies and know-how to Turkey.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

A.1.13. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	1	DR	Wind is a renewable energy source; hence all electricity produced replaces electricity produced from fossil fuel in the Turkish grid. The description is sufficient and transparent.	OK	OK
A.1.14. Is all information provided in compliance with actual situation or planning as available by the project participants?	1 80	DR	As found during the site visit not always recent and consistent documents were used. Therefore CAR-6j was raised. CAR-6j: Not most recent and consistent overall documents are used (predicted generation, emission reductions). Within PDD vers. 03 most recent and consistent data were used.	Not OK again CAR-6j	OK
A.1.15. 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?	1	DR	The foreseen ENERCON wind turbines are clearly state-of-the-art. See also above A.4.4	OK	OK
A.1.16. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1	DR	Project uses modern wind turbines. It is not likely to be outdated within the crediting period.	OK	OK
A.1.17. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1	DR / I	On-shore wind turbines are a proven concept and do not need extensive training and maintenance. The necessary training is provided to local staff by manufacturer of turbines.	OK	OK
A.1.18. Does the project make provisions for meeting training and maintenance needs?	1	DR / I	See also A.4.9. Maintenance is part of adequate operating of wind turbines and delivered by the operator (ENERCON).	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

A.1.19. Is a schedule available on the implementation of the project and are there any risks for delays?	1 80	DR / I	A time schedule is available and is very ambitious. There are serious concerns for delay. The rough schedule shows both the history of the project and the future finalisation. The PDD shows start of preparations (construction of road, transmissions lines etc.), installation of turbines, electricity generation and latest time of operation for all turbines as: March 2009/not mentioned/December 2009/not mentioned	OK	OK
A.1.20. Is the table required for the indication of projected emission reductions correctly applied?	1 80	DR	The crediting period is 7 years starting 01/12/2009 with an average of 71,578 t CO_2/year. The table is correctly applied although the time schedule is very ambitious.	OK	OK
A.1.21. Additional Screen for Gold Standard	2	DR	The project belongs in GS-category A.1 – Renewable Energy	OK	OK
A.1.21.1. Is the project type eligible for GS?	1	DR	The project type is eligible for GS because wind energy is renewable energy.	OK	OK
A.1.21.2. Proof of Technology Transfer and/or Knowledge Innovation	1	DR	Wind turbines are not yet produced locally, but some of the needed parts (tower, blades) are produced locally. Both leads to knowledge innovation for Turkey.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

A.1.21.3.	Has formal approval by the project proponent for Project documentation completeness transmitted before it is presented to the validator?	1	DR	No formal approval of documentation completeness has been transmitted. Until and during the site visit the validator has not received all documents relevant for performing the validation during the process of validation. Therefore CAR-6j and list of proposed documents were raised. All relevant documents were received at 26th November 2008 and CAR-6 j was closed out.	Not OK again CAR-6j	 OK
Public Funding						
A.1.22.	Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	1 61	DR / I	According to PDD and interviews on site no public funding is used. More detailed evidence for not using public funding is required. Therefore CAR-6j and proposed document no. 5 were raised. Not using ODA was demonstrated by a letter of a sworn financial consultant. Therefore CAR-6 j no. 5 was closed out.	Not OK again CAR-6j	See A.4.13.3 OK
A.1.23.	Is all information provided consisting with details provided by further chapters of the PDD (in particular annex 2)?	1	DR	Not most recent and consistent overall documents are used (predicted generation, emission reductions). Therefore CAR-6j was raised. All relevant documents were received at 26/11/2008 and CAR-6 j was closed out.	Not OK again CAR-6j	See A.4.13.3 OK
A.1.24.	In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	1	DR	N/A, because no public funding is used.	OK	OK
A.1.25.	Additional check for GS:	2				

* MoV = Means of Verification, DR= Document Review, I= Interview

A.1.25.1.1. Has a clear and transparent financing plan be completed and submitted with the GS-PDD?	83	DR	No financial calculation was provided. Therefore CL-3b was raised. CL-3b: Up to the time of the site visit no information is provided to assess financing. Please provide appropriate information and proposed documents. Additional information was provided on 26/11/2008. See B.4.2	Not OK CL-3b	 OK
A.1.25.1.2. Is there any ODA involved? If yes, check use of ODA funds to establish eligibility for the GS according to criteria set out in Chapter 3.3.3 of GS VVM	61	DR	As shown by a letter from a sworn financial consultant no ODA was used.	Not OK	OK
B. Baseline and Monitoring Methodology					
Choice and Applicability					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	1 33 34 35	DR DR DR DR	The project uses ACM0002 Ver. 7 “Consolidated baseline methodology for grid connected electricity generation from renewable sources”. This is the valid version and it is applicable to grid-connected renewable power generation project activities that involve electricity capacity additions including wind power. The project also uses the tools “Tool to calculate the emission factor for an electricity system” – Version 1 and “Tool for the demonstration and assessment of additionality” – Version 5. At the time of writing the PDD ver. 01 these were the valid versions.	OK	OK

B.1.2. Is the baseline methodology the one deemed most applicable for this project?	1 33	DR DR	Alternative methodology AM0019 is only applicable to the replacement of one specific power plant and not for grid connected power plants. Alternative methodology AM0026 is only applicable to specific type of grids with a merit based dispatch order. Hence the choice of the methodology is OK.	OK	OK
B.1.3. Is the choice of the methodology correctly justified by the PDD and is the project in conformance with all applicability criteria of the applied methodology?	1 33	DR DR	The PDD shows that the project meets the applicability criteria of the methodology. The justification in the PDD is sufficient.	OK	OK
Project Boundary					
B.1.4. Are all emission sources and gasses related to the baseline scenario, project scenario and leakage clearly identified and described in a complete manner?	1 33	DR DR	The baseline does not account for N_2O and CH_4 emissions from the baseline. Since these would increase baseline emissions and therefore emission reductions, this is conservative approach. The project does not have any emissions.	OK	OK
B.1.5. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with EB guidance and the underlying methodology?	1 33	DR DR	Yes, the PDD calculates emissions from the power plants of the Turkish grid. This is in line with the methodology.	OK	OK
B.1.6. Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	1 33	DR DR	Yes, both boundaries comprise the project site and the grid connected power plants in Turkey.	OK	OK

Identification of the Baseline Scenario					
B.1.7. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1 33	DR DR	Since the project represents a capacity addition, there is only one baseline scenario given in the methodology. The baseline is represented by the combined (built and operating) grid emission factor for Turkey of 0.635 t CO_2/MWh.	OK	OK
B.1.8. Does the application consider all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations??	1 33	DR DR	N/A, see B.3.1	OK	OK
B.1.9. Is the choice of the baseline compatible with the available data?	1 33	DR DR	N/A, see B.3.1	OK	OK
B.1.10. Is conservativeness addressed in the way of identifying the baseline?	1 33	DR DR	N/A, see B.3.1 A conservative approach is given.	OK	OK
B.1.11. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	1 33	DR DR	N/A, see B.3.1	OK	OK
Additionality					
B.1.12. Does the PDD clearly demonstrate the additionality using the approach as given by the methodology and by following all the required steps?	1	DR	Yes, see B.4.2	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.13. In case of using the additionality tool: Is the 'Additionality Tool' used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?	1 34 7, 60 93, 94	DR DR DR/I	Project uses additionality tool version 5. No detailed financial analysis is performed according to the PDD. During the site visit the financial calculation was roughly explained by the project proponent. The bank letter (Ref. 7, 60) states that VER income was decisive for granting the loan. Anyway no sufficient evidence was provided to demonstrate financial barriers. Therefore CL-3 b was raised. For Kuyucak wind farm project loan discussions are halted completely as mentioned via e-mail from the PP dated 10th December 2008 so the money for the investment is not available. An announced letter from Garanti bank proving these facts was received on 19/12/2008 (Ref. 93). Along with the revised PDD for Kuyucak (Ref. 94) and that declaration from the Garanti Bank (Ref. 93) this is seen as sufficient proof that the project faces significant financial barriers which avoided the realisation of the project. Therefore CL-3 b can be closed out.	Not OK again CL-3b	OK
B.1.14. Is the discussion on additionality and the evidence provided consistent with the starting date of the project? If the project has started before the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity	1 7	DR	The project has not started yet. Consideration of CDM for additional economic benefits was clearly taken into account before decision making. This is consistent with the financial calculation for the bank (Ref. 83) and the bank letter (Ref. 60).	OK	OK

B.1.15. Is the discussion on additionality consistent with the identification all potential realistic and credible baseline scenarios B.1.16. Do the identified alternative include technologies and practices that include outputs (e.g.) cement or services comparable with the proposed CDM project activity	1	DR	There is only one alternative baseline scenario, which is electricity production in the grid. This is taken into account correctly. The other alternative (i.e. project without VER) is not economically viable (see B.4.2.) The discussion is therefore consistent and convincing.	OK	OK
B.1.17. If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs?		DR	Investment analysis was not selected to demonstrate the additionality of the project. Barrier analysis was selected.	n.a.	n.a.
B.1.18. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	1 36 93, 94	DR / I DR	Main barrier claimed is of financial (see B.4.2) and legal origin. There are no relevant alternatives according to the methodology. Country risk is another minor barrier: Turkey is on tier III of 5 tiers, this means medium risk. Additionally the project has to cover the cost for the grid connection, which also reduces profitability. Further barriers include the need to import the turbines. In total barrier analysis is not yet convincing. Therefore CI-3 was raised. Along with the revised PDD for Kuyucak (Ref. 94) and a declaration from the Garanti Bank (Ref. 93) this is seen as sufficient proof that the project faces significant financial barriers which avoided the realisation of the project. Therefore CL-3 was closed out.	Open again CL-3	OK

