

**Swiss Association for Quality and
Management Systems (SQS)**

Bernstrasse 103
P.O. Box 686
CH-3052 Zollikofen
Tel. +41 31 910 35
Fax. +41 31 910 35 45
headoffice@sqs.ch
www.sqs.ch

CDM Validation Report

Enterprise

Business account:
Company:
Address:

322860
Mabanaft Carbon B.V.
Wilhelminakade 101 (43rd floor)
NL-3072 AP Rotterdam

Phone:
Fax:
E-Mail:
Contact person:

+31 10 290 69 42
+31 10 411 07 53
patricia.rosenthal@mabanaft.nl
Ms Patricia Rosenthal

Service

Audit/Assessment:
Audit/Assessment beginning/end:
Project name:
GBZ/Report-No.:

CDM PoA Validation
27/09/2011 – 14/09/2012
South Africa Wind Energy
323989 / P31934.55

UNFCCC Scope(s)/Technical area(s):
UNFCCC Methodology:

1 Energy
ACM0002 (Version 12.3.0) for Consolidated baseline methodology for grid-connected electricity generation from renewable sources

UNFCCC Scale:

Large-scale, Programme of Activities

Team of auditors/assessors:

Mr Zsolt Lengyel
Mr Martin Enderlin

Approved by

Date

Signature

Lead auditor/assessor:
Mr Zsolt Lengyel

13/09/2012



Reviewers:
Mr Oliver Stankiewicz

14/09/2012



Executive Board:
Mr Silvio Leonardi

14/09/2012

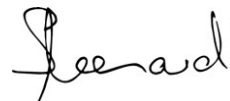


Table of Contents

1	Introduction.....	3
1.1	Objective	3
1.2	Scope	3
1.3	The Programme of Activity and first CPA at glance	4
1.4	Validation approach	5
2	Validation Opinion	7
2.1	Summary of validation conclusions.....	7
2.2	Summary of the validation methodology and process used and the validation criteria applied	7
2.3	Description of project components or issues not covered by the validation process	8
2.4	Statement on the validation of the expected emission reductions for the 1 st CPA.....	8
2.5	Statement whether the proposed CDM project activity meets the stated criteria	8
3	Validation Findings	9
3.1	Global stakeholder consultation	9
3.2	Approval	9
3.3	Authorization	10
3.4	Contribution to sustainable development	10
3.5	Modalities of communications	10
3.6	Project design document	10
3.7	Description of project activity	11
3.8	Application of the selected baseline and monitoring methodology	12
3.8.1	General	12
3.8.2	Applicability of the selected baseline and monitoring methodology to the PoA and the 1 st CPA.....	13
3.8.3	Deviation from an approved methodology	14
3.8.4	Clarification on the applicability of an approved methodology	14
3.8.5	Project boundary of PoA and 1 st CPA.....	14
3.8.6	Baseline scenario identification and description	15
3.8.7	Algorithms and/or formulae used to determine emission reductions	16
3.8.8	Additionality of the project activity.....	18
3.8.9	Identification of alternatives to the project activity consistent with current laws and regulations.....	18
3.8.10	Investment analysis	19
3.8.11	Barrier analysis	27
3.8.12	Common practice analysis.....	27
3.8.13	Eligibility criteria for inclusion of a CPA in the PoA	28
3.8.14	Operational and management arrangements of the CME	31
3.8.15	Validation of the specific CPA (1 st CPA)	33
3.9	Monitoring plan	34
3.10	Environmental impacts.....	35
3.11	Local stakeholder consultation.....	35
4	List of Interviewees and Documents Reviewed	37
5	Validation Team and Reviewer.....	37
6	Quality Control.....	37
7	Appendix A and B: On-Site Visit Programme & Interviews.....	38
8	Appendix C: Documents Reviewed	39
9	Appendix D: Certificates of Competence.....	40
10	Appendix E: Abbreviations	43
11	Appendix F: Validation Protocol	

1 Introduction

1.1 Objective

Mabanaft Carbon B.V. has retained SQS to validate the “South Africa Wind Energy” PoA (hereafter referred to as “the project”).

The objective of the validation process is to provide an independent assessment by a third party, a Designated Operational Entity (DOE), of a proposed Programme of Activities (PoA).

The assessment involves the evaluation of the project basis and design identified in the PoA-DD, CPA-DD generic and CPA-DD real case using the defined criteria outlined by the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and results in a conclusion by the executing DOE on whether or not a project (programme) activity is valid to be submitted for registration to the CDM Executive Board (CDM-EB).

The ultimate decision on the registration of a proposed PoA rests with the CDM-EB.

1.2 Scope

The scope of the validation is an independent and objective review of the project documentation, the PoA-DD, CPA-DD generic and CPA-DD real case and other documents using a risk-based approach and focusing on the identification of significant risks for project implementation and the generation of Certified Emission Reductions (CERs) against the criteria stated in:

- The Kyoto Protocol, in particular Article 12
- Decisions 2/CMP.1 and 3/CMP.1
- Modalities and Procedures for a Clean Development Mechanism
- Clean Development Mechanism Validation and Verification Manual (ver. 01.2)
- Decisions and specific guidance issued by the CDM EB published under <http://cdm.unfccc.int>
- Glossary of CDM terms (Version 06.0)
- ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources, Version 12.3.0
- Tool to calculate the emission factor for an electricity system, Version 02.2.0 EB 61 Annex 12
- Tool for the demonstration and assessment of additionality, Version 6.0.0, EB 65 Annex 21
- Guidelines on the Assessment of Investment Analysis, Version 05, EB 62, Annex 05
- Guidance on Prior Consideration of CDM Version 04, EB 62 Annex 13
- Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.0) EB 65 Annex 3
- Procedures for registration of a programme of activities as a single CDM project activity and issuance of CERs for a PoA (EB55 Annex 38)
- Eligibility of activities under the CDM (EB 33 Annex 30)
- Guidance on Programme of Activities (PoA) (EB 35 Annex 15)
- Guidelines for objective demonstration and assessment of barriers (EB 50 Annex 13)
- Guidelines for the reporting and validation of plant load factors version 01.1 EB48, Annex 11

- A comprehensive list of the normative references given in the validation protocol (Appendix F).

SQS has remained independent during the validation process, free from bias and conflict of interest. SQS has maintained objectivity throughout the validation to ensure that the findings and conclusions will be based on objective evidence generated during the validation.

SQS has maintained trust, integrity, confidentiality and discretion throughout the validation process. This report reflects truthfully and accurately the validation activities.

SQS has exercised due professional care and judgement in accordance with the importance of the task performed.

The PoA-DD, CPA-DD generic and CPA-DD real case validation findings are presented in a reporting structure in which

indented paragraphs will provide the validation findings related to the CPA-DD generic and real case and text with

normal margins will be used for the PoA-DD related findings.

In case of tabular format representation of the validation findings different columns will refer to the PoA-DD and the CPA levels as follows:

Criteria, parameter etc.	PoA related findings	1 st CPA related findings
--------------------------	----------------------	--------------------------------------

This presentational structure will provide for an easy distinction between the two levels of a PoA; the programme itself and the first, real implemented project activity component, the 1st CPA.

1.3 The Programme of Activity and first CPA at glance

The South Africa Wind Energy PoA [3] facilitates the development of new wind energy projects in the Republic of South Africa connected to the South African national grid. Each CDM Program Activity consists of one or more new wind energy parks having no limitations in their installed capacities. This PoA is a voluntary action coordinated and managed by Mabanaft Carbon B.V., a Netherlands registered company. The CME intends to work closely with wind power developers and other organisations active in the wind energy sector to promote the development of wind power and the inclusion of new wind farms in the PoA.

The first CPA "Copperton Wind Farm (Mabanaft-SA-Wind-001)" [3] is a new wind farm consisting of 20 wind turbine generators of 2.5 MW rated capacity each, totalling to 50 MW of installed capacity, connected to the national South African electricity grid. Due to the compulsory government tender conditions, the proposed CPA's eventual size will be within the range of 30 MW up to a maximum of 140 MW. The CPA-DD has been drafted considering any potential scenario with an installed capacity between the 30 MW minimum to 140 MW maximum.

This CPA will be located on Struisbult Farm (Farm No. 103 Portions 4 and 7 and Farm No. 104 Portion 5), located approximately 5 km east of the town of Copperton in the Northern Cape province of the Republic of South Africa and the geographical coordinates were confirmed during validation as follows: 29°53'50.65" South and 22°20'55.93" East [21].

The wind park will produce 94 870.8 MWh per year. The 1st CPA is expected to reduce 93 647 tCO₂ annually, resulting in 655 529 t CO₂ emission reductions in the first 7-year crediting period by producing electricity from a renewable source substituting for fossil fuel based electricity generation [6].

PoA project participants (PPs) are:

- The authorised CME of the PoA: Mabanft Carbon B.V., registered in The Netherlands

The CDM-POA-DD [1] was published for global stakeholder consultation on 30/11/2011.

The starting date of the 1st CPA is by the second half of 2013, the date of financial closure provided the project is selected as a winner of the ESKOM tender. Though the DOE is not required to assess prior consideration of CDM for PoAs in line with EB 62 Annex 13 requirements, it is confirmed that the first component of the programme will commence after the start date of validation, 27/09/2011, the contract signature for validation. The 1st CPA will reach financial closure by second half of 2013 which will be considered as the starting date of the CPA. The 1st CPA, uses the renewable, 21-year period and its first 7-year crediting period will start on 01/01/2016 or the commissioning date of the wind park if it is later than 01/01/2016.

The starting date of the PoA will be 30/09/2012 or the date of registration as a CDM PoA, whichever is the latest. The length of the programme of activities is the maximum allowed, namely 28 years.