B.1.19. Has it been shown that the project is not common practice?	1	DR	The project is not common practice, because the share of wind energy is currently very low in Turkey. Up to now wind farms were only realised if carbon credits are taken into account. Wind turbines are hardly economically viable in Turkey at today's feed-in tariffs. (see B.4.2.)	OK	OK
B.1.20. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	1	DR	Yes, see discussion in questions B.4.2. to B.4.8.	OK	OK
B.1.21. Additional Check for GS:	2				
B.1.21.1. Public announcement check (see GS VVM 3.3.1)	1	DR / I	No, the project was not publically announced before. Due to the political changes (new energy regulation law in 2002 and getting the regulation authority operational in 2004), the consequent transition to market based approach and economical recession the project did not get the generation license before April 2007. This is in line with the time line of the project given in the PDD.	OK	OK
B.1.21.2. Have conservative estimates and assumptions in the process been used?	1	DR	Where relevant conservative values have been applied. This was the case for emission factors and the omission of CH_4 and N_2O emissions in the baseline. Both lower the CM EF correspondingly.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Application of the Baseline Methodology					
B.1.22. Has the approved methodology been applied correctly for determining **baseline emissions**?	1 35 37 44-50 56	DR DR DR DR	All data sources were compared to the given sources in the internet. The data sources are official Turkish websites (TEIAS) given in the PDD. CAR-1 was raised due to false subtotals in List "Heating Values of Fuels Consumed 2006". Subtotal was corrected, but there is no influence on further calculations. CAR-1 was closed out.	Not OK CAR-1	 OK
B.1.23. Has the approved methodology been applied correctly for determining **project emissions**?	1	DR	There are no emissions from the project. *See PP respond to CI 2b from 02//10/2008:* Self consumption values are recorded, read and treated similar to the generation values. Project participants have no access to the metering devices and the self electricity consumption data is of high quality. Indirect project emissions are not quantified. Only ne t generation is monitored.	OK	OK
B.1.24. Has the approved methodology been applied correctly for determining **leakage**?	1	DR	The methodology does not make any provisions on leakage. The reasoning in the PDD is plausible. For wind turbines leakage does not exist.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.25. Where applicable, has the approved methodology been applied correctly for the **direct calculation of emission reductions**	1 38 39 44-50 38, 56	DR	The Methodology was applied correctly as shown in B.5.1. All calculations were done by applying the approved methodology with the correct formulas. Data were also checked against sources in the internet. Only in one case false subtotals (provided by TEIAS via internet) were used. Therefore the calculations need to be revised. False subtotals do not have any influence on further calculation. Therefore CAR-1 was closed out. Also see B.5.1	Not OK Again CAR-1	OK
B.1.26. Have all the methodological choices been explained, have they been properly justified and are they correct	1 80	DR / I	Where relevant the choices have been justified in the PDD. The justification is plausible.	OK	OK
B.1.27. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1 38 39 44-54	DR	Raw data for calculation of grid emission factor are taken from official annual report to UNFCCC for 2004, for 2005-2006 from official data of grid operator. Raw data from report to UNFCCC are not transparent showing higher value for 2004 compared to calculated values for 2005 and 2006. This leads to a higher grid emission factor, which is not conservative, but based on reliable information sources. In the end the calculated CM EF is low and conservative compared with other already validated projects. Where relevant conservative values have been applied. This was the case for emission factors and the omission of CH_4 and N_2O emissions in the baseline. Both lower the CM EF correspondingly.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Ex-ante Data and Parameters Used					
B.1.28. Are the data provided in compliance with the methodology?	1 39	DR DR	The right data are provided in the excel sheets and in the PDD. Internet-links are given to the data sources.	OK	OK
B.1.29. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	1 38 39 44-54	DR DR DR	All data have been checked against the provided sources. Citation is correct. In general the sources of the information are Turkish Governmental Organisations. These are considered to be reliable.	OK	OK
B.1.30. Is the vintage of the baseline data correct?	1 38 39 44-54	DR DR DR	Data from 2002 to 2006 have been used for the calculations.	OK	OK
Calculation of Emissions Reductions					
B.1.31. Has the approved methodology been applied correctly for determining emission reductions?	1 38 39 56, 77 80, 81	DR DR DR I	No evidence is provided for document review for the expected net electricity generation. Hence the estimated emission reduction could not be verified. On site calculations done with WindPro 2 software were presented. These calculations were done by Demirer (project participant). Therefore CAR-6j was raised and final calculations done by ENERCON were proposed. The mentioned average annual emission reduction was 71,578 t due to calculations of the project proponent.	Not OK CAR-6j	 OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.32. Are the emission reduction calculations documented in a complete and transparent manner?	1 38 39 81	DR	The PDD describes the calculation in a transparent way. This is backed by the excel calculation, where calculation have been checked. Anyway, because of the only preliminary net electricity generation (see B.7.1) the emission reductions need to be revised. This was done and CAR-6 j was closed out.	not Ok again CAR-6j	See B.7.1 OK
B.1.33. Have conservative assumptions been used to calculate emission reductions?	1 38 77, 81	DR	Except the point mentioned above (see B.5.6) conservative approaches were made within the calculations and approaches.	OK	OK
B.1.34. Is the projection based on provable input parameter?	1	DR	See B.7.1	not OK again CAR-6j	See B.7.1
B.1.35. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	1	DR	The projection of emission reductions is based on not yet provided information whereas monitoring will be based on measured electricity production. See B.7.1 This is in line with the methodology.	OK	OK
B.1.36. Is the calculation of the emission reduction correct?	1 38 39	DR DR DR	See B.7.1	not OK again CAR-6j	See B.7.1 OK
Emission Reductions					
B.1.37. Will the project result in fewer GHG emissions than the baseline scenario?	1 38 39	DR DR DR	Yes, since electricity is generated with no emissions.	OK	OK

B.1.38. Is the form/table required for the indication of projected emission reductions correctly applied?	1 38 39	DR DR DR	Yes, the table is applied correctly. Data are based on the provided Excel calculation, which was checked thoroughly.	OK	OK
B.1.39. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1 82	DR / I	The time schedule for construction and implementation is very ambitious, but it may be possible to start generation 2009. Delivery of turbines and transformers is not yet contracted. Therefore a production plan from the turbine supplier was proposed. Up to 26th November 2008 no production plan was received from ENERCON. Instead a turbine contract agreement was delivered.	Not OK	OK
Monitoring Methodology					
B.1.40. Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further information provided by the PDD? Are all parameters and data that is available at validation consistent with the approved methodology?	1 55 80	DR / I	The monitoring plan is part of PDD ver 01. The information contained in section B and Annex 4 of the PDD is not sufficient to answer the questions under section B.9 to B.13 of this protocol. Therefore CAR-4 was raised. For the later verification the electricity generation will be monitored. With regard to sustainable development e.g. the number of staff trained by Enercon and the total number of employees will be recorded. Detailed information is given concerning monitoring.	Not OK CAR-4	 OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.41. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	1	DR	Yes. Baseline EF is fixed ex-ante and does not need to be monitored. For the later verification the electricity generation will be monitored. With regard to sustainable development e.g. the number of staff trained by Enercon and the total number of employees should be recorded. This is in line with the methodology.	OK	OK
Data and Parameters Monitored					
B.1.42. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	1 55	DR / I	Only electricity generated will be monitored. This is the main indicator for the calculation and in line with the methodology. In the revised monitoring plan beside net electricity generation SD indicator “Local employment” was added. Therefore CAR-4 was closed out (Ref. 55).	Not OK again CAR-4	OK
B.1.43. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	1	DR	see B.10.1	Not OK again CAR-4	OK
B.1.44. Will it be possible to determine the specified project GHG indicators?	1	DR	Since electricity generated is the main source of financial income and at the core of the business model it will be easy to determine these indicators with high accuracy.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.45. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	1	DR / I	Electricity will be measured with two calibrated and sealed meters. These will be read monthly by the grid operator and consequently invoiced accordingly. Data are stored. The metering system is not yet described. Therefore in CL-2 was raised. In the revised monitoring plan the metering system is described in detail. Therefore CL-2 and CAR-4 were closed out (Ref. 55, 57).	Not OK CL-2 and again CAR-4	OK
B.1.46. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	1 55	DR	Parameters, especially SD-parameters, are not sufficiently described. See B.9.1 and B10.4 In the revised monitoring plan beside net electricity generation SD indicator “Local employment” was added. Therefore CAR-4 was closed out (Ref. 55).	Not OK again CAR-4	OK
B.1.47. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	1 55	DR	The approach is in line with local legal requirements and represents current good practice. Additionally the generation of each turbine is recorded and can be used as a cross-check. Meter accuracy is not yet described. In the revised monitoring plan the metering system is described in detail. Therefore CAR-4 was closed out (Ref. 55, 57).	Not OK again CAR-4	OK
B.1.48. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	1 39	DR DR	Both the formula given in the PDD as well a in the excel calculation have been thoroughly checked and found in compliance with the methodology.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Quality Control (QC) and Quality Assurance (QA) Procedures					
B.1.49. Is the selection of data undergoing quality control and quality assurance procedures complete?	1 40 55, 80	DR / I DR	The QC/QA-system is not described in PDD ver. 01. Therefore CAR-4 was raised. The mentioned ENERCON SCADA system for monitoring and data recording is well known to be reliable and can be used for cross checking electricity generation. In the revised PDD the monitoring is described in detail including uncertainty which is below 1%. Therefore CAR-4 was closed out (Ref. 55, 57).	Not OK CAR-4	OK
B.1.50. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	1 40 55, 57	DR / I	Further details – other than described above in B. 11.1 – are not mentioned. In the revised monitoring plan the metering system is described in detail including uncertainty which is below 1%. Therefore CAR-4 was closed out.	Not OK Again CAR-4	OK
B.1.51. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	1 40	DR	See B11.2	Not OK Again CAR-4	OK
B.1.52. Is it ensured that data will be bound to national or internal reference standards?	40	DR	State of the art wind turbines are approved by the grid operator. Type of meters and their calibration might follow national legislation.	OK	OK
B.1.53. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	1	DR	See B11.1	Not OK Again CAR-4	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Operational and Management Structure					
B.1.54. Is the authority and responsibility of project management clearly described?	1 55, 80	DR / I	The project proponent will ensure that the relevant staffs are trained for their jobs. Since the project is not yet running the specific names of the employees and an organisational diagram is not yet available. Roles and responsibilities are not described in PDD ver. 01. A general table with the scope of responsibility for monitoring is not included in PDD ver. 01. Responsibilities and management system for operation, record keeping etc. Are well described in the revised PDD and adjacent documents. Therefore CAR-4 was closed out.	Not OK again CAR-4	OK
B.1.55. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR	See B.12.1	Not OK again CAR-4	OK
B.1.56. Are procedures identified for training of monitoring personnel?	1	DR	See B.12.1	Not OK again CAR-4	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Monitoring Plan (Annex 4)					
B.1.57. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	1 55, 80	DR	Section B.7.2 of the PDD contains relevant information. In Annex 4 only the monitoring of the electricity generation is roughly described and referenced to the ENERCON SCAD system. Further SD indicators are not mentioned. The relevant aspects of the project for measurements, data storage, calibration etc. are not described in sufficient detail. In the revised monitoring plan SD indicator local employment is treated sufficiently. Therefore CAR-4 was closed out.	Not OK again CAR-4	 OK
B.1.58. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	1 55, 80	DR	No. See sections B.10 and B.11 of this protocol.	Not OK again CAR-4	OK See B.13.1
B.1.59. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	1 55, 80 84	DR	No. See sections B.10 and B.11 of this protocol. In the revised monitoring plan monitoring equipment is well described. Therefore CAR-4 was closed out.	Not OK again CAR-4	 OK
B.1.60. Are procedures identified for calibration of monitoring equipment?	1 55, 80 84	DR	No. See sections B.10 and B.11 of this protocol. In the revised monitoring plan monitoring calibration is well described. Therefore CAR-4 was closed out.	Not OK again CAR-4	 OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.61. Are procedures identified for maintenance of monitoring equipment and installations?	1 55, 80 84	DR	No. See sections B.10 and B.11 of this protocol. In the revised plan monitoring maintenance of equipment is well described. Therefore CAR-4 was closed out.	Not OK again CAR-4	OK
B.1.62. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	1 55, 80 84	DR	No. See sections B.10 and B.11 of this protocol. In the revised monitoring plan monitoring record keeping and archiving are well described. Therefore CAR-4 was closed out.	Not OK again CAR-4	OK
B.1.63. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems??	1 55, 80 84	DR	No. See sections B.10 and B.11 of this protocol. In the revised monitoring plan appropriate processes are well described. Therefore CAR-4 was closed out.	Not OK again CAR-4	OK
B.1.64. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1 55, 80 84	DR	No. See sections B.10 and B.11 of this protocol. The monitoring report might be prepared jointly by the project proponent and his consultant “Mavi Consultants”. This serves as an internal audit and performance review at the same time. Therefore CAR-4 was closed out.	Not OK again CAR-4	OK
B.1.65. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	1	DR	No. See sections B.10 and B.11 of this protocol. The monitoring report might be prepared jointly by the project proponent and his consultant “Mavi Consultants”. This serves as an internal audit and performance review at the same time. Therefore CAR-4 was closed out.	Not OK again CAR-4	OK
B.1.66. Additional check for GS	2				

B.1.66.1.	Are the appropriate indicators included in the Monitoring Plan? I.e. those that deliver the right information to make sure the project continues to have an overall positive impact on the Sustainable development.	1 19 55, 80	DR / I	PDD ver. 01 does not contain the appropriate indicators. See sections B.10 and B.11 of this protocol. In the revised PDD appropriate indicators are included. Therefore CAR-4 was closed out.	Not OK again CAR-4	OK
Baseline Details						
B.1.67.	Is there any indication of a date when determine the baseline?	1 38 44-54	DR	According to PDD ver. 01 and the adjacent Excel calculation the baseline section was finalised on 19/06/2008. According to the revised PDD ver. 02 both baseline and monitoring plan were completed 08/10/2008.	OK	OK
B.1.68.	Is this in consistency with the time line of the PDD history?	1	DR	Yes this fits well in the timeline of the ISC and the times when data were last accessed in the internet.	OK	OK
B.1.69.	Is all data required provided in a complete manner by annex 3 of the PDD?	1 38 44-54	DR DR	Section B combined with Annex 3 and Ref. 38 and 44-54 provides all relevant data in a complete manner.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

Duration of the Project / Crediting Period					
B.1.70. Are the project's starting date and operational lifetime clearly defined and reasonable?	1	DR	According to PDD ver. 01 starting date is October 2008. The starting date refers to the beginning of construction work for the access roads. First contracts are not yet signed. In the light of the ongoing discussion on start date and additionality, the start date should be redefined. Life time is given as 30 years. Lifetime of the project might need an exchange of the rotor blades after half of the time, but the turbines are expected to last 30 years.	OK	OK
B.1.71. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1	DR	The first crediting period is 7 years. Crediting is expected to start on 01/11/2009, and was revised to be 01/07/2010.	OK	OK
B.1.72. Does the project's operational lifetime exceed the crediting period	1	DR	Yes, project life time is expected to be 30 years.	OK	OK
Environmental Impacts					
B.1.73. Does the project comply with environmental legislation in the host country?	1 19	DR	According to the PDD and a letter from the Ministry of Environment and Forestry the project is in compliance with local legislation.	OK / CAR-5	OK

B.1.74. Has an analysis of the environmental impacts of the project activity been sufficiently described?	1 22 55, 80 22-23, 73-74	DR	The description of the environmental impacts is not sufficient for a GS project. Therefore CAR-5 was raised. Annex 7 of PDD ver. 01 contains a detailed appraisal of the GS "Sustainable Development Assessment Matrix", which details the assessment of the environmental impacts. Since all GS-conditions are met except for an EIA which is not required by the host country this analysis of environmental impacts is sufficient. By revised PDD ver. 03 and accompanying documents the description of environmental impacts was improved and is sufficient now. Therefore CAR-5 was closed out.	Not OK CAR-5	OK
B.1.75. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1 19	DR / I	EIA is known to be not required for wind farm projects in Turkey. Competent authority has declared that EIA is not required. See D.1.1	OK / again CAR-5	OK
B.1.76. Will the project create any adverse environmental effects?	1 55, 80 22-23 73-76	DR	Yes. Foundation, transmission lines and access roads might have a potential impact on landscape, birds etc. According to the sustainable development assessment matrix in the PDD ver 01 no negative impacts have been identified. Some topics are not dealt with sufficiently, meaning bird migration, noise immissions, and impacts of transmission lines. Within revised documents bird migration and transmission lines are properly treated. For noise immissions see D.1.2	Not OK again CAR-5	OK

B.1.77. Are transboundary environmental impacts considered in the analysis?	1	DR	No, transboundary impacts are not considered, because there are no transboundary impacts. See D.1.2	OK	OK
B.1.78. Have identified environmental impacts been addressed in the project design?	1	DR	According to the sustainable development assessment matrix in PDD ver. 01 and the ISC report no negative impacts have been identified. See D.1.2	OK	OK
B.1.79. Additional Check for GS: Check the project against the GS requirements on EIA.	1 2	DR	The PDD and report on initial stakeholder consultation (part of the PDD) describe sufficient the usage of the GS checklist and the judgement of impact. According to the sustainable development assessment matrix in PDD ver. 01 and ISC report no negative impacts have been identified. According to the GS requirements an EIA is therefore not necessary.	OK	OK
Stakeholder Comments					
B.1.80. Have relevant stakeholders been consulted?	1	DR	In the ISC report (Annex 7 of the PDD) is well described how the relevant stakeholders have been identified. See also E.1.7 GS-Requirements.	OK	OK
B.1.81. Have appropriate media been used to invite comments by local stakeholders?	1	DR / I	Appropriate media, mainly frontal speaking, has been used according to local circumstances.	OK	OK
B.1.82. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1	DR	There exist any formal requirements in Turkey for a stakeholder consultation process. See also E.1.7 GS-Requirements.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.83. Is the undertaken stakeholder process described in a complete and transparent manner?	1	DR	Yes, it is well described, see E.1.1 See also E.1.7 GS-Requirements.	OK	OK
B.1.84. Is a summary of the stakeholder comments received provided?	1 41 42 43	DR DR DR	A summary (Turkish) is available for the ISC on the website of Mavi Consultants. Main stakeholder consultation was finished. See also E.1.7 GS-Requirements.	OK	OK
B.1.85. Has due account been taken of any stakeholder comments received?	1 42	DR	Yes, comments have been answered in sufficient detail. See also E.1.7 GS-Requirements.	OK	OK
B.1.86. Additional check for GS	2				
B.1.86.1. Has the Initial Stakeholder Consultation taken place as per GS' requirements?	1 42 43	DR DR DR	The initial stakeholder consultation meeting has taken place on 22/05/2008. The documentation of the ISC is sufficient to assess that the GS requirements for ISC are met. During the ISC the checklist from the GS CDM VVM was used in a translated form. 14 out of 21 of checklists handed out with the non-technical project summary were filled in, returned and evaluated. The results of the ISC were used to complete the SD-matrix, which shows only positive scoring, positive subtotals and a positive total. Since an EIA is not required by national legislation and the SD-Matrix only shows positive scorings an EIA is not required. The GS requirements are therefore fulfilled.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.86.2. Have the GS Minimum requirements for Initial Stakeholder Consultation been met?	1 42	DR DR	ISC has taken place in 2008. The documentation is sufficient to assess whether the GS requirements for ISC are met. A non-technical summary of the PDD is proposed in the ISC report as Appendix 8 of the PDD. During the ISC environmental and social impacts as well as SD-indicators were discussed based on non-technical summary of the project and the GS-checklist in Turkish language. No serious negative environmental and social impacts were identified by the participants of the ISC. The meeting was made public by announcement in the local newspaper and on the homepage of the local newspaper as well as by email-, fax, personal and telephone invitations. A list of invited organisations as well as of the attendants of the meeting is included in the revised ISC-Report. The minimum requirements of the GS are therefore met.	OK	OK
B.1.86.3. Check whether the results of the public consultation meeting were made publicly available as per GS requirements.	1 42 43 41	DR DR DR DR	ISC has taken place on in 2008 The documentation is sufficient to assess whether the GS requirements for ISC are met. No serious concerns were raised during the ISC so none had to be addressed in the PDD. The results of the ISC were published on the website of Mavi Consultants.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.86.4. Does Initial Stakeholder Consultation Report include all aspects identified in GS?	1 42	DR DR	ISC has taken place in 2008 The documentation is sufficient to assess that the GS requirements for ISC are met. The ISC Report describes in detail • who was invited directly and how the public announcement was made, • what information was handed out during the ISC, • what was discussed during the ISC, • that no serious comments were received in writing, • that the oral comments during the ISC were all mainly positive on employment opportunities • that consequently no changes where necessary in the PDD.	OK	OK
B.1.86.5. Has the main stakeholder consultation carried out prior to the validation?	1 55, 78	DR	MSC was carried out as an international stakeholder consultation. The PDD was published from 31/07/2008 to 29/08/2008 on the homepage of SGS and on the homepage of Mavi Consultants. During the MSC no comments were received. Validation started 23/07/2008. After the end of the MSC a MSC-Report was handed over and the PDD was revised to the next version.	open	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.86.6. Does the Main Stakeholder Consultation Report include all aspects identified in GS?	78	DR	Main Stakeholder Consultation Report is not yet available. MSC report was delivered in October 2008 (Ref. 78).	open	OK
B.1.86.7. Are the stakeholders and procedures used in these two consultations in compliance with GS requirements?	1 42	DR DR	The ISC is in compliance with the GS requirements. For details see above. A list of the invited stakeholders for the first meeting is part of the PDD. A list of the participants of the ISC was included. The range of invited stakeholder is suitable, it includes: • Local policy makers • Local people directly impacted by the project • Local NGOs (if applicable) • Local and national NGOs that have endorsed the Gold Standard	OK	OK
Sustainable Development					
B.1.86.8. Has a sustainable development assessment been carried out? Was the Sustainable Development Matrix used to assess sustainable development?	1 42	DR DR	PDD and ISC report show the SD matrix. The judgement of the scoring is reported and explained in a transparent way for each indicator. The ISC-Report shows that project design, potential impacts and the SD-matrix have been discussed with the stakeholders during the meeting and the scoring is based on their comments and the experience of the project proponent with similar projects. The scoring is plausible.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