1.4 Validation approach

The DOE applies standard auditing techniques to assess the correctness, accuracy, relevance, completeness, consistency, transparency and conservativeness of the information provided by the PPs, including, where appropriate, but not limited to:

- Document review, involving: review of data and information to verify the correctness, credibility and interpretation of information, cross-checks between information provided in the PDD and information from other sources, if available, and if necessary independent background investigations.
- Follow-up actions (on-site visit, telephone, email interviews), including: interviews with relevant stakeholders in the host country, personnel with knowledge of the project design and implementation and cross-checks between information provided by interviewed personnel to ensure that no relevant information has been omitted from the validation.
- Reference to available information relating to projects or technologies similar to the proposed CDM project activity under validation.
- Review, based on the approved methodology being applied, of the appropriateness of formulae and correctness of calculations.

Requests: The DOE raises a corrective action request (CAR) if:

- The PPs have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The CDM requirements have not been met; or
- There is a risk that emission reductions cannot be monitored or calculated.

The DOE raises a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

The DOE raises a forward action request (FAR) during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs do not relate to the CDM requirements for registration.

The PP shall respond to all requests with sufficient evidence.

The DOE resolves or “closes out” CARs and CLs only if the PPs modify the project design, rectify the PDD or provide adequate additional explanations or evidence that satisfies the DOE’s concerns. If this is not done, the DOE does not recommend the project activity for registration to the CDM Executive Board.

Methodology-specific validation protocol: To organize its validation of methodology-specific requirements, the DOE has used a methodology-specific validation protocol for the project, attached to this report as Appendix F. The validation team has the necessary skills and competences to undertake the validation as listed in Appendix D: Certificates of Competence.

2 Validation Opinion

2.1 Summary of validation conclusions

Based on

- PoA-DD, generic CPA-DD and 1st CPA-DD Version 3 dated 06/07/2012 []
- Consulted documents listed in Appendix C
- The Kyoto Protocol, in particular Article 12
- Decisions 2/CMP.1 and 3/CMP.1
- Modalities and Procedures for a Clean Development Mechanism
- Clean Development Mechanism Validation and Verification Manual (ver. 01.2)
- Decisions and specific guidance issued by the CDM EB published under <http://cdm.unfccc.int>
- Glossary of CDM terms (Version 06)
- ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 12.3.0
- Tool to calculate the emission factor for an electricity system, Version 02.2.0 EB 61 Annex 12
- Tool for the demonstration and assessment of additionality, Version 6.0.0, EB 65 Annex 21
- Guidelines on the Assessment of Investment Analysis, Version 05, EB 62, Annex 05
- Guidance on Prior Consideration of CDM Version 04, EB 62 Annex 13
- A comprehensive list of the normative references given in the validation protocol
- Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.0) EB 65 Annex 3
- Procedures for registration of a programme of activities as a single CDM project activity and issuance of CERs for a PoA (EB55 Annex 38)
- Eligibility of activities under the CDM (EB 33 Annex 30)
- Guidance on Programme of Activities (PoA) (EB 35 Annex 15)
- Guidelines for objective demonstration and assessment of barriers (EB 50 Annex 13)
- Guidelines for the reporting and validation of plant load factors version 01.1 EB48, Annex 11
- A comprehensive list of the normative references given in the validation protocol (Appendix F).
- Site visit of 1st CPA and meetings with CME, authorities and CPA owner on 11-13/12/2011

It is SQS' opinion, that the project "South Africa Wind Energy" described in the PoA-DD, generic CPA-DD and 1st CPA-DD Version 3 [3] with a PoA length of 28 years, a PoA starting date of 30/09/2012 or the date of registration as a CDM PoA and the first crediting period of the 1st CPA from 01/01/2016 or its commissioning date to 31/12/2022 (or 7 years from commissioning date) meets all relevant criteria of the listed references.

SQS confirms that the approved large-scale baseline and monitoring methodology ACM0002, Consolidated baseline methodology for grid-connected electricity generation from renewable sources, Version 12.3.0 is applicable for this project activity and that the criteria are discussed in an exhaustive manner in the PoA-DD and supported by the submitted documents. Furthermore, the selected methodology is correctly applied and therefore, SQS requests the registration of the given CDM PoA.

2.2 Summary of the validation methodology and process used and the validation criteria applied

The PoA validation process has been carried out using the methodology described above in paragraphs 1.2. and 2.1.

In the course of the PoA validation according to VVM. 1.2 . para 168 SQS has assessed the specific CDM-CPA-DD (CPA-001) , which the PPs submitted together with the CDM-PoA-DD for validation, to determine whether or not it complies with the eligibility criteria specified in the PoA-DD [3].

The validation process has included

- a desk review of the POA-DD, generic CPA-DD and 1st CPA-DD [1,2,3] including the Annexes and the additional documents not limited to that provided by the PPs. All reviewed documents are listed in the Appendix C of this report.
- an on-site visit on 11-13/12/2011 including interviews. The detailed on-site visit programme and the full list of interviews is in Appendix A&B of this report.

7 CARs, 16 CLs and 3 FARs have been raised; all CARs and CLs are closed and the FARs will be addressed at the initial, first verification. As a consequence of these requests the PoA-DD has been modified from the original Version 1 (20/11/2011)[1] to the current Version 3 (06/07/2012)[3] , the generic CPA-DD has been modified from the original Version 1 (20/11/2011) [1] to the current Version 3 (06/07/2012) [3] and the 1st CPA-DD has been modified from the original Version 1 (20/11/2011) [1] to the current Version 3 (06/07/2012) [3].

2.3 Description of project components or issues not covered by the validation process

All project components have been covered by the validation process.

2.4 Statement on the validation of the expected emission reductions for the 1st CPA

The expected emission reduction of 93 647 tCO₂e per year and 655 529 tCO₂e for the first crediting period of 7 years is correctly, accurately and conservatively calculated for the 1st CPA, "Copperton Wind Farm (Mabanaft-SA-Wind-001)" located on Struisbult Farm (Farm No. 103 Portions 4 and 7 and Farm No. 104 Portion 5), located approximately 5 km east of the town of Copperton in the Northern Cape province of the Republic of South Africa (coordinates: 29°53'50.65" South and 22°20'55.93" East) so that the calculated emission reductions are most likely to be achieved, given that the underlying assumptions do not change [3,6]. SQS confirms that the starting date of the first crediting period is 01/01/2016 or the commissioning date of the wind farm whatever is at the later date.

2.5 Statement whether the proposed CDM project activity meets the stated criteria

Based on the observations made during the validation process SQS concludes that the proposed project activity complies with the requirements of paragraph 37 of the CDM modalities and procedures, the applicability conditions of the selected methodology and guidance issued by the CDM Executive Board.

It is the opinion of SQS that the statements in the documentation are complete, accurate, relevant, credible and reliable; the assumptions made in the PoA-DD and 1st CPA-DD are conservative.

3 Validation Findings

3.1 Global stakeholder consultation

The PoA-DD, generic CPA-DD and 1st CPA-DD Version 1 dated 20/11/2011[1] were published on 30/11/2011 for global stakeholder consultation open for comments for 30 days.

The project activity received no comments.

3.2 Approval

Receipt of Letter of Approval (LoA):

The LoA Host Party without reference number dated 06/07/2012 has been received [4]. The LoA is from the DNA of The Republic of South Africa, the Host Party.

LoA from the other party with reference 2011ANL589 dated 09/03/2012 has been received [5]. The LoA is from the DNA of The Netherlands.

They indicate the participation of each PP having been approved by a Party to the Kyoto Protocol. No entities other than those approved as PPs are included in the PoA-DD.

LoA source:

The host country LoA was directly received from the DNA of the South African Republic on 09/07/2012, three days after its issuance on 06/07/2012, and the LoA from The Netherlands was received from the PPs.

Authenticity:

The authenticity of the LoAs was confirmed through the issuers of the LoAs. The LoA issued by The Republic of South Africa is not yet listed on the DNA's website¹ however its authenticity is without doubt as it was emailed directly to SQS by the representative of the DNA. The LoA issued by The Netherlands is listed on the DNA's website² [25 - on page 37].

Statements:

The LoA host party, The Republic of South Africa, dated 06/07/2012 include clear statements that:

- a. The Republic of South Africa is a Party to the Kyoto Protocol Participation is voluntary;
- b. the proposed CDM PoA supports the sustainable development of The Republic of South Africa;
- c. It refers to the precise proposed CDM project activity title in the PoA-DD
- d. It refers to the first CPA's boundary as Copperton Wind Farm, Northern Cape Province

It must be noted that the LoA from The Republic of South Africa contains a list of additional conditions on its second page with a,b,c, and d marks. These conditions refer to the following:

1. The DNA may not be held liable in the event that ownership of the project is disputed;
2. The Project must be developed in accordance with the Project Design Document received by the DNA;
3. The must obtain all relevant authorisations as required by national laws;
4. DNA retains the right to withdraw the authorisation granted in terms of the Letter of Approval in the event of non-compliance with the Project Design Document;

¹ The website of the DNA of The Republic of South Africa:

http://www.energy.gov.za/files/esources/kyoto/2012/CDM_Projects_Portfolio_19_June%202012.pdf (last accessed on 17/07/2012)

² The website of the DNA of The Netherlands:

<http://www.agentschapnl.nl/sites/default/files/bijlagen/Overview%20of%20issued%20Written%20Approvals%20for%20participation%20in%20a%20CDM%20project%20activity%20per%204%20April%202012.pdf> (last accessed on 17/07/2012)

SQS validated that these additional conditions (1 to 4) introduced by the DNA of The Republic of South Africa do not compromise VVM article 45-46 requirements therefore, the LoA of The Republic of South Africa is unconditional with respect to (a) to (d) above. SQS sought clarification from the South African DNA and they clarified that the project changes referred in the conditions (No 2,4 above) are related to exclusively the changes for the Sustainable Development Contributions of the project and not to its technical part [33]. The LoA does not specify the PDD Version number.

The LoA from the other party, The Netherlands, dated 09/03/2012 includes clear statements that:

- a. The Netherlands is a Party to the Kyoto Protocol;
- b. Participation is voluntary;
- c. It refers to the precise proposed CDM project activity title in the PDD

The LoA is unconditional with respect to (a) to (c) above.

The LoA does not specify the PDD Version number.

The Netherlands LoA refers to the same Project Participant, Mabanaf Carbon B.V. as in the PDD submitted for registration. However, it must be noted that the word "Carbon" is written with a non capital character "C" and "B.V." is written as "BV". To avoid any misunderstandings by the use of these characters, SQS confirmed that "Mabanaf Carbon B.V." and "Mabanaf carbon BV" refer to the same entity. SQS has therefore investigated and concluded that there is no difference between "Mabanaf Carbon B.V." and "Mabanaf carbon BV" in this instance.

Letters of approval do not contain any additional specification of the project activity.

3.3 Authorization

The Coordinating or Managing Entity (CME) of the PoA and the PPs are listed in tabular form in section A.3 of the CDM-PoA-DD. This has been validated against the contact details provided in Annex 1 of the CDM-PoA-DD and the LoAs provided for both entities. The CME, Mabanaf Carbon B.V., is explicitly authorised by the host country DNA to act as the Coordinating and Managing entity for the PoA [4].

No entities other than the approved as PP are included in the A.3. section of the CDM-PoA-DD.

3.4 Contribution to sustainable development

The host Party's DNA confirmed the contribution of the project to the sustainable development of the host Party.

SQS was able to confirm during the on-site visit the 1st CPA's contribution to the sustainable development of both the local community and the host Party.

3.5 Modalities of communications

The Modalities of Communication statement, including its Annexes, is complete and has used the VVM-track applicable Version of the form "Modalities of Communication statement" (F-CDM-MOC)[26] and complies with all relevant forms and requirements.

3.6 Project design document

The PoA documentation [3] was completed using the latest applicable templates, namely the CDM -PoA-DD Version 01 and the CDM-CPA-DD Version 01. The PoA documentation complies with relevant forms and guidance and appropriate to the type of project activity.

3.7 Description of project activity

The description of the project activity contained in the PoA-DD and CPA-DDs is unambiguous, detailed and provides a good overview of the project. Its content was confirmed by means of document review, an on-site visit and interviews in the 11-13/12/2011 period in order to validate the accuracy and completeness of the project description. To avoid repetition, please refer to 1.3 for a brief project description.

SQS has undertaken the validation of the 1st CPA by reviewing the available documentation including the investigation of the Department of Energy tender requirements [11] under which all wind projects are developed in The Republic of South Africa.

Main changes between the PoA documentation (Version 1, dated 20/11/2011)[1] published for the 30-day stakeholder commenting period and the final Version (Version 3, dated 06/07/2012) [3], submitted for registration are issues related to the CARs and CLs identified during validation. The PoA documentation changes are related to CLs and CARs covering the following areas:

CAR1:LoAs of the project
CAR2: Project boundary and sources of gases
CL1: EIA content and processes
CL2,CL10,CL11: Local stakeholder Consultation rules and host country PoA rules
CL3: Public Funding
CL4: ESKOM tendering requirements under which all host country wind projects are developed
CAR4,CL5,CL9: Quality and management system (QMS) of the CME
CAR5,CAR7, CL6,CL7,CL12,CL15,: Additionality and investment analysis
CL8: Grid emission factor calculation
CAR3,CL13,CL14: Project progress and emerging EB decisions re. PoAs in the course of validation
CAR6: Common practice Analysis
CL16:Electronic version of evidences

The above mentioned 7 CARs and 16 CLs, the respective PP responses and SQS conclusions can be consulted in the final section of Appendix F, under the "Summary of Requests" heading. In addition, the three FARs raised during the validation process are included in Appendix F, under the "Summary of Requests" heading *"Technical description of the project activity"*.

Each CDM Program Activity consists of the construction of new wind parks.

The first CPA "Copperton Wind Farm (Mabanaft-SA-Wind-001)" [3] is a new wind farm consisting of 20 Nordex wind turbine generators of 2.5 MW rated capacity each [16], totalling to 50 MW of installed capacity, connected to the national South African electricity grid. Due to the compulsory government tender conditions the proposed CPA's eventual size will be within the range of 30 MW up to a maximum of 140 MW. The CPA-DD has been drafted considering any potential scenario with an installed capacity between the 30 MW minimum to 140 MW maximum.

This CPA will be located on Struisbult Farm (Farm No. 103 Portions 4 and 7 and Farm No. 104 Portion 5), located approximately 5km east of the town of Copperton in the Northern Cape province of the Republic of South Africa and the geographical coordinates were confirmed during validation as follows: 29°53'50.65" South and 22°20'55.93" East [21].

The wind park will produce 94 870.8 MWh per year. The 1st CPA is expected to reduce 93 647 tCO₂ annually, resulting in 655 529 tCO₂ emission reductions in the first 7-year crediting period by producing electricity from a renewable source substituting for fossil fuel based electricity generation.

General specifications of the 1st CPA's wind turbine generators³

Model of WTGs proposed	Nordex N100
Number of turbines	20 WTGs for 50 MW (Base scenario) Actual number of turbines will be dependent on final installed capacity of CPA
Generator	
Rated power	2 500 kW
Rotor	
Rotor Diameter	99.8 m
Swept area	7 823 m ²
Speed	9.6 – 14.8 rpm
Speed Control	Variable via microprocessor
Overspeed Control	Pitch angle
Gearbox	
Construction	Combined spur/platery gear or differential gearbox
Generator	
Construction	Double fed asynchronous generator
Cooling system	Liquid / air cooling
Voltage	660 V
Control	
Control centre	PLC controlled
Grid connection	Via IGBT controller
Distance control	Remote controlled surveillance system
Speed Control	Variable via microprocessor
Brake System	
Main brake	Pitch angle
Secondary brake	Disc brake

The description of the PoA and 1st CPA activity contained in the CPA-DD is unambiguous, detailed and provides a good overview of both the PoA and its 1st CPA.

Validation method

The accuracy and completeness of the project description was validated by:

1. A desk review of the PDD submitted by the client and additional supporting documents
2. On-site visit between 11/12/2011 - 13/12/2011 including interviews with PPs and affected stakeholders
3. Cross-checks with independent sources

The PoA-DD has additional data listed in its Annexes 2 and 3. The project will not receive and public funding; this has been declared by the CME for the PoA [13] and by the 1st CPA's developer, Plan 8, for the 1st CPA [14]. Additional information regarding the baseline is contained in Annex 3.

The DOE's validations opinion is that both the PoA and 1st CPA project description is accurate and complete.

3.8 Application of the selected baseline and monitoring methodology

3.8.1 General

The PoA and its CPAs apply the following methodology:

³ Based on manufacturer's information available at: http://www.nordex-online.com/fileadmin/MEDIA/Gamma/Nordex_Gamma_en.pdf (last accessed on 17/07/2012)

- ACM0002, Consolidated baseline methodology for grid-connected electricity generation from renewable sources, Version 12.3.0.

The project applies the following tools and guidelines:

- Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.0) EB 65 Annex 3
- Tool for the demonstration and assessment of additionality, Version 6.0.0, EB 65 Annex 21
- Tool to calculate the emission factor for an electricity system Version 02.2.1 EB 63 Annex 19
- Guidelines on the Assessment of Investment Analysis, Version 05, EB 62, Annex 5

3.8.2 Applicability of the selected baseline and monitoring methodology to the PoA and the 1st CPA

The methodology, ACM0002, is applied at POA and CPA level; the methodology's applicability is an explicit requirement for CPA inclusion. The table below details the applicability criteria compliance for both the PoA and CPA levels.

	Applicability Criteria	PoA	1 st CPA
1	The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit.	The PoA is based on wind power, a renewable energy generation technology. Its CPAs supply electricity to The Republic of South African national grid.	A new, national grid connected wind power park [3,11].
2	In the case of capacity additions, retrofits or replacements, the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	The PoA does not allow for capacity additions, retrofits or replacements.	The proposed 1 st CPA installs a new wind power park connected to the national grid [3,11].
3	In the case of hydro power plants, one of the following conditions must apply: <ul style="list-style-type: none"> • The project activity is implemented in an existing reservoir, with no change in the volume of reservoir. • The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m². 	The PoA is based on wind power.	The proposed 1 st CPA installs a new wind power park [3,11].

	The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m ² .		
4	<p>The methodology is not applicable to the following:</p> <ul style="list-style-type: none"> • Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site. • Biomass fired power plants. • Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m². 	The PoA is based on wind power therefore does not fall under any of the listed criteria.	The 1 st CPA is based on wind power therefore does not fall under any of the listed criteria [3,11]..

SQS confirms that the baseline and monitoring methodology ACM0002, consolidated baseline methodology for grid-connected electricity generation from renewable sources, Version 12.3.0 is applicable for the PoA and its 1st CPA, that the criteria are discussed in an exhaustive manner in the PoA-DD and CPA-DD and supported by the submitted documents.

Non-coverage by the methodology

No GHG emission within the project boundary is caused by the implementation of the 1st CPA, which contributes more than 1% of the expected annual emission reductions and is not addressed by the applied methodology.

3.8.3 Deviation from an approved methodology

Neither the PoA nor the 1st CPA deviate from the applicable methodology.

3.8.4 Clarification on the applicability of an approved methodology

Neither the PoA nor the 1st CPA requires any clarification on the applicability of an approved methodology.

3.8.5 Project boundary of PoA and 1st CPA

The physical location of the PoA, The Republic of South Africa and potentially other adjacent and sub-Saharan countries at a later stage, is described in the PoA-DD Chapter A.4.1. The PP shall follow EB60 Annex 26 (II. 6 a, b, c) and EB 63 Annex 3 para 16 , the obligation to update eligibility criteria in case additional countries are requested to be included in the PoA at a later stage. The validation of the future inclusion of other countries in the PoA was not possible by definition, as these events may occur in the future only. However, the PoA-DD refers explicitly to the existing and upcoming rules allowing for the inclusion of other countries in the PoA.