B.1.86.9. Are the SD indicators properly identified in PDD? Have data been collected in order to monitor the projects performance on the sustainable development indicators? Are crucial indicators marked with an asterisk and included in the monitoring plan?	1 42	DR	SD indicators are mentioned in the PDD. Baseline for SD is not mentioned. SD assessment is transparent. The PDD also contains indicators, e.g.: - staff trained by Enercon and Demirel - total employment. The indicators are not included in the monitoring plan. The baseline values for the two indicators may be assumed to be Zero.	Not OK	OK
B.1.86.10. Are SD indicators discussed during the stakeholder consultations?	1 42	DR	SD indicators and matrix were used during ISC. According to the ISC-Report the indicators in F.1.1.2 were proposed by the stakeholders.	OK	OK
B.1.86.11. SD Score	1 42	DR	The judgement upon the scoring is reported and transparent. In the PDD the scoring is reported and explained in a transparent way for each indicator. The ISC-Report shows that project design, potential impacts and the SD-matrix have been discussed with the stakeholders during the meeting and the scoring is based on their comments and the experience of the project proponent with similar projects. The scoring is plausible. The scoring requirements of the GS are fulfilled.	OK	OK
B.1.86.12. Are there any SD scores –1 or less?	1 42	DR	The judgement upon the scoring is reported and transparent. None of them is -1 or less.	OK	OK

* MoV = Means of Verification, DR= Document Review, I= Interview

References

Reference ID	Title / Description	Comments
	Same as above Chap. 7	

* MoV = Means of Verification, DR= Document Review, I= Interview

A.3 Annex 3: Overview of Findings

Findings Overview

Findings from validation of Kuyucak 25.6 MW Wind Farm Project, Turkey.

Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified.

Description of Table:

Type	Findings are Clarification Requests (CL), Corrective Action Requests (CAR) or Forward Action Requests (FAR). CARs are items that must be addressed before a project can receive a recommendation for registration. CLs may lead to the raising of CARs. FARs applies to the future and will be checked during the first/subsequent verification. Observations are included at the end and may or may not be addressed. They are primarily to act as signposts for the verifying DOE.
Issue	Details the content of the finding
Ref	Refers to the item number in the Validation Protocol
Response	Please insert response to finding, starting with the date of entry.

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Please Note: This is an open list and more findings may be added as validation progresses.

Date:	28/07/2008			Raised by:	SGS		
No.:	1	Type:	CAR	Issue:	calculation	Ref.:	B.5.1, B.5.4
Lead Assessor Comment					Date: 28/07/2008		
False subtotals in List “Heating Values of Fuels Consumed 2006” in lines “Autoproducers”; please correct and use for further calculations and provide revised document with clear revision number.							
Project Participant Response:					Date: 02/10/2008		
The list “Heating Values of Fuels Consumed 2006” has been obtained from the TEIAS website (the official source of such information), which is used in the calculations without any modification. The subtotal can be a mistake of TEIAS or non-disclosed information might also have been included in the summation. Regardless, the subtotal has not been used in the calculations and the figure mentioned here does not have any impact on the amount of emission reductions. Upon the request of the DOE, the subtotal in the Excel-file has been revised by the carbon consultants and this revised file for all 4 projects is submitted to the DOE in the attachment with clear revision number.							
Acceptance and Close out by Lead Assessor:					Date: 24/10/2008		
Information Provided: revised EXCEL-file Information Verified: revised EXCEL-file, sheet “Fuel & Emissions”, see right					Verified Document Reference: Ref._56_*xyz*-Calculations-v2-20081002.xls		
Reasoning for not acceptance or acceptance and close out: The false subtotal is now corrected, but not the total; anyway this total is not used for further calculations so that CAR-1 can be closed out.							

Date:	05/08/2008			Raised by:	SGS		
No.:	2	Type:	CL	Issue:	Metering system	Ref.:	B.10.4-6
Lead Assessor Comment					Date: 05/08/2008		
a. Uncertainty assessment: Please provide relevant information in the revised monitoring plan. < 1% must be demonstrated (GSv2), concerning metering system accuracy only. Please refer to technical guideline of TEIAS for metering accuracy. b. System for metering of self-consumption not described; please provide description in the revised monitoring plan.							
Project Participant Response:					Date: 02/10/2008		

a. Uncertainty assessment:

This description is added to the monitoring plan in the revised PDD, as requested.

Concerning metering system accuracy, project participants have to comply with relevant national legislation. The project must ensure that the metering devices are in line with the technical requirements which are set out by the "Elektrik Piyasasında Kullanılacak Sayaçlar Hakkında Tebliğ" (Communiqué for Metering Devices to be used in the Electricity Market). Metering devices are technically checked by independent companies for their accuracy and certified. Afterwards, TEIAS also tests each metering device in order to ensure that the devices satisfy all requirements.

The table in the Section II, Article 11 of this communiqué describes the minimum accuracy requirement the metering devices have to fulfil, which are categorized according to the installed capacity. As the rated output of the project activity is between 10 MW and 100 MW, the metering device has to have an accuracy equal to or better than 0.5%:

*Sayacın bağlı olduğu devrenin gücü	100 MVA'dan büyük	100 MVA ile 10 MVA arasında (100 MVA ve 10 MVA dahil)	10 MVA'dan küçük
Aktif enerji sayaçları	IEC-EN 60687 0.2S sınıfı	IEC-EN 60687 0.5S sınıfı	IEC-EN 60687 0.5 sınıfı
Reaktif enerji sayaçları	**IEC-EN 61268 2 sınıfı	**IEC-EN 61268 2 sınıfı	**IEC-EN 61268 2 sınıfı

Figure 1. The table in the Section II, Article 11 of this communiqué

This requirement of 0.5% is stricter than 1% and thus fulfils the requirement. The original and valid version of the communiqué (in Turkish language) is also submitted to the DOE.

b. System for metering of self-consumption

This description is added to the monitoring plan in the revised PDD, as requested.

Self electricity consumption of the project activity is also measured and recorded by the same primary and secondary metering devices, which also measure electricity generation. The TEIAS personnel comes on the first day of each month and takes readings of the previous month in terms of gross electricity generation and self electricity consumption, with a breakdown into 3 time periods (T1 for 06:00-17:00, T2 for 17:00-22:00, T3 for 22:00-06:00) for invoicing. Following this reading, the results are transmitted on site to the TEIAS network by the TEIAS personnel electronically without any intervention. Based on this reading, a protocol form is printed out, which lists in detail the energy generation and consumption values in a similar way the PMUM web site lists them, and is then signed by the site manager and the TEIAS personnel. Therefore, self consumption values are recorded, read and treated similar to the generation values. Project participants have no access to the metering devices and the self electricity consumption data is of high quality.

Acceptance and Close out by Lead Assessor:	Date: 24/10/2008
Information Provided: detailed and transparent description of uncertainty of the metering systems and it's legal basis; transparent description how the self-consumption is measured and treated with Information Verified: revised PDD vers. 2, monitoring plan and Metering Device Regulation, see right	Verified Document Reference: Ref._55_PDD-version-2_*xyz*-GS-VER_PDD-v-2.pdf Ref._57_TR-MeteringDeviceRegulation.pdf

Reasoning for not acceptance or acceptance and close out: With the information provided it could be shown that uncertainty is clearly below 1% and self-consumption is also measured with the same accuracy and subtracted from the gross electricity production. Therefore CL 2 a-b can be closed out.

Date:	06/08/2008			Raised by:	SGS		
No.:	3	Type:	CL	Issue:	Additionality, barrier analysis	Ref.:	A.5.4, B.4.2, B.4.6, B.4.7

Lead Assessor Comment	Date: 05/08/2008

a. Any evidence for legal barrier and the complex process to get all permits and licenses; please provide appropriate evidence
b. Financial barrier: Financial feasibility study of the current projects proposed, evidence of applied financial indicators of existing projects not provided.

Please provide appropriate evidences.

Project Participant Response:	Date: 02/10/2008

a. Legal barrier evidence:

A short summary (in English language) of the licensing and permission procedure for wind farm projects is provided to the DOE as attachment. Relevant sections (in Turkish language) of a reference publication are scanned and submitted to the DOE separately, which explains the complex and difficult legal structure.

Publication Information	
Name:	Rüzgar Enerjisi: Teori ve Uygulama (Wind Energy: Theory and Practice)
Authors:	Murat Durak Serra Özer
Relevant Section	Section 5, p.263-327
Order Information	Türkiye Rüzgar Enerjisi Birliği (Turkish Wind Energy Association) Elektrik İşleri Etüt İdaresi Genel Müdürlüğü (General Directorate of Electrical Power Resources Survey and Development Administration) Eskişehir Yolu 7.km No:166 Çankaya 06520 Ankara e-mail: gural@eie.gov.tr

b. Financial evidence from existing projects:

Some excerpts from the financial feasibility results for the Mare Manastir Wind Farm Project (another GS project of the project developer, financed from the Garanti Bank) are provided in the attachment. Please note that the initially assumed loan conditions (5.6% interest rate, 0.33% bank expense) have later been increased by Garanti Bank (to 7.35% interest rate and 0.75% bank expense) beyond budgetary plans, further demonstrating some of the barrier types common in Turkey.