Within the PoA system boundary, there could be no project emissions due to the technology applied.

Leakage is considered zero in line with the methodology.

Baseline emissions are attributed to the fossil fuel emissions used for generating electricity for the National Grid.

SQS confirms that all sources and GHGs required by the methodology have been included within the project boundary.

The 1st CPA location is described in the CPA-DD Chapter A.4.1.2. This CPA will be located on Struisbult Farm (Farm No. 103 Portions 4 and 7 and Farm No. 104 Portion 5), located approximately 5 km east of the town of Copperton in the Northern Cape province of the Republic of South Africa and the geographical coordinates were confirmed during validation as follows: 29°53'50.65" South and 22°20'55.93" East [21].

Project emissions are considered zero.

The physical project boundary was verified during the on-site visit on 13/12/2011. The detailed plans, the construction schedule and the coordinates of the project have been consulted and verified. Therefore, the project boundary fully corresponds to the applied methodology.

SQS confirms that there is no registered project activity under the CDM or a request to register another CDM project activity by the CME or the CPA owner or anyone else within the previous two years with the same project category and technology within one kilometre of the project boundary of the proposed 1st CPA project. Therefore, the proposed 1st CPA project is not a de-bundled component of another project activity in accordance with EB 47 Annex 32.

3.8.6 Baseline scenario identification and description

As the PoA covers grid-connected wind power parks, the baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the national grid of The Republic of South Africa.

SQS confirms that there is no South African energy or environmental regulation that considers the implementation of wind power generation or CDM PoA as mandatory. SQS checked the respective regulations related to the electric market and the environment that there is no sectoral or national regulation obliging any potential CPA owner to build a wind power park/unit.

SQS has also checked the availability of subsidies for building renewable generating facilities. By consulting the national legislation accessible at both The National Energy Regulator (NERSA)⁴ and the Department of Energy⁵ and checking the subsidy schemes of ESKOM⁶ SQS confirms that the subsidy schemes available in South Africa are targeting the end-users by various demand side energy efficiency measures and also by the supporting alternative, renewable technologies such as Solar Water heaters. The support for renewable energy generation is exclusively through the tariff established for IPPs (Independent Power Producers) such as the 1st CPAs owner.

The PoA-DD provides a description of the identified baseline scenario as prescribed by the methodology; all applicable CDM requirements have been taken into account in the identification of the baseline scenario for the proposed CDM PoA and its 1st CPA.

With regard to the criteria 87 of VVM, SQS confirms the following statements:

- All the assumptions and data used by the PPs are listed in the PoA-DD and 1st CPA, including their references and sources.
- All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA documentation.

⁴ Website of NERSA: <http://www.nersa.org.za/> (last accessed on 17/07/2012)

⁵ Website of Department of Energy: http://www.energy.gov.za/files/electricity_frame.html (last accessed on 17/07/2012)

⁶ ESKOM website: <http://www.eskom.co.za/live/index.php> (last accessed on 17/07/2012)

- Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable.
- Relevant national and /or sectoral policies and circumstances are considered and listed in the PoA-DD.
- The PoA documentation also provides an accurate description of the baseline scenario which includes the continued use of fossil fuel power plants to supply electricity to the grid

The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM PoA.

3.8.7 Algorithms and/or formulae used to determine emission reductions

Parameters, options selected and the mathematical operations used for the *ex-ante* estimation of the project's emission reductions are correct, plausible and conservative as per the methodology applied.

The data and parameters used in the equations were correctly applied; they are as follows:

PROJECT EMISSIONS (PE_y)

Project emissions are appropriately considered zero for the wind power activities.

$$PE_y = 0$$

BASELINE EMISSIONS (BE_y)

The following equation is used to calculate baseline emissions from electricity generation for a CPA implementing a new wind power plant:

$$BE_y = EG_{PJ,y} \cdot EF_{grid,CM,y} \quad (1)$$

Where:

BE _y	=	Baseline emissions in year y (tCO ₂ e/yr)
EG _{PJ,y}	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
EF _{grid,CM,y}	=	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO ₂ /MWh)

Calculation of EG_{PJ,y}

The calculation of EG_{PJ,y} is different for (a) greenfield plants, (b) retrofits and replacements, and (c) capacity additions. For the each CPA methodology (a) is used as the PoA allows for greenfield plants only. The CPA will consist of a wind power generation project that is grid-connected and falls under option (a).

Greenfield renewable energy power plants

As the CPA is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, EG_{PJ,y} is calculated as follows:

$$EG_{PJ,y} = EG_{facility,y} \quad (2)$$

Where:

EG _{PJ,y}	=	Quantity of net electricity generation that is produced and fed into the grid as a
--------------------	---	--

$EG_{\text{facility},y}$ = result of the implementation of the CDM project activity in year y (MWh/yr)
 = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)

Grid Emission Factor

The Tool to calculate the emission factor for an electricity system and its applied version 02.2.1 determines the CO₂ emission factor for the displacement of electricity generated by power plants in an electricity system by calculating the “operating margin”, “build margin” and “combined margin” through the following 6 steps:

- Step 1: Identify the relevant electric power system.
- Step 2: Choose whether to include off-grid power plants in the project electricity system (optional).
- Step 3: Select a method to determine the operating margin (OM).
- Step 4: Calculate the operating margin emission factor according to the selected method.
- Step 5: Calculate the build margin (BM) emission factor.
- Step 6: Calculate the combined margin (CM) emission factor.

SQS has validated the calculations, data and parameters used in the PoA-DD, CPA-DD and Excel calculation sheet [7] and data accessible at ESKOM, the integrated, state-owned energy company of The South African Republic [27] based on the Tool to calculate the emission factor for an electricity system Version 02.2.1.

The Tool to calculate the emission factor for an electricity system has been applied correctly to calculate the emission factor of the South African electricity system. The resulting CM ($EF_{\text{grid,CM},y}$) used in the calculation of the emission reductions of the 1st CPA is 0.9871 tCO₂/MWh.

Summary of the findings regarding the algorithms and/or formulae used to determine emission reductions:

Assumptions

It is the opinion of SQS, all assumptions and data used by the PPs are listed in the PoA documentation, including their references and sources.

References

The DOE's validation opinion is that all documentation used by PPs as the basis for assumptions and source of data for the calculation of emission reductions are correctly quoted and interpreted in the PoA documentation

Reasonableness

The DOE's validation opinion is that all values used in the PoA documentation are considered reasonable in the context of the proposed CDM project activity.

Methodology application

The DOE's validation opinion is that the baseline methodology and corresponding tools have been applied correctly to calculate project emissions, baseline emissions, leakage, and emission reductions.

Reliability

All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA documentation

Ex-ante calculation of the grid factor

The Emission Factor is - in accordance with “Tool to calculate the Emission Factor for an electricity system” - based on calculating the CM according to the procedures prescribed in the tool. The applied emission factor for The Republic of South African electricity system used in the calculations is calculated from the latest available power sector data publicly available from ESKOM the integrated electricity company of South Africa.

SQS confirms that the grid Emission Factor calculation was based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation in line with the requirements of the applicable tool.

Monitoring data

The data and parameters are monitored during implementation (*ex-post*) and are available after validation, that the estimates provided in the CPA-DD for these data and parameters are reasonable.

All estimates of the baseline emissions are reasonable, correctly quoted and could be replicated using the data and parameter values provided in the 1st CPA [3,6].

3.8.8 Additionality of the project activity

Additionality of a CPA under the PoA is defined as mandated by the methodology ACM0002 Version 12.3.0. by using Version 6.0.0 of the "Tool for demonstration and assessment of additionality".

The PoA and its 1st CPA analyses the project additionality carrying out the steps established in the tool and performed "Investment Analysis" detailed below for the 1st CPA. Each future CPA will follow the same route and "Tool for demonstration and assessment of additionality" will be applied to establish the additionality.

Regarding the application of the additionality tool, the following four steps were followed transparently>

Step 1: Identification of alternative to the project activity

Step 2: Investment Analysis

Step 3: Barrier Analysis

Step 4: Common practice analysis

The four steps of the tool mentioned were followed correctly by the PP. For this reason, it can be confirmed that the project has demonstrated additionality correctly and transparently for its 1st CPA. The step by step validation findings are presented below.

Though the DOE is not required to assess prior consideration of CDM for PoAs in line with EB 62 Annex 13 requirements, it is confirmed that the first component of the programme will commence after the start date of validation, 27/09/2011, the contract signature for validation. The 1st CPA will reach financial closure by second half of 2013 which will be considered as the starting date of the CPA.

3.8.9 Identification of alternatives to the project activity consistent with current laws and regulations

The tool requires the (sub-step 1a) definition of alternatives to the project activity. As per ACM0002 since the project activity is the installation of a new grid-connected renewable power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the CM calculations described in the "Tool to calculate the emission factor for an electricity system. This leads to two alternative scenarios: implementation of the project without CDM incentives and continuation of the current practice, whereas the PPs do not invest and that power is generated by the operation of grid-connected power plants and by the addition of new generation sources.

The tool requires the (sub-step 1b) the checking of consistency with mandatory laws and regulations of the host country. Both scenarios are in compliance with all applicable legal and regulatory requirements as generation within the South African grid could only occur by full compliance with the regulatory requirements. The tendering procedure of ESKOM for the PPA guarantees that only compliant generation projects get access to the grid. The ESKOM tender compliance demonstrates that the project scenario without CDM revenues identified is a valid and realistic option. It must be noted that the project is at an early stage of its development in which the EIA process is under way nearing its completing. The level of the stringency of legislative compliance is demonstrated by the temporary waiving of the EIA RoD (i.e. Record of Decision available at the time of the governmental acceptance of the EIA) requirement by the DNA for the issuance of the LoA for the 2012 CDM energy

generation projects [28,12]. FAR 3 guarantees that the EIA process is completed and the plant operates with a valid Record of Decision re. its EIA.

According to the methodology, the baseline is the electricity delivered to the grid by the project activity that otherwise have been generated by the operation of grid connected power plants and by the addition of new generation sources; this satisfies the VVM Article 106 requirements.

Each CPA will demonstrate additionality in an independent way following the PoA guidelines and the "Tool for demonstration and assessment of additionality". The way how the PoA and its 1st CPAs follow the tool is deemed reasonable, credible and complete in line with VVM Article 107 requirements.

3.8.10 Investment analysis

As prescribed by the additionality tool itself, the project developer has chosen project IRR to demonstrate the additionality of the CPAs within the PoA by evaluating the financial attractiveness of the CPA without CDM income. As the alternative to the component project activity is the supply of electricity from a grid and this is not an investment, the benchmark analysis is appropriate. Therefore, the sub-step 2a (Determine appropriate analysis method) has been conducted appropriately.

Sub-step 2b resulted in correctly choosing "Option III. Apply benchmark analysis" and applying sub-step 2c (calculation and comparison of financial indicators).

The financial returns of the proposed project are insufficient to justify the investment according to the validated IRR of 8.66% [6] compared to a benchmark of 12.97%.

The parameters used in the financial calculations have been validated based on an assessment of the sources presented in the PoA documentation, namely the PoA-DD and CPA-DD. The main source of inputs to the investment model is the cost estimation from the implementer of the 1st CPA Plan 8 Ltd [6] that uses the same underlying information for its tender documentation to be submitted to the Department of Energy [11] in order to obtain the right and authorisation to build and connect the Copperton Wind Farm to the electricity grid of the host country, The Republic of South Africa. The following table lists the issues mentioned in "Guidelines on the assessment of Investment Analysis" Version 05, EB 62, Annex 05.

The CME has defined the financial parameters for the CPA analysis and used a standardised Excel worksheet for the calculations of the 1st CPA. The parameters to calculate the IRR benchmark are in line with the EB 62 Annex 5 "Guidelines on the assessment of Investment Analysis"(Version 05) as detailed in the table below:

EB Guideline - EB 62 Annex 5	PoA	PoA compliance with Guideline - validation	1 st CPA compliance with Guideline - validation
Point 3: Period of assessment	Specified on CPA level, applicable.	The period of assessment is not limited to the proposed crediting period of the CDM project activity but to the manufacturers' specification (i.e. technical lifetime of 20 years) The chosen technical lifespan can be considered as appropriate and conservative and is supported by The Republic of South African regulation. According to the Guideline "In general a minimum period of 10 years and a maximum of 20 year will be appropriate" is required." The CPAs will take the longer 20 years period which is conservative.	1 st CPA has 20 years assessment time span based on the manufacturers' specification [16].
Point 4: Salvage value	Specified on CPA level, applicable.	IRR will be computed for a period of the lifetime of the projects (20 years) and	The IRR is computed for a period of the lifetime of the project

		the entire assets are most likely to be fully depreciated, the question of salvage value is unlikely to arise. If this is not the case fair value / residual value will be introduced.	(20 years), with full depreciation in line with host country regulations [15]. Therefore, no salvage value is considered
Point 5: Depreciation and other non-cash items	Treatment is in line with The Republic of South Africa taxation regulations.	Treatment is in line with The Republic of South Africa taxation regulations.	The chosen 20 years period for the various investment components is in line with taxation rules.
Point 6: Time of assessment	All calculations are based on data available prior to CPA starting date	This feature of the calculations can only be assessed at the time of CPA inclusion.	The 1 st CPA estimations are based on data available at time of the creation of PoA documentation (20/11/2011 for the financial calculations supporting the PoA documentation) , the beginning of the validation. The 1 st CPA starting date is the financial closure expected by second half of 2013. Hence a FAR (FAR 1) is formulated to check whether the then available investment analysis supports the claim that the project IRR is below the benchmark.
Point 7: Cessation of implementation	Applicable, if relevant for project	This feature of the calculations can only be assessed at the time of CPA inclusion.	Not applicable
Point 8: Provision of spreadsheet	Standardised Excel worksheet to be used for CPAs	This feature of the calculations can only be assessed at the time of CPA inclusion.	Spreadsheet " 10_Mabanaft-SA Wind PoA_1stCPA_IRR and ER", [6] contains all investment analysis data and calculations. The DOE confirms that the results can be reproduced.
Point 9: Finance expenditures	The cost of financing expenditures is not included in the calculation of project IRR.	This feature of the calculations can only be assessed at the time of CPA inclusion.	The DOE has verified the Spreadsheet " 10_Mabanaft-SA Wind PoA_1stCPA_IRR and ER" [6] and can confirm that the costs of financing expenditures are not included in the calculation of project IRR.
Point 10: Equity IRR	The project IRR and not equity IRR is calculated in the Excel worksheet due to the fact that CPA ownership could be very different.	This feature of the calculations can only be assessed at the time of CPA inclusion.	DOE has verified that project IRR has been calculated in the Spreadsheet " 10_Mabanaft-SA Wind PoA_1stCPA_IRR and ER" [6].
Point 11: Taxation	Taxation is applied in accordance with relevant South African tax laws.	This feature of the calculations can only be assessed at the time of CPA inclusion.	The DOE has verified that the financial analysis includes the tax obligations. The tax treatment of the HPPs is in line with the rules applicable [15] and the DOE confirms the correctness of the treatment of taxation.
Point 12-18: Benchmark	The applied benchmark is the weighted average benchmark calculated based on commercial lending rate and required return on equity, incorporating the applicable income tax rate and inflation.	This feature of the calculations can only be assessed at the time of CPA inclusion.	The DOE has verified the benchmark IRR through the official documents provided and independently accessed. The 12.97% benchmark IRR rate conservatively corresponds to the EB 62 Annex 5

			<p>Group 1 rate of 10.90% for South African energy projects. In the calculated IRR benchmark value the South African Reserve Bank (SARB) base rate is used⁷. This rate is by definition lower than the commercial lending rate mentioned in the PoA-DD as an input factor for the IRR benchmark calculations. This SARB base rate usage automatically results in a conservative IRR benchmark provided the income tax rate and inflation values are correctly applied. SQS has cross-checked the inflation rate (CPI) used for the calculation (5.70%) and found that it corresponds to the official statistical inflation rate as published by Statistics South Africa⁸. SQS also checked the more specific PPI index and found that its applicable rates⁹ in 2011-2012 were above the used 5.70% rate. Therefore, SQS confirms that the IRR benchmark has been established correctly and conservatively.</p>
<p>Point 19: If the alternative to the project activity is the supply of electricity from a grid, this is not to be considered an investment and a benchmark approach is considered appropriate</p>	<p>According to the methodology: "The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid"</p>	<p>The benchmark approach is applicable according to the guideline.</p>	<p>The benchmark approach is applicable according to the guideline.</p>
<p>Point 20: Choice of variables for sensitivity analysis</p>	<p>Sensitivity analysis is made assuming each of the following key parameters:</p> <ol style="list-style-type: none"> 1. CAPEX 2. Feed-in tariff 3. Net electricity generated. <p>by at least up to +/-10%, and assessing the impact on the financial indicator, the IRR.</p>	<p>This feature of the calculations can only be assessed at the time of CPA inclusion.</p>	<p>The selection of the parameters included in the sensitivity analysis was validated against the "Guidance on the Assessment of Investment Analysis" defining that variables that constitute more than 20% of either total project costs or total project revenues should be subjected to the sensitivity analysis. SQS confirms that it is a</p>

⁷ Website of the South African Reserve Bank (SARB):

<http://www.resbank.co.za/Research/Rates/Pages/Rates-Home.aspx> (last accessed on 17/07/2012)

⁸ Website of Statistics South Africa, the Government's Statistical Department: <http://www.statssa.gov.za/publications/P0141/P0141May2012.pdf> (last accessed 17/07/2012)

⁹ Website of Statistics South Africa, the Government's Statistical Department: http://www.statssa.gov.za/keyindicators/PPI/Domestic_output.pdf (last accessed 17/07/2012)

			<p>general feature of wind power installations that their O&M costs are moderate. According European Wind Energy Association representing more than half of the wind power production globally O&M costs for on-shore wind energy are generally estimated to be around 1.2 to 1.5 c€ per kWh of wind power produced over the total lifetime of a turbine¹⁰. The 1st CPA's O&M costs fall into this range (1.3 c€ per kWh). In case of the first CPA the annual and total O&M costs constitute 11.8% of annual and total revenues during the operation of the plant. The selected parameters (CAPEX, Feed-in tariff, Net electricity generated) are in line with "Guidance on the Assessment of Investment Analysis" as they are the key cost (CAPEX) and revenue (feed-in tariff, net electricity generated) factors. The DOE has assessed the financial parameters and the variations of all key parameters and confirms the correctness of the sensitivity analysis calculations. In addition to the sensitivity analysis with the fixed +/-10% variations, the first CPA contains the "turning points", the % changes, where the IRR reaches the benchmark and a description of the likelihood of this happening.</p>
Point 21: Range of variation of sensitivity analysis	The sensitivity analysis covers a range of $\pm 10\%$. Additionally an ex-post assessment is made and a cross comparison if data ranges and their variations are plausible.	This feature of the calculations can only be assessed at the time of CPA inclusion.	The 1st CPA contains the fixed +/-10% variations. In addition, it contains the "turning points", the % changes, where the IRR reaches the benchmark

The table below contains all input values used for the 1st CPA's benchmark analysis calculation establishing the 1st CPAs project IRR and their respective validation findings.