Project Participant Response:	Date: 10/11/2008 to 26/11/2008

After the recent credit crunch and the related global financial crisis, the international and the local financial sector is having a wide range of challenges. With several banks gone bankrupt or taken over by governments/competitors, the financial world has shifted its focus more to internal difficulties rather than financing projects. Nowadays, several banks have stopped new loans and even started calling their loans back before maturity. Project developers in Turkey are also facing the same difficulties, adding very significant barriers to the feasibility of the Projects. The Project proponents are not sure anymore whether financial institutions will be able to supply loans for the Projects with comparable conditions as before. Project developers nowadays agree that it has become much more difficult to obtain loans for renewable energy projects and even if it is possible somehow that the loan conditions will be stricter and more costly than the pre-crisis period.
The Turkish financial market is experiencing such high difficulties that some commercial Turkish banks are even exercising their "call back" option for their loans, which means that banks take extreme measures to ensure their survival. This, on the other hand, leaves companies in very difficult positions. Turkish banks have lately been criticized by the government for acting too much on their behalf without paying attention on their customers, and these arguments have been accepted even by the Turkish Banks' Association. In this environment, companies have very serious financial problems and new projects are having various challenges for finding finance. These developments leave no doubts about the financial additionality of the Projects under validation.

Additional Information from the DOE (Dr. Jochen Gross – E-Mail on 14.11.2008): "First of all the required investment analysis doesn't refer to another wind farm, but exactly to that project which should be validated. The investment analysis should clearly show for each single project that this project has to overcome financial barriers. In detail, that it will be only feasible in an economical sense if additional revenues will be obtained by carbon credits. This may be demonstrated e.g. by rising IRR (internal rate of return)."

Feasibility Analysis of the actual projects is submitted, analyses of existing projects is not required by the DOE. The original feasibility studies of each project are attached as separate Excel-files, prepared by the management of Demirer Enerji for project assessment purposes. The same files have been submitted to Garanti Bank for loan applications, however they are based on "pre-credit crunch" parameters. Please note that loan agreements for these 4 projects have **not** been signed yet. The discussions of the other 3 loan agreements are halted by the bank. As of 26.11.2008, loan applications of Kuyucak project is frozen by Garanti Bank and negotiations are halted for now as a result of impaired financial market conditions. This demonstrates the difficulty in finding finance and the poor feasibility level of this project, showing that the project is not business as usual.
However, its conditions have got worsened as a result of the current conditions of the Turkish financial markets;

Discussed loan conditions before credit crunch	**Discussed loan conditions after credit crunch**
Interest rate (EURO): ca. 7.5%	Interest rate (EURO): ca. 11%
Equity/Loan ratio: 25/75	Equity/Loan ratio: 42/58

The recent negative developments have affected the 4 Project in an adverse way. Shortly, the project was not business as usual before the credit crunch. After the global financial crisis, however, the feasibilities of the project got worsened far more. Turkey has been affected by this crisis more than most of the other markets, as Turkey's economy is more sensitive to external developments and varies much more than other countries as a result of its higher country risk. Credit rating of Turkey has been reduced after the crisis by international credit rating agencies, further demonstrating the difficulties the Project Owner is experiencing.

Files are password and write-protected. The passwords are "**mavi**", afterwards "**read only**" option shall be selected to open the documents. These files are developed by Demirer Enerji for its internal assessment purposes and therefore include several financial variables (some of which may not be relevant for the VER part). The bottom part of the first worksheet demonstrates the inclusion of VER revenues. Please note that these files are commercially very sensitive documents and are strongly confidential. These files clearly show that VER revenues increase the IRR of projects significantly, making the projects attractive for project participants.

Acceptance and Close out by Lead Assessor:	Date: 24/10/2008 / 28/11/2008 /11/12/2008
Information Provided: a.) summarized description of the complex permission processes for wind farms in Turkey b.) new letter from GARANTI Bank confirming that the project is only feasible by taken carbon credits into account; letter from a sworn financial consultant saying that no public funding will be received; excerpts from the financial feasibility of a project from 2005 showing some key indicators for that time from the running Alize wind farm project (Manistir) In addition on 26th November 2008 more detailed EXCEL-calculation concerning financial feasibility was delivered. Further on less adequate conditions because of the global finance crisis and local loan conditions are mentioned. Information Verified: see right	Verified Document Reference: a.) Ref._58_TR-permitprocess-summary.pdf Ref._59_section5-scan.pdf b.) Ref._60_GarantiBankLetter_20081008.pdf Ref._61_ODA-*xyz*.pdf Ref._62_GB-Feasibility-Excerpts.pdf Ref._63_TR_Manistir Holding....pdf Ref._64_mare-comparison.xls Ref._83_...Financial Feasibility....xls"

Reasoning for not acceptance or acceptance and close out:

a. With the information provided it could be demonstrated that the permission processes for wind farms in Turkey are highly complex. Therefore CL-3a can be closed out.

b. A financial analysis for the project is not yet delivered. The data provided show only in a very indirect manner that the project may only feasible by taking additional revenues from carbon credits into account (statement of Garanti bank, Ref. 60). Even the very limited excerpts from the older project (Ref. 62) are not convincing.Hence CL-3b can not be closed out until 7th November 2008.

The calculations delivered on 26th November 2008 (Ref. 83) give more detailed information.

For Kuyucak wind farm project loan discussions are halted completely as mentioned via e-mail from the PP dated 10/12/2008 so the money for the investment is not available. An announced letter from Garanti bank proving these facts is expected within the next few days.

Along with the proposed revised PDD (Ref. 94) and a declaration from the Garanti Bank (Ref. 93) this is seen as sufficient proof that the project phases significant financial barriers which avoid the realisation of the project. Therefore CL-3b can be closed out.

Date:	05/08/2008			Raised by:	SGS		
No.:	4	Type:	CAR	Issue:	Monitoring plan and corresponding procedures are insufficient	Ref.:	B.11.1-3, B.11.5, B.12.1-2, B.13, F.1.1.2

Lead Assessor Comment	Date: 05/08/2008

a. SD indicators are not included in monitoring, please add to revised monitoring plan
b. Competences, responsibilities not defined, please add to revised monitoring plan
c. Day-to-day record handling and archiving not defined, please add to revised monitoring plan
d. Fall back options, emergency preparedness, default values and potential data adjustments, not defined, please add to revised monitoring plan
e. Report templates not defined, please add as e.g. demonstrated for the recent project Mare Anemon
f. monitoring of self-consumption is missing, please add to monitoring plan
g. description insufficient, please describe monitoring methodology in more detail
h. uncertainty is missing, please add
i. QA/QS system not treated, e.g. training, internal auditing, implementation of improvements, reviewing, please explain QA/QS system (for all parameters)

Project Participant Response:	Date: 02/10/2008

a. SD Monitoring plan:

The requested changes have been carried out in the PDD.

The project aims to create employment in the local region. The number of local employees will be monitored yearly to demonstrate that the project activity has contributed to local employment. The reason of selecting employment as a Sustainable Development Indicator is its significance for the local community. During the stakeholder consultation process, local stakeholders have indicated that their most relevant expectation from the project activity is the creation of new jobs for their villages. As the stakeholders have emphasized local employment as the most important social contribution, it is determined as the SD monitoring indicator.

In order to monitor the local employment the project activity has really created, a declaration form will be signed by the employee. This means that each local employee, who works for the project activity in different positions will fill in a certain standard declaration form that they are stemming from the project region and that they are working for the project activity. These declarations will be in Turkish language. A declaration form has been prepared by the carbon consultants, along with its English translation, both of which are attached to Annex 4. The local employees will only be monitored during operation of the project activity. Employment during the planning and construction will not be monitored.

The declarations will be signed annually by the local employees prior to verification and the scanned documents will be submitted to the verifying DOE.

b. Competencies and Responsibilities

SD Indicator Monitoring Plan: On behalf of the project participants, the project manager on site is responsible for filling in these declaration forms. A project manager on site is not appointed yet, therefore for the time being his or her name is not available. The signed forms will be scanned and submitted to the verifying DOE by Demirer Enerji. The responsible person in Demirer Enerji for this task is Ms. Cagla Balci Eris.

Net Electricity Generation Monitoring Plan: On behalf of the project participants, Ms. Cagla Balci Eris from Demirer Enerji will access the PMUM web site with own ID and password and print the monthly reports for the whole verification period prior to verification process. These reports will be used to fill in the summary table, which is the final document for calculating total emission reductions, basis for GS VERs. Both the scans of monthly PMUM reports and the summary table will be prepared by Ms. Cagla Balci Eris prior to verification and submitted to the verifying DOE.

Job descriptions for the project activity:

- **Carbon manager:** Ms. Cagla Balci Eris, Demirer Enerji
- **Engineer in charge of the Station**: Work units connected to him/her: Service Technicians, High Voltage Operators, and Station Information Personnel.
- **Service Technician:** Work units connected to him/her: none**.**
- **High Voltage Operator:** Work units connected to him/her: none

A Job responsibility for each type of positions is submitted as a separate file.

c. Record handling

The metering devices will measure a set of data types such as gross electricity generation and self electricity consumption 7/24 and store them in their internal memory. These data will also be monitored and recorded by a SCADA system, which are then stored electronically. The generation and consumption figures, which constitute the basis for invoicing TEIAS, are read by TEIAS personnel on the first day of the following month from the primary metering device. The read data is then electronically transferred on site by the TEIAS personnel without any intervention and the printout of the monthly generation data is then signed by both the TEIAS personnel and the site engineer. These printouts are then stored as hardcopy on site.

Daily, the hourly generation readings are transferred to TEIAS National Load Dispatch Center (Milli Yük Tevzi Merkezi) with the following schedule:

Time of reporting	Reported hourly generation figures
05:00	00:00-01:00 01:00-02:00 02:00-03:00 03:00-04:00 04:00-05:00
07:00	05:00-06:00 06:00-07:00
08:00	07:00-08:00
10:00	08:00-09:00 09:00-10:00
13:00	10:00-11:00 11:00-12:00 12:00-13:00
15:00	13:00-14:00 14:00-15:00
16:00	15:00-16:00
19:00	16:00-17:00 17:00-18:00 18:00-19:00
21:00	19:00-20:00 20:00-21:00
23:00	21:00-22:00 22:00-23:00
00:00	23:00-00:00 (total generation data submitted) (max. demand data submitted)

For internal recording purposes, the following data are monitored and recorded:

- Generation, voltage, air temperature and wind information: each hour
- Coupling, Transformer, current, voltage, output power: every 2 hours
- Switchgear hour establishment, battery, redressor group controls :every 8 hours
- Data numbers 1.8, 5.8, 8.8, 1.6, 2.8, 6.8, 7.8, 2.6 from the primary and secondary metering devices: every 2 hours

The collected data will be kept by Demirer Holding during the credit period and stored at least two years after the issuance of VER credits for the all wind power project activity in the concerning crediting period. Furthermore, PMUM web site, which is the main official data source for monitoring, provides all the generation and consumption data in electronic format.

d. Fall back options, emergency preparedness

The monitoring plan in the PDD has been revised according to the request.