Item	Unit	Value	Data Source	Validation
Benchmark	%	12.97	The applied benchmark is the weighted average benchmark calculated based on commercial lending rate (using South African Reserve Bank (SARB)	The OE has verified the benchmark IRR through the official documents provided and independently accessed. The 12.97% benchmark IRR rate conservatively corresponds to the EB 62

¹⁰ EWEA website: <http://www.ewea.org/index.php?id=1639> (last accessed 13/09/2012)

			base rate as its proxy) and required return on equity, incorporating the applicable income tax rate and inflation.	Annex 5 Group 1 rate of 10.90% for South African energy projects. In the calculated IRR benchmark value the South African Reserve Bank (SARB) base rate is used; this rate is by definition lower than the commercial lending rate mentioned in the PoA-DD as an input factor for the IRR benchmark calculations. This SARB base rate usage automatically results in a conservative IRR benchmark provided the income tax rate and inflation values are correctly applied. SQS has cross-checked the inflation rate (CPI) used for the calculation (5.70%) and found that it corresponds to the official statistical inflation rate as published by Statistics South Africa. SQS also checked the more specific PPI index and found that its applicable rates in 2011-2012 were above the used 5.70% rate (see corresponding footnotes on page 21) Therefore, SQS confirms that the IRR benchmark has been established correctly and conservatively.
Period of assessment	Years	20	The period of assessment is not limited to the proposed crediting period of the CDM project activity but to the manufacturers' specification (i.e. technical lifetime of 20 years). The chosen technical lifespan can be considered appropriate and conservative and is supported by The Republic of South African regulation. According to the Guideline "In general a minimum period of 10 years and a maximum of 20 year will be appropriate" is required." The CPAs will take the longer 20 years period which is conservative.	1 st CPA has a 20 years assessment time span based on the manufacturers' specification.
Salvage value	ZAR	0	The IRR will be computed for a period of the lifetime of the projects (20 years) and the entire assets are most likely to be fully depreciated, the question of salvage value is unlikely to arise. If this is not the case, fair value / residual value will be introduced.	The IRR is computed for a period of the lifetime of the project (20 years), with full depreciation in line with the host country's regulations. Therefore, no salvage value is considered.
Load factor	Percentage	21.66%	Plan 8 studies and estimations based wind measurements at Copperton Wind Farm.	Based on measurements carried out over a period of 16 months (from 2011 January until 2012 March)[17] which were produced by independent experts, in accordance with EB 48 Annex 11 "Guidelines For The Reporting And Validation Of Plant Load Factors" II.3.b.

				The PLF cannot be cross-checked against other similar projects as there are no such. However, due to its independent expert source it can be considered as reasonable.
Generation capacity	MW	50	Based on technical design.	The generation capacity is consistent with the technical design. All documents have been analyzed and the value can be confirmed as correct.
Total electricity generated per annum	MWh	94 870.8	Calculated with Load Factor and 50 MW capacity.	The installed capacity will be 50 MW as described above. The calculations have been done with the capacity of 50 MW. The electricity production by 50 MW with a 21.66% PLF is 94 870.8 MWh and thus confirmed by the DOE.
Electricity sold to the grid per annum	MWh	94 870.8	Calculated based on total produced and sold.	The exact generated electricity volume value is used in the calculations.
Electricity sale price	ZAR/ MWh	1150	PPA expected value.	The estimated value was cross-checked with the applicable regulations and the existing tender results [29]. The highest maximum allowed tariff (1150 ZAR/MWh) for renewable projects was used in the 1st CPA [23] (the consequences of the use of the maximum price in the calculations is further explained in the sensitivity analysis section below). SQS understands from bidders/winners of the tender that in the second round of the Renewable Energy Independent Power Producer Procurement Programme ¹¹ the bid offers are around 10% below the maximum tariff whilst bid offers were just below the maximum tariff in the first tender round (the bids are confidential by nature and no official data is available about them).
Annual operation and maintenance cost	ZAR	12 836 828 (additional 2 500 000 in 2014 and 2015 for land lease)	Project developer calculation [6].	The PP has chosen an adequate, conservative value for O&M cost estimations. According to the European Wind Energy association representing more than half of the wind power production globally O&M costs ¹² for onshore wind energy are generally estimated to be around 1.2 to 1.5 c€ per kWh of wind power produced over the total lifetime of a turbine. The 1st CPA's O&M costs fall into this range (1.3 c€ per kWh) The annual O&M equals to 11.8% of annual revenues.
Project investment costs	ZAR	857 903 843	Project developer calculation [6].	The DOE conducted a plausibility check on the investment cost values and found that they fall into a realistic range; comparisons were made with

¹¹ Website of the Renewable Energy Independent Power Producer Procurement Programme: <http://www.ipprenewables.co.za/#blog/post/view/id/182> (last accessed 13/09/2012)

¹² Website of EWEA : http://www.ewea.org/fileadmin/ewea_documents/documents/publications/WETF/Facts_Volume_2.pdf (last accessed on 13/09/2012)

				<p>Nordex turbine costs in other countries as South Africa has not yet implemented comparable wind projects (a Moroccan, Nicaraguan and several Indian projects that are under planning have comparable turbine costs for European manufactured turbines). The Nordex turbines are at the upper quality and price end of the wind turbines however their costs are comparable to other European manufacturers" due to the competitive nature of the market. SQS confirms that the turbine costs of the 1st CPA (cc. 1 million EUR per MW) falls into a plausible range supported by available commercial data. The DOE can confirm that values in the CPA-DD are fully consistent with the project developer calculations. The appropriateness of the costs have been checked and it was deemed that the overall investment costs are reasonable and correctly applied. After assessment of all referenced documents, SQS assumes that the costs are appropriate. The 1st CPA starting date is the financial closure expected by second half of 2013. Hence a FAR (FAR 1) is formulated to check whether the then available project investment analysis supports the claim that the project IRR is below the benchmark.</p>
Income tax	Percentage	28	Taxation is applied in accordance with relevant tax laws .	The DOE has verified that the financial analysis includes the corporate income tax in accordance with the South African tax rules and regulations. The DOE confirms the correctness of the treatment of taxation and the correctness of the value used. The used tax rate is in compliance with the South African Tax Code (see http://sars.gov.za/) [15]
Depreciation	Percentage	5% for civil works, 5% for electromechanical works, 5% for transmission connection, 5% for other items	Depreciation is applied in accordance with relevant tax laws	As the 1 st CPA followed the tax rules on all parameters, these values are considered appropriate.
Exchange rate	EUR / USD ZAR / EUR ZAR / USD	0.69 9.82 6.83	Exchange rates were used from the period when the cost estimations were carried out.	
Price of CERs	EUR / CER	10 EUR	Prevailing market price in Q4 2011.	The used CER price estimates were realistic at the time of cost/revenue estimations

The DOE has conducted a further examination of the computations using the above listed values in the spreadsheet [6] in addition to the procedures to ensure correctness applied during validation.

All referenced documents have been verified and reviewed by the DOE and it can be confirmed that the values are correct.

All the input values used in the investment analysis and the table above were applicable at the time of validation.

It is SQS' opinion that all assumptions are reasonable and that the calculation structure is done in a proper way.

Sensitivity analysis

The sensitivity analysis is a crucial part of the investment analysis as it guarantees that reasonable changes in the assumptions do not lead to fundamentally different conclusions related to the project. Based on the modelling results, SQS is on the opinion that the sensitivity analysis conducted by the PP correctly applied realistic ranges for key factors and calculated their likely impacts on the IRR.

A sensitivity analysis has been conducted in line with sub-step 2d (Sensitivity Analysis).

The sensitivity analysis was done for the 1st CPA with variation of project's energy sales (both from changes in feed-in tariff and changes in net electricity generated) and initial investment (CAPEX) costs. These parameters are fully in line with the applicable guidance and include all those parameters that are contributing more than 20% to the total costs/revenues. The PP therefore conducted the sensitivity analysis on the factors that are required and subsequently its sensitivity analysis results are found to be correct.

It is foreseen on the basis of the sensitivity analysis worksheet, that sensitivity analysis will be automatically realised with the following parameters: CAPEX, Feed-in tariff and net electricity generated selected in line with the applicable guidance for any future CPAs.

The project design document includes a calculation for each parameter with which the project benchmark IRR is exceeded and the assessment of the possibility of this occurring. Each of these calculations shown in the table below and corresponding PP statements have been found correct.

Energy Sales (from variations in the feed in tariff)	Energy Sales (from variations in the load factor, and the resulting the net energy generated)	Initial Investment Costs
+32%	+32% (PLF from 21.66% to 28.7 %)	-26.5%

The smallest change of a parameter that would result in reaching the benchmark IRR is -26.5%. The factor by factor values and probabilities are as follows:

- Feed tariff (energy sales increase): To reach the 12.97% benchmark value, the power tariff would need to increase significantly (+32%). This is highly unlikely due to the regulated, but at the same time competitive, nature of the tendering procedure of the Department of Energy [9,11,22,23]. The highest maximum allowed tariff for renewable projects was used in the 1st CPA [23]. Therefore, unless the government allows a 32% rise in the maximum tariff, the project revenues cannot increase to reach the benchmark. Moreover, FAR 1 guarantees that in case of an unlikely, unforeseen governmental feed-in tariff rise the 1st CPA will be considered non-eligible provided the feed in tariff rises higher than 32%.
- Plant Load Factor (PLF) (energy sales increase): To reach the 12.97% benchmark value, the PLF would need to be increased significantly (+32%). Power generation has been properly estimated based on wind study which is carried out over a sufficient period (16 months continuous measurement between January 2011 and March 2012). The most likely scenario is a small fluctuation of PLF throughout the crediting period. The PLF rise from 21.66% to 28.7% is unlikely given the wind study results [17].

- Total investment costs: To reach the 12.97% benchmark value, total investment costs would need to decrease significantly (-26.5%). This is unlikely in South Africa. FAR 1 guarantees that in case of an unlikely, unforeseen investment cost decrease the 1st CPA will be considered ineligible provided the investment costs decreases by more than 26.5%.

For all the chosen parameters +/- 10% variation was calculated during the validation; it is confirmed that the benchmark is not reached with a +/- 10% variation. 26.5% is the smallest required change that is required to reach the benchmark; in case of investment costs decrease. Hence, the project additionality is confirmed by the sensitivity analysis results

The sensitivity and turning point analysis is conclusive: No realistic deviations from the key input prices resulted in an IRR that is above the benchmark of 12.97%.

The benchmark analysis, including the sensitivity analysis, demonstrated that the project cannot be economically feasible without the revenues associated with CDM. The 1st CPA contains the calculation of the IRR values with CER revenues; these calculations based on CER prices at the time of conducting the financial calculations (20/11/2011) are found correct.

The project IRR is increased from 8.66% to 9.90% when calculating with the CER revenue. This IRR value will be closer to the applied benchmark of 12.97%. Therefore, the CER revenues is a way for the PP to obtain a closer to benchmark return on its wind power investment.

SQS has used its local and sectoral experience to confirm that the underlying assumptions are accurate and appropriate and that the financial calculations are correct.

The financial calculations have been reproduced by the validation team with the same result and are therefore considered correct.

It is the opinion of SQS that the financial analysis worksheet [6] was established in an appropriate manner for the PoA and will provide the appropriate calculation together with EB 62 Annex 5 guidance for each and every CPA.

SQS concluded that the CDM benefits will enable the project to become financially more attractive by raising the IRR closer to the benchmark and consequently would support the project developer to overcome the investment barrier.

3.8.11 Barrier analysis

In case the investment analysis including the sensitivity analysis, the 2nd step of the tool, does not provide a valid result establishing additionality, the CPA-PDD shall provide a "Barrier Analysis" in line with the tool. As the investment analysis of the 1st CPA was conclusive – the CPA is additional as its IRR is below the benchmark – no barrier analysis has been conducted.

The PoA-DD description of the Barrier Analysis is accurate and correctly refers to the use of "Guidelines for objective demonstration and assessment of barriers" in case the barrier analysis is applied.

3.8.12 Common practice analysis

The geographical scope of The Republic of South Africa is appropriate for the assessment of common practice related to each CPA. SQS has verified that due to the nationwide nature of the electricity grid, the geographical scope of the common practice analysis has been identified correctly. Step 4 of EB 65 Annex 21, "Tool for the

demonstration and assessment of additionality" Version 06.0.0 will be applied as a credibility check for each CPA.

The common practice analysis revealed for the 1st CPA that $F = 0$, $N_{all} = 1$; $N_{diff} = 1$; the calculations quantifying the common practice are in line with the applicable tool. SQS has checked the operational power plants in the applicable range (25 MW to 75 MW) and confirmed that only the Colley Wobbles Power Station, a hydropower plant, fall into this category therefore SQS confirms $N_{all} = 1$; $N_{diff} = 1$. The source of power station data was ESKOM's detailed generation data used for the grid emission factor calculation [27] and its publicly listed power station data¹³. Moreover, SQS has investigated whether another result would be derived from the entire potential capacity range of the 1st CPA. As there is one single wind power plant in operation in the South African Republic (Klipheuwe, with installed capacity of 3MW) the $F=0$ result is guaranteed except for installations in the range of 2-4,5 MW. As explained with respect to the infancy of the wind market and the sensitivity analysis the recent tendering procedure of the Department of Energy [9,11,22,23] for supporting renewable technologies will result in the commercialisation of wind power technology and the commissioning of wind power plants in South Africa. The 1st CPA is not common practice according to the analysis.

SQS has assessed the available official information about wind developments in South Africa by consulting various sources such as the 2010 and 2011 annual reports of ESKOM and the Department of Energy (equivalent to Ministry of Energy¹⁴ of South Africa) describing the trends and details of wind power production that is in its infancy¹⁵.

The DOE's validation opinion is that any proposed CPA can be identified as "common practice" or "not common practice" by applying step 4 of the tool for the demonstration and assessment of additionality Version 06.0.0. This common practice step will be conducted in the future for each CPA at the time of CPA inclusions.

3.8.13 Eligibility criteria for inclusion of a CPA in the PoA

The CME has developed and uses clear and unambiguous criteria for the inclusion of the CPAs [3]. The eligibility criteria meet the requirements of EB 65 Annex 3 para. 14 points (a) – (l). The eligibility criteria defined in each criterion is in a verifiable manner.

The CME Manual [24] defines all procedures and provides the respective forms and templates to assess, conclude and report on each of these criteria. Therefore, it is SQS validation opinion that the eligibility criteria as stated in the PoA-DD and demonstrated in the generic CPA-DD are sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs under the PoA.

1st CPA meets all eligibility criteria. In addition, CME has demonstrated how the eligibility criteria were applied to the 1st CPA demonstrating its ability to conduct the assessment of any future CPA. The CME manual [24] as detailed in the next section was finalised on the basis of experience with the 1st CPA inclusion.

The table below summarises the PoA CPA eligibility criteria and its full compliance with the PoA standard and the full compliance of the 1st CPA with the eligibility criteria established for the PoA.

¹³ Website of Eskom as referenced in PDD: http://financialresults.co.za/2011/eskom_ar2011/fact_sheets_11.php (last accessed on 12/09/2012)

¹⁴ Website of the Department of Energy, Government of South Africa: http://www.energy.gov.za/files/policies_frame.html (last accessed on 17/07/2012)

¹⁵ Website of the Department of Energy, Government of South Africa: http://www.energy.gov.za/files/esources/renewables/r_wind.html (last accessed on 17/07/2012)

PoA eligibility criteria	PoA standard compliance assessment/ conclusion by SQS	Proof/Evidence as PoA guidance used in case of 1 st CPA	1 st CPA ¹⁶ compliance assessment/ conclusion by SQS with reference to evidences submitted	CME manual reference
<p>a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA. The boundary of the PoA is the host country South Africa.</p> <p>Other adjacent and sub-Saharan countries might be included in the PoA post-registration. If these countries are included, necessary evidence noting their inclusion will be duly noted in the applicable CPA-PDD and the geographical boundary of the PoA will be expanded to include the expanded geographical boundary set (also refer section 4.1.2).</p> <p>The CPA shall comply with the latest guidelines for inclusion as defined by the host country DNA</p>	<p>The boundary of a CPA is consistent with the programme's geographic boundary; it is within The Republic of South Africa, the host country.</p>	<p>Various documents such as EIA documentation [10]</p>	<p>1st CPA is in The Republic of South Africa. [3]</p>	<p>CME/5 Procedure for inclusion of CPA</p>
<p>b) The CPAs under its PoA are a voluntary action and neither registered as an individual CDM project activity nor included in another registered CDM PoA.</p>	<p>The CPA must be unique and there should be no CDM projects registered containing wind turbines located in the stated coordinates of any CPA.</p>	<p>Check of SA CDM (normal and PoA) pipeline</p>	<p>1st CPA is a voluntary action and neither registered as an individual CDM project activity nor included in another registered CDM PoA</p>	<p>CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs</p>
<p>c) To avoid double counting of emission reductions each CPA-DD shall be uniquely identified and defined in an unambiguous manner by providing geographic information (e.g. coordinates), CPA specific data, and the exact starting and ending date of the crediting period. The following data must be provided to the CME prior to inclusion in the PoA:</p> <ul style="list-style-type: none"> Name of the CPA; Name of the CPA developer; 	<p>CPAs are identified with specific geographic information and installed capacity. Moreover, the CME defines in the CPA-DD and internal documentation a unique CPA identification name and number and the complete CPA name and contacts details of the CPA developer.</p> <p>The procedures and conditions for CPA inclusion as defined in</p>	<p>Check of SA CDM (normal and PoA) pipeline for information available.</p>	<p>The 1st CPA has its unique identification included in the CPA-DD. Subsequent analysis regarding double-counting confirms that there is no double counting occurring.</p>	<p>CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs</p>

¹⁶ [Other validation findings and conclusions related to 1st CPA project description, baseline and monitoring are found in the applicable sections of this report with indented text.](#)

<ul style="list-style-type: none"> Contact details of the CPA developer including contact person, address, telephone and/or email address; Installed capacity and other relevant technical specifications of each CPA; Location of the CPA (e.g. GPS coordinates); Unique Identification Number; 	<p>the CME manual will ensure that those operating a CPA are aware of and have agreed that their activity is being subscribed to the PoA and no double-counting occurs.</p> <p>The system to avoid double-counting has been described in the PoA-DD and the CME manual [24] which has been validated by the audit team to be sufficient.</p>			
d) Start date of the CPA shall be provided through documentary evidence and shall comply with latest CDM guidelines and standards. The start date is defined as the date when the CPA developer / owner makes a payment of 30% or more towards the purchase of wind turbines.	The definition of the earliest starting date of the CPA (the date when the CPA developer / owner makes a payment of 30% or more towards the purchase of wind turbines) is in line with the requirements. The checking of this parameter for each CPA is defined in the CME manual [24].	Not yet happened (1 st CPA to reach financial closure by second half of 2013.)	The starting date of the 1 st CPA is by second half of 2013	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs
e) Each CPA involves the construction and operation of a wind power project connected to the national/sub-national power grid, either directly or via local municipalities or private companies involved with transporting power.	All CPA projects will be connected to the national grid in order to sell its electricity and power production.	Not yet happened (1 st CPA to reach financial closure by second half of 2013 and will be submitted for DoE IPP tender beforehand)	The 1 st CPA will be connected to the South African grid, not yet obtained the approval for the grid connection.	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs
f) The CPAs need to sign an inclusion agreement with the CME	The CME manual contains the requirement for the applicable inclusion agreement and provides clear guidance how to establish it	Inclusion agreement based on format developed by the CME.	Inclusion agreement has been signed by the CPA owner and CME [30]	CME/7 Procedure for inclusion agreement
g) Each CPA must be applicable to and need to apply the CDM baseline and monitoring methodology "ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 12.3.0.0.	Applicability conditions in Version 12.3.0 of ACM0002 are referred to in the PoA-DD unambiguously.	CPA-DD states the compliance with applicability criteria.	Technical characteristics of the project - new wind turbines; in new wind park - meets the applicability criteria.	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs
h) Only additional projects can be enrolled. Additionality is proven on the CPA level for each CPA separately.	The additionality for the CPAs is in line with the respective methodology and with the corresponding, additional standard for PoAs (EB 65, Annex 3).	Investment, economic and financial data applicable to the CPA to be implemented within The Republic of South Africa.	1 st CPA has demonstrated additionality following the applicable tool.	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of