In case of unforeseen problems or failures of the meters or if any difference occurs between primary and secondary device TEIAŞ has to be informed for necessary maintenance and calibration. TEIAŞ performs the necessary maintenance and calibration. If TEIAS determines that the seal of the primary metering device is torn apart or any intervention is made; correct power amounts are determined over the secondary meter, beginning from the latest measurement when the recorded values of the primary and the secondary metering devices match.
Both of the metering devices are sealed by TEIAŞ. Demirer cannot intervene with the devices; hence Demirer cannot make any maintenance or calibration to the metering devices by themselves. TEIAŞ is the main responsible for calibration and maintenance of the devices. In case of unforeseen problems or failures of the meters or if any difference occurs between primary and secondary device TEIAŞ has to be informed for necessary maintenance and calibration. The connection agreement between Demirer and TEIAŞ ensures that in case of problems or failures of the meters TEIAŞ reacts as fast as possible to solve the problem, TEIAŞ performs the necessary maintenance and calibration. Since the electricity generation data is used for the billing, the data is of high quality.

e. Reporting Templates for Monitoring

1. Net Electricity Generation Monitoring Plan: Based on PMUM monthly generation reports (to be acquired from the password-protected PMUM web site), a summary table will be filled-in. This summary table is in Excel format and is submitted to the DOE. This summary table and scans of PMUM monthly reports will be provided to the verifying DOE.
2. Local Employment Monitoring Plan: A declaration form has been prepared to be signed by local employees of the project activity during operation. This form is attached to the PDD (Annex 4). Scans of signed declaration forms will be provided to the verifying DOE.

f. Monitoring of self consumption

The revised PDD includes the explanation for the monitoring of self consumption.

Self consumption is being recorded and reported by the PMUM web site, similar to gross generation. The current monitoring plan includes both gross generation and self consumption and takes it into account with utmost data quality.

Please see response of CL 2 for further details.

g. Insufficient monitoring plan description

The monitoring plan in the PDD has been detailed as requested.

h. Uncertainty Assessment

Please see response of CL 2 for further details.

i. QA / QS

For the operation, Enercon, the wind turbine supplier provides detailed instructions for the maintenance, operation and quality assurance. Certain personnel have been trained and certificated by Enercon Service Turkey and TEIAS regarding technical and security issues (e.g. high voltage). Demirer Holding provides training to designated employees to ensure accuracy and completeness of data recorded.

Training: Enercon has trained some Demirer Enerji personnel for the following subjects:

- Health & Safety Officer Training (exemplary certificate attached)
- Work safety (exemplary certificate attached)
- Enercon technical training (exemplary certificate attached)

Internal Training for Health & Safety and Maintenance: A personnel from Demirer Enerji trains project staff with regards to QA and QS. The training material is submitted to the DOE in attachment.

Technical Inspection: Enercon provides guidance on technical inspection of wind turbines. For this purpose, some documentation is supplied to Demirer Enerji, which is also submitted to the DOE in attachment.

Demirer Enerji ensures with utmost attention that the quality of the wind turbines and the operation is as high as possible and carries out all kinds of necessary tasks such as periodic service, technical maintenance and training as prioritized functions. This way, continuous improvement of technical personnel and internal controlling is guaranteed, since the wind turbine agreements under discussion require the fulfilment of any QA/QS tasks by the project participant properly.

Project Participant Response:	Date: 10/11/2008

QA/QS regarding emission reductions:

ACM0002 Requirement	Conditions met?
Requirement All data collected as part of monitoring should be archived electronically and be kept at least for 2 years after the end of the last crediting period.	**Yes** A detailed overview is included in the PDD. Data will be archived electronically both by the project owner and PMUM settlement web site for at least 2 years after the end of the last crediting period. The readings from the measurement device are taken via an electronic device without human intervention. This task is carried out by a TEIAS staff with proper training. After taking the readings, they are electronically sent to the TEIAS electronic database on site, right after the reading is done. This is again done automatically, without the risk of human intervention. Therefore, the error margin and risk regarding emission reductions (which is directly related to net electricity generation by the Project Activity) are minimal. During reading and uploading of generation data, the risks are minimum regarding: • **Obtaining the data** from the measurement device: Data transfer occurs electronically, no hand-writing is necessary. The TEIAS staff's involvement is minimal and is basically limited to connecting his own electronically reading instrument to the measurement device. • **Measurement Quality**: As explained in the PDD, the measurement devices (which are in agreement with UNFCCC accuracy standards) are calibrated initially and periodically by 3rd parties. Moreover, in case of any malfunctioning the secondary measurement device is always available for use. The electricity generation is measured all electronically, without any human intervention. • **Data Storage:** Data is stored all electronically inside the measurement devices. No external disks or storage devices are used, which could potentially lead to physical damage to the stored data. No human intervention is possible (no hand writing, no data copying by personnel etc). At the same time, a SCADA system monitors the measurement data, without any intervention, and stores it. After the reading and uploading is completed by the TEIAS personnel, the same data is also stored in the PMUM website for an unlimited period of time. • **Data Quality:** The emission reductions are calculated based on net electricity generation. The calculation is based on PMUM data and carried out by a specially prepared Excel-file (already submitted to the DOE). There is no hand-writing or similar intervention. The only manual process is copying monthly PMUM data into the Excel file month by month, for a period of one year. In order to ensure high data quality and prevent even smallest errors, print-outs of these monthly PMUM reports will also be attached to the monitoring report for verification purposes. The spreadsheet software is able to calculate emission reductions automatically very accurately, thus reducing the risk of any miscalculation. TEIAS gives necessary trainings to its personnel to guarantee flawless data transfer. The project owner also trains its own personnel to ensure good maintenance of the Project Activity. This makes sure that the net electricity generation data is correct, so that emission reductions are calculated in the most conservative and accurate way.

ACM0002 Requirement	Conditions met?
Requirement 100% of the data should be monitored if not indicated otherwise in the tables below.	**Yes** All data necessary is monitored. *No* sampling is done, therefore data is of high quality. All of the electricity generation and consumption data is daily measured, recorded and stored by a primary and a secondary measurement device and they are aggregated monthly by TEIAS. The monitoring plan involves the use of all the data monitored, *without* any omission or filtering. Therefore, there is no risk of over- or underestimating the emission reductions of the project. When required by the verifying DOE, the Project Owner will access the PMUM web site with its own ID and password and provide any kind of stored electricity generation/consumption data to the DOE to ensure data quality. Periodical electricity sales invoices are available to the verifying DOE, if requested. The Project participants have appointed a carbon manager responsible for conduction the monitoring tasks. The name of the manager is Ms. Cagla Balci Eris, who also possesses access to the PMUM web site in the name of the Project participants. Ms. Cagla Balci Eris holds a BSc degree and has prior experience in preparation of similar verification folders for other projects of the Project proponents. Therefore, the responsible person assigned by the Project proponents has the capabilities to carry out the necessary tasks for monitoring. Her tasks include collection of monthly electricity generation and consumption data from the PMUM web site and transfer of these data to the Excel file, which automatically calculates the annual emission reductions in agreement with the monitoring report. The carbon manager is further responsible for handing out and collection of the local employment forms. The carbon manager will then submit the filled-out local employment forms, the emission reductions Excel file and the scans of monthly PMUM reports to the verifying DOE.
Requirement All measurements should be conducted with calibrated measurement equipment according to relevant industry standards.	**Yes** All the equipment is calibrated by certified 3rd parties or TEIAS itself. Their accuracy is ensured by TEAIS and related regulations to prevent any errors. The Turkish communiqué for electricity measurement devices is in line with relevant industry standards and has stricter requirements than the UNFCCC thresholds (1%). The national regulation has an accuracy requirement of 0.5% and thus fulfils the requirement. This communiqué was already submitted to the DOE. Both meters will be owned by the Project Owner, however it will have no access or intervention to both devices. The calibration of the measurement devices is also scheduled with a periodic maintenance plan (see PDD), and they are sealed to prevent any unauthorized access.

Technical Infrastructure

A single-line connection plan for the Çataltepe 16 MW wind farm is given below. Final connection plans for other projects are not finalized yet, however the same technical layout applies for them as well. Two measurement devices measure the electricity generation and consumption and afterwards the generated electricity is supplied to the transformer station, after which the transmission line connects to the medium- or high-voltage electricity grid.

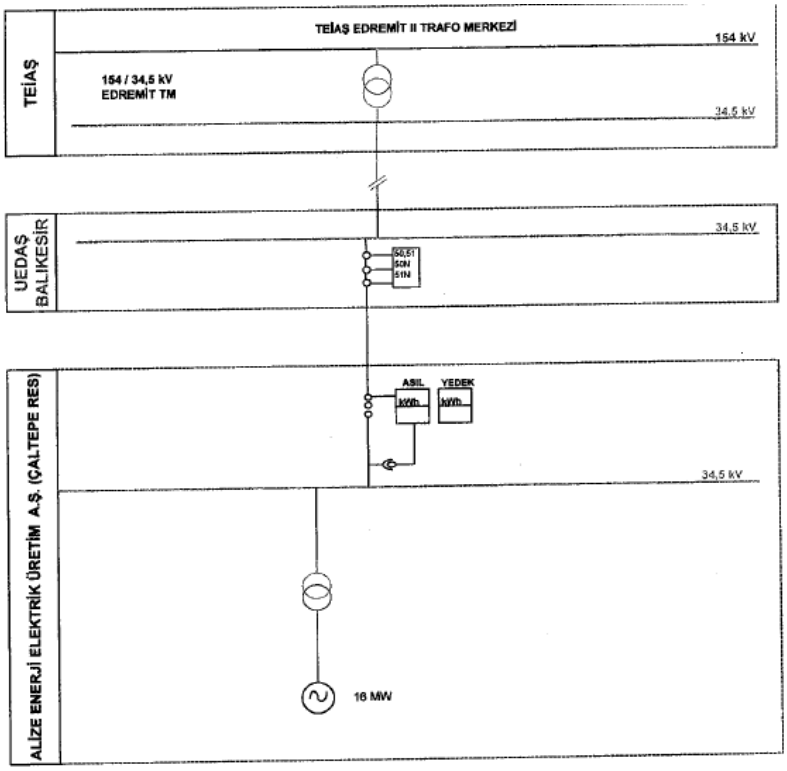

Figure 2. Single line layout for the Çataltepe 16 MW wind farm

All 4 projects will be connected to the TEIAS system via special communication networks. The projects will be communicating with PMUM real-time enabling high quality voice and data transfer. An indicative layout for the Sarikaya wind farm project is shown below. Although layouts of other projects are not finalized yet, their technical structure will be very much the same.

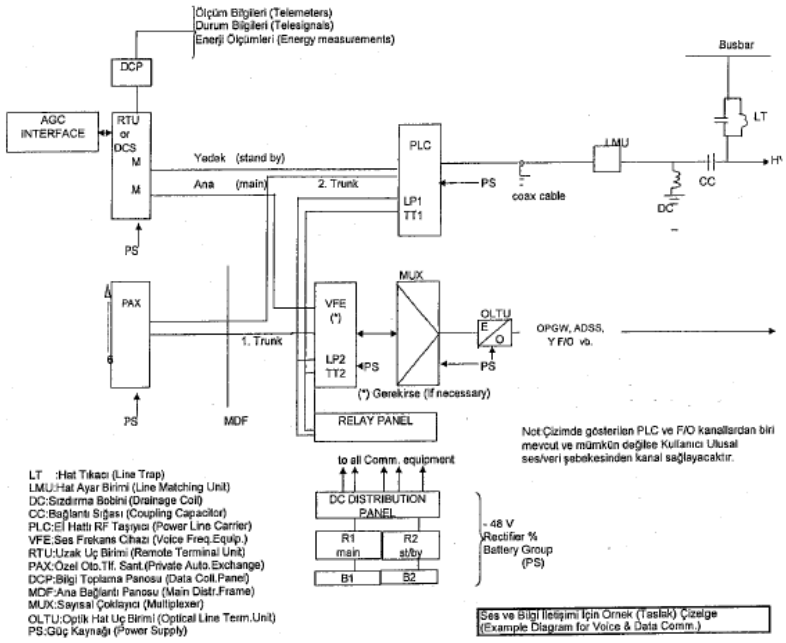

Figure 3. Communication / Network layout for the Sarikaya 28.8 MW wind farm

Emergency / Failure scenario

An agreement between the project owner and TEIAŞ will clearly describe the responsibilities and data quality assurance in case of any failure.

Observation of Errors: During the reading, figures measures by the primary and secondary measurement devices will be compared with each other. If the difference is significantly large, depending on the technical circumstances the possibilities are:

- TEIAS may decide to use the secondary measurement device for invoicing. In this case, the TEIAS personnel dismount the primary measurement device according to technical instructions and his training and send it directly without any intervention to TEIAS calibration center for checking. In the meantime, TEIAS installs a backup device for a limited period of time, without any intervention of the Project Owner.
- TEIAS may decide to uninstall the secondary measurement device. In this case, a backup device is installed by TEIAS for a limited period of time, without any intervention of the Project Owner. The uninstalled device is sent to TEIAS calibration center. If the device is repaired, it is replaced with the backup device by TEIAS personnel, without Project Owner's intervention. If the device cannot be repaired, a new device is purchased by the Project Owner and calibrated without Project Owner's intervention.

If TEIAS determines that the seal of the primary metering device is torn apart or any intervention is made; correct power amounts are determined over the secondary meter, beginning from the latest measurement when the recorded values of the primary and the secondary metering devices match.

QA/QS Conditions in the Connection Agreement:

Depending on the connected network, the Project Owner has to conclude a connection agreement with either distribution company (if the connected network belongs to a distribution company) or transmission line operator TEIAS (if the transmission line is high voltage and belongs to TEIAS).

There are no draft agreements yet.

The relevant legislation ensures proper measurement, recording, data transfer and storage and requires a specific connection agreement template. The conditions included in this agreement guarantees high quality in terms of QA/QS for electricity generation and consumption data. As these data are closely correlated with emission reductions, the amount of annual emission reductions is assured by national regulations. According to the legislation, the following issues are required;

- The measurement devices shall be selected according to the relevant communiqué
- The measurement system design will be prepared by the project owner and will be submitted to the line operator (distribution company or TEIAS) for approval
- The line operator will register the measurement system, check its compatibility with the submitted design and carry out the necessary sensitivity control
- The Project Owner has to install two separate measurement systems; one primary and one secondary
- One of the two parties can request a testing of a measurement device anytime, in this case the test will be conducted in front of both representatives.
- The secondary measurement device will be used instead of the primary device in one of the following cases:
    - The seal of the primary measurement devices is broken
    - Any type of intervention is observed which leads to misreading of the primary device
    - Primary device does not record / store the readings
    - After testing / checking it is found out that the primary device has an unacceptable accuracy

  In such a case, as a basis the last reading will be used, when the readings of the primary and the secondary devices were equal.
- Legal procedures will be initiated by the line operator in one of the following cases:
    - The seal of the secondary measurement device is broken as well
    - Any type of intervention is observed which leads to misreading of the secondary device as well
    - Secondary device does not record / store the readings as well
    - After testing / checking it is found out that the secondary device has an unacceptable accuracy as well

The attached connection agreements have also a detailed description of technical requirements guaranteeing accurate calculation of emission reductions in a most conservative way, as the conditions of the agreement are mostly in favour of the line operator. The Annexes of the agreements provide detailed technical information about the tasks under various scenarios (when, how, by whom etc.), therefore the line operator very much attends to the Quality Assurance and Quality System issues. The Annexes cover the following subjects: 1-Connection Details, 2-Project Boundaries, 3-Safety System, 4-Initial Test Procedures.

Acceptance and Close out by Lead Assessor:	Date: 24/10/2008 / 28/11/2008

Information Provided: revised monitoring plan as part of the revised PDD vers. 2 gives information about monitored SD indicator no. 2 namely local employment (a); by the revised monitoring plan and job descriptions competences, responsibilities of personnel are defined (b); detailed and transparent information concerning record handling and archiving is given as well as templates (c); fallback-option in the case of unforeseen failure of the meters are included in the revised monitoring plan (d), report templates are defined and part of the revised monitoring plan (e); metering of self-consumption is well described (f); the monitoring plan has been revised and fulfils the requirements, see as CL-2 (g); uncertainty assessment is treated with in sufficient manner, see also CL-2 (h); the QA-/QS-system is well described by numerous documents especially from ENERCON, qualification of personnel is documented by exemplary certificates (i), but misses the relation to emission reductions which is the main topic of QA /QS until 7th November 2008. On 26th November 2008 more detailed description is provided how net generation measurements will be carried out (see response of the project participant above). Further details are included in the connection agreement (Ref. 84). Information Verified: see right	Verified Document Reference: Ref._55_PDD-version-2....pdf Ref._65_JobDescriptions.pdf Ref.-66_SummaryTable.xls Ref._57_TR-MeteringDeviceRegulation.pdf Ref._67_Working Procedure kWh-Metering.pdf Ref._68_InternalTraining.pdf Ref._69_TechnicalInspection1.pdf Ref._70_TechnicalInspection2.pdf Ref._71_Emergency.pdf Ref._72_EnerconCertificates.pdf
Reasoning for not acceptance or acceptance and close out: Because of the detailed information and documents provided especially the revised monitoring plan CAR-4 a-h can be closed out, CAR-4 i is still open. Because of the information provided, last on 26th November CAR-4 was closed out in total.	

Date:	06/08/2008			Raised by:	SGS		
No.:	5	Type:	CAR	Issue:	EIA	Ref.:	B.9.1-2, B.10.1-2, B.10.4-6, D.1.1-4

Lead Assessor Comment	Date: 05/08/2008

a. identification if project sites are located within bird migration pathes (except Kuyucak) is missing; please provide maps and expert opinion if bird migration is effected by wind farms
b. lenght and location of access roads not treated in EIAs, please provide information about access roads in the revised document
c. EIAs of transmission lines missing, please provide appropriate information in the revised PDDs

Project Participant Response:	Date: 02/10/2008

a. For **Kuyucak** wind farms, plans for road construction are under preparation and will be submitted to the DOE when ready.

b. For **Kuyucak** wind farms the TL EIA reports are not prepared yet and expected a considerable time later. Project participants do not have the right to forward it to 3rd parties, as its rights belong to TEIAS.

Appropriate revision is added to the revised PDDs, as requested.

TEIAS is responsible for the construction and operation of the transmission lines in Turkey. Although the wind farm itself is not subject to EIA, in Turkey transmission lines equal or above 154 kV are subject to a TL EIA report. In theory, it is TEIAS's responsibility to prepare the EIA reports, however in practice the project participants have to finance this report. Authorized EIA consulting companies prepare and submit this TL EIA reports in the name of TEIAS. If any critical issue regarding TL environmental impacts is seen by the Ministry, then a revision is requested. After the TL EIA report is authorized, the TL can be built. The rights of the TL EIA belong to TEIAS and project participants have only the role to provide the finance for it.

Acceptance and Close out by Lead Assessor:	Date: 25/10/2008 / 28/11/2008

Information Provided: For Kuyucak wind farm any information is delivered (c); EIA for transmission line (TL) is necessary for Kuyucak wind farm. Information Verified: see right	Verified Document Reference:

Reasoning for not acceptance or acceptance and close out:
Because of the information provided CAR-5 a, b and c can be closed out.
The issue **b** can be closed due to negative impact on the environment of access roads is assumed minor compared to positive impact of the wind farm. The balance for the environment is assumed positive.
The issue **c** can be closed because it is ensured that the TL can only by constructed if it is in compliance with environmental legislation. With other words, if it is not allowed to construct the TL than it is most likely that the wind farm will not be constructed either.

Date:	06/08/2008			Raised by:	SGS		
No.:	6	Type:	CAR	Issue:	Formal aspects	Ref.:	A.2.1, A2.3, A.3.1-2, A.4.1-2, A. 4.6, A.4.13.3, A.5.1-2, B.7.1-2, B.7.4, B.7.6, B.8.3

Lead Assessor Comment	Date: 05/08/2008

a. UNFCCC PDD Vers. not recent, please provide update; GS PDD template is not used, clarification with GS required
b. Use U.S. punctuation, please revise all related documents
c. Annex 1 doesn't show contact details of all project participants, please complete
d. Wrong reference to annex 6, please revise text and provide information which should be given in annex 6
e. Wrong headline number of common practice analysis, please correct
f. different status quo concerning baseline calculation (tables 5 and 6), differences to EMRA data needs explanation; please use equal statuses
g. starting dates (point in time of project realisation decision) must be before start of operation, please revise starting dates according to actual planning
h. not most recent and **consistent** overall documents are used (predicted generation, emission reductions), please use most recent data

Project Participant Response:	Date: 02/10/2008

a. UNFCCC PDD version is updated, as requested, from v.03.1 to v.03.02.
GS does not absolutely require its own PDD template to be used. This can also be seen from some of the other validated GS PDDs[1] in the GS registry.
b. Punctuation in the PDDs has been revised as requested.
c. The Annex 1 in the PDDs has been updated according to the request.
d. Wrong cross reference in the PDD could not be found.
e. Headline number of the common practice analysis has been corrected as requested.
f. The discrepancy, stemming from official EMRA data, has been corrected by EMRA. The new data is updated in the revised PDD, as requested.
g. The project realization decisions of all four projects are *not* given yet. Neither construction nor operation of the projects has started yet. The point in time of project realization decision is not known yet. The formal investment decision will be met later. The current time schedule for construction and operation of the project activities is valid and no change is foreseen yet. When the formal investment decision is met (signing the loan agreement or ordering the turbines), this date will be revised in the PDD and the DOE will be informed accordingly.
h. The emission reduction calculations will be revised soon in consistency with the most recent micrositing results. The micrositing evaluation will be updated soon and submitted to the DOE as requested. Based on it, the electricity generation figures will be revised with the most recent data. Please note that the actual generation and emission reduction amounts will be found during the verification process.

Project Participant Response:	Date: 10/11/2008

[1] Examples include https://gs1.apx.com/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=188&IDKEY=sq934lkmsad39asjdkfj90qlkalsdkngaf98ulkandDfdvDdfhd259252 , or https://gs1.apx.com/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=990&IDKEY=o8723kjnf7kjandsaslmdv09887vaksmrmnwqkjoiuanfnfuq0k1365210

a. The PDDs have been updated using the GS PDD template, as requested. Please note that the content has not been changed, meaning that the new PDDs has the same core content as the previous version, however there are some less relevant adjustments to adjust the PDD according to the GS template. The new PDDs with GS format are submitted to the DOE as separate documents. h. The starting date of the project is decided in terms of turbine orders. Although the loan agreements and some permits are not available yet, the project owner has ordered the turbines at its own risk (as a result of delivery bottlenecks of turbined producers and the limited time for the construction period). The turbine orders are submitted to the DOE separately and their validity start dates are as follows 30/09/2008.	
Acceptance and Close out by Lead Assessor:	Date: 25/10/2008 /28/11/2008
Information Provided: a. PDD is updated; GS PDD template is not used until 07/11/2008, but is used for the revised PDD ver. 03 (Ref. 80). b. U.S. punctuation is used in the revised PDD ver. 2. c. Annex 1 of the revised PDD vers. 2 contain correct contact details. d. Page 5 of the Kuyucak wind farm's PDD indicates that more detailed coordinates may be found in Annex 6 which wasn't the case. Anyway the information of chap. A.4.1.4 in combination with the map in annex 6 is sufficient for localisation of the project area. e. Headline number is corrected in the revised PDD v. 2. f. EMRA data is corrected in the revised PDD ver. 2. g. According to the PP time schedule doesn't need to be actualized at the moment. Dates need be revised after formal investment decision. As demonstrated on 26/11/2008 by the turbine contract agreement (Ref. 82) start of the project will be later than the contract becomes valid. For Kuyucak wind farm the staring date was revised (Ref. 80). Investment decision was not yet made. h. Generation license for the wind farm was delivered. i. Because micrositing by ENERCON is not yet finished predicted generation and emission reductions are not revised by ENERCON. Corresponding work was done by the project participant and is accepted as preliminary. The note of the PP that actual generation and emission reduction amount will be found during verification is correct. Information Verified: see right	Verified Document Reference: Ref._55_PDD-version-2....pdf Ref._3_KuyucakGenerationLicense.pdf Ref._80_Kuyucak-GS-VER_PDD-v3.pdf Ref._82_Kuyucak Turbine Contract Agreement.pdf Ref._87_Mail19Aug2008GS.pdf
Reasoning for not acceptance or acceptance and close out: Due to the information provided CAR-6 a (part 1), b-g, i, and j can be closed out. For CAR-6 a (part 2) and h any or not sufficient information is provided until 7th November 2008. For PDD vers. 03 (26/11/2008) the GS template is used and CAR-1a (part 2) was closed out. Project schedule is supported by turbine contract agreement; data need to be revised after investment decision. Therefore CAR-1 h was closed out.	

A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name: Gross, Jochen.

Status

-	Lead Assessor	x	-	Expert	x
-	Assessor	x	-	Financial Expert	
-	Local Assessor	x	-	Technical Reviewer	x

Scopes of Expertise

1. Energy Industries (renewable / non-renewable) **x**
Sub scope(s): Combined heat and Power & Waste Heat

2. Energy Distribution
Sub scope(s):

3. Energy Demand
Sub scope(s):

4. Manufacturing
Sub scope(s):

5. Chemical Industry
Sub scope(s):

6. Construction
Sub scope(s):

7. Transport
Sub scope(s):

8. Mining/Mineral Production
Sub scope(s):

9. Metal Production
Sub scope(s):

10. Fugitive Emissions from Fuels (solid, oil and gas)
Sub scope(s):

11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
Sub scope(s):

12. Solvent Use
Sub scope(s):

13. Waste Handling and Disposal
Sub scope(s):

14. Afforestation and Reforestation
Sub scope(s):

15. Agriculture
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 19/10/2010

Statement of Competence

Name: Cetin, Aslihan, SGS Affiliate:

Status

-	Lead Assessor		-	Expert	
-	Assessor		-	Financial Expert	
-	Local Assessor	Turkey	-	Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)
Sub scope(s):

2. Energy Distribution
Sub scope(s):

3. Energy Demand
Sub scope(s):

4. Manufacturing
Sub scope(s):

5. Chemical Industry
Sub scope(s):

6. Construction
Sub scope(s):

7. Transport
Sub scope(s):

8. Mining/Mineral Production
Sub scope(s):

9. Metal Production
Sub scope(s):

10. Fugitive Emissions from Fuels (solid, oil and gas)
Sub scope(s):

11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
Sub scope(s):

12. Solvent Use
Sub scope(s):

13. Waste Handling and Disposal
Sub scope(s):

14. Afforestation and Reforestation
Sub scope(s):

15. Agriculture
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 15 January 2010

Statement of Competence

Name: Tong, Karen

Status

-	Lead Assessor	x	-	Expert	x
-	Assessor	x	-	Financial Expert	
-	Local Assessor	x	-	Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	**x**
Sub scope(s): Hydro, Wind	
2. Energy Distribution	
Sub scope(s):	
3. Energy Demand	
Sub scope(s):	
4. Manufacturing	
Sub scope(s):	
5. Chemical Industry	
Sub scope(s):	
6. Construction	
Sub scope(s):	
7. Transport	
Sub scope(s):	
8. Mining/Mineral Production	
Sub scope(s):	
9. Metal Production	
Sub scope(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Sub scope(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Sub scope(s):	
12. Solvent Use	
Sub scope(s):	
13. Waste Handling and Disposal	
Sub scope(s):	
14. Afforestation and Reforestation	
Sub scope(s):	
15. Agriculture	
Sub scope(s):	

Approved Member of Staff by: Siddharth Yadav Date: 09/03/2010

Statement of Competence

Name: Dina Bauer

Status

-	Lead Assessor		-	Expert	
-	Assessor	x	-	Financial Expert	
-	Local Assessor	Germany and Costa Rica	-	Technical Reviewer	

Scopes of Expertise

1. **Energy Industries (renewable / non-renewable)**
Sub scope(s):
2. **Energy Distribution**
Sub scope(s):
3. **Energy Demand**
Sub scope(s):
4. **Manufacturing**
Sub scope(s):
5. **Chemical Industry**
Sub scope(s):
6. **Construction**
Sub scope(s):
7. **Transport**
Sub scope(s):
8. **Mining/Mineral Production**
Sub scope(s):
9. **Metal Production**
Sub scope(s):
10. **Fugitive Emissions from Fuels (solid, oil and gas)**
Sub scope(s):
11. **Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride**
Sub scope(s):
12. **Solvent Use**
Sub scope(s):
13. **Waste Handling and Disposal**
Sub scope(s):
14. **Afforestation and Reforestation**
Sub scope(s):
15. **Agriculture**
Sub scope(s):

Approved Member of Staff by: Siddharth Yadav Date: 23/09/2010

Statement of Competence

Name: Irma Lubrecht

Status

-	Lead Assessor	x	-	Expert	x
-	Assessor		-	Financial Expert	
-	Local Assessor		-	Technical Reviewer	x

Scopes of Expertise

1.Energy Industries (renewable / non-renewable)	
Sub scope(s):	
2.Energy Distribution	
Sub scope(s):	
3.Energy Demand	
Sub scope(s):	
4.Manufacturing	
Sub scope(s):	
5.Chemical Industry	
Sub scope(s):	
6.Construction	
Sub scope(s):	
7.Transport	
Sub scope(s):	
8.Mining/Mineral Production	
Sub scope(s):	
9.Metal Production	
Sub scope(s):	
10.Fugitive Emissions from Fuels (solid, oil and gas)	
Sub scope(s):	
11.Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Sub scope(s):	
12.Solvent Use	
Sub scope(s):	
13.Waste Handling and Disposal	
Sub scope(s):	
14.Afforestation and Reforestation	
Sub scope(s):	
15.Agriculture	**x**
Sub scope(s): Urea Fertilization	

Approved Member of Staff by: Siddharth Yadav Date: 15/06/2010