				CPAs
i) The CPAs must have undertaken an analysis as per requirements of the CDM modalities and procedures as outlined in Section C.	Each CPA must investigate and describe the potential environmental impacts. The Republic of South African regulation does require Environmental Impact Assessments (EIAs) for wind parks, this implies that a formal EIA is required in all of the cases. The so called RoD (Record of Decision) is the final governmental approval for the EIA. The handling of environmental impacts on CPA level is fully in line with South African legislation	EIA has been conducted and completed [31]; however its RoD (Record of Decision) is yet to be received from the respective authorities. The DNA of The Republic of South Africa provided the LoA on an exceptional case without the receipt of the RoD.	Environmental impacts assessment according to the applicable regulatory framework and the description of the potential impacts has been properly conducted for the 1 st CPA as detailed in the Aurecon conducted EIA report and supporting documentation [31,10]	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs
j) The CPAs must have undertaken a local stakeholder consultation as outlined in Section D.	The checking of this parameter is obligatory for each CPA as defined and detailed in the CME Manual.	Invitations and agreement for conducting the LSC consultation with Aurecon [18,19,20].	For the local stakeholder consultation process an independent entity, Global Carbon Exchange, was contracted [18,19,20]	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs
k) The CPAs must provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance.	The CME manual describes the applicable statement and provides clear guidance how to obtain it from the CPA developer.	Declaration based on format developed by the CME.	The required statement [14] has been signed by the CPA owner; the project will not use funding from Annex I parties.	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs
l) Only projects applying new energy generating equipment are eligible for inclusion. No equipment is transferred from another activity, located in a non-Annex I party and no existing equipment is transferred from the project to another activity.	The CME manual describes the applicable statement and provides clear guidance how to obtain it from the CPA developer.	Declaration based on format developed by the CME.	The required statement [32] has been signed by the CPA owner; the project will use new energy generating equipment	CME/5 Procedure for inclusion of CPAs And CME/6 Procedure for technical review of inclusion of CPAs

Other validation findings and conclusions related to the 1st CPA project description, baseline and monitoring are found in the relevant section of this report.

3.8.14 Operational and management arrangements of the CME

During the on-site visit SQS assessed the CME management system by interviews and cross-checks. In addition, a desk review of the operational and management arrangements established and described in the CME manual were performed. The CME management system is characterised by the following:

- a) A clear and transparent description of the operational and management arrangements has been established and stated in the CME manual [24]. This CME manual of the PoA addresses all requirements of the PoA standard para. 17 points (a) – (f) EB 65 Annex 3.
- b) There is a record and documentation keeping system for each CPA under the PoA, and it has been checked during the on-site visit by SQS along with the established records and documentation control process applied in case of the 1st CPA.
- c) The CME will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme.
- d) Clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs exist, including a review of their competencies. These documents were made available to the DOE at the time of validation of the PoA. The alliance with the local partner may result in redistributing the roles and responsibilities in the future; however the existing definitions are sufficiently clear.
- e) Records of arrangements for training and capacity development for involved personnel made available and has been cross-checked by SQS.
- f) The CME has presented its measures for continuous improvements of the PoA to SQS, and it has been checked during the on-site visit. The measures for continual improvements are included in the CME manual.

SQS has checked that the operational and management arrangements described in the CME manual [24] had been applied sufficiently in the course of the selection and development of the 1st CPA.

The roles and responsibilities of personnel involved in the management of the PoA are sufficiently described in the PoA-DD and in more detail in the CME manual [24]. The roles and responsibilities applicable the monitoring system have been validated by SQS and SQS confirms that the monitoring system meets the respective CDM requirements.

The CME has unambiguously defined the following roles for itself and the CPA owner involved in the PoA:

CME:

- Define the roles and responsibilities of personnel involved in the process of inclusion of CPAs. The CME has a procedure of responsibilities and organization.
- Maintain existing relationship with the CPA owners (e.g. assure that proper training for data monitoring is being provided to project developers)
- Implement technical review of inclusions of CPAs. Then the CME will set a framework for the implementation of the PoA and approve the CPAs to be included under the PoA
- Implement a procedure to avoid double-counting based on the establishing formal documentation with the project developers (e.g. to avoid the case of including a new CPA that has been already registered either as CDM project activity or as a CPA of another PoA).
- Establish operational and management arrangements for the implementation of the PoA, including a record keeping system for each CPA under the PoA, that considers:
 - Name of the CPA;
 - Name of the CPA developer;
 - Contact details of the CPA developer including contact person, address, telephone and/or email address;

- Installed capacity and other relevant technical specifications of each CPA;
- Location of the CPA (e.g. GPS coordinates);
- Unique Identification Number;
- Maintain the recording and storing of all relevant information of the PoA and CPAs. The CME will develop and implement a procedure of documentary and data control for the CPA process that will lead to records and documentation for each CPA under the PoA.
- Maintain and implement a procedure for continuous improvements of the PoA management.
- Be the focal point for all communication with the UNFCCC related to the PoA.
- Ensure that those operating the CPA are aware and agree that their activity is being subscribed to the PoA.
- Submit to the DOE the necessary documents for validation and inclusion of CPAs.
- Collect monitoring data of all CPAs.
- Prepare monitoring reports for emission reduction verification
- Maintain all monitoring reports of all CPAs in accordance with the record-keeping system
- Make available all monitoring reports requested by a DOE for verification purposes
- Obtain or calculate the grid emission factor to be used by the CPA owners during their crediting period.

CPA owner:

- Implement the wind power project activity accordingly to the registered CPA-DD, including: construction timeline and operation and maintenance standards.
- Compile and record data according to the monitoring plan and provide required information to the coordinating/managing entity in order to prepare monitoring reports according to the registered CPA-DD.

Based on the assessment of the CME management system and the description of the roles and responsibilities [24] it is SQS' opinion that the arrangements are sufficient to ensure that the CME has and will have control of all records and information related to the implementation of individual CPAs and has been and will be in a position to ensure each CPA is being operated in accordance with the specific requirements of the programme. It is SQS' opinion that the arrangements and procedures are sufficient to meet the requirements of the PoA Standard, EB 65. Annex 3 para 17.

The first specific CPA has been checked for its monitoring compliance in the future. SQS confirms that the developer of the first CPA is aware of all the obligations described in the monitoring plan and is capable of implementing them fully as and when operating the wind park.

3.8.15 Validation of the specific CPA (1st CPA)

According VVM. 1.2 para. 168 SQS has assessed the specific CDM CPA-DD (1st CPA) [3] which the PPs submitted together with the CDM PoA-DD for validation, to determine whether or not it complies with the eligibility criteria specified in the PoA-DD. The means of validation to determine compliance with this requirement are listed below:

Validation method

The accuracy and completeness of the 1st CPA description was validated by:

- A desk review of the specific CDM-CPA-DD submitted by the client and additional supporting documents (a list of all documents reviewed during validation is provided in Appendix C).
- On-site visit between 11-13/12/2011 (programme of the on-site visit and list of interviewees are provided in Appendix A-B).

- A desk review to check eligibility of the proposed first CPA to determine compliance with the eligibility criteria specified in the PoA-DD.
- Follow-up interviews and email correspondence with PP and its CDM Consultant during the validation.

SQS determined that the specific 1st CPA was eligible to be included under PoA Section 3.8.13 “Eligibility criteria for inclusion of a CPA in the PoA”, provides the assessment and conclusions of the DOE to determine compliance of the 1st CPA with respect to the eligibility criteria defined in the PoA. Other validation findings and conclusions related to 1st CPA project description, baseline and monitoring are found in the respective section of this report.

3.9 Monitoring plan

The monitoring plan described in the PoA-DD was checked by desk-review with all relevant guidelines and tools and against requirements of ACM0002, consolidated baseline methodology for grid-connected electricity generation from renewable sources, Version 12.3.0. Furthermore, the monitoring plan was checked by reviewing the CME manual.

Parameters determined *ex-ante*

The *ex-ante* parameter for the emission factor of the grid (0.9871 tCO₂e/MWh) used in the calculations is calculated [6] from the latest available power sector data publicly available from ESKOM.

For new, future CPAs the parameters that are required to calculate the combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM), according to the procedures prescribed in the tool to calculate the emission factor for an electricity system.

Parameters monitored *ex-post*

According to the documentation the following parameters are to be monitored:

- a) The quantity of net electricity supplied to the grid (auxiliary consumption; the electricity supplied to the grid by the project and the electricity delivered from the grid to the project) ($EG_{\text{facility},y} / EG_{\text{PJ},y}$)

The monitoring procedures of those parameters have been sufficiently identified in the PoA-PDD.

The net electricity supplied to the grid will be measured and recorded by a power meter calibrated according to the national standards and recalibrated at appropriate intervals according to manufacturer specifications, as referred to in the applicable ESKOM procedures. This data will be used for invoicing electricity sales.

In case of the 1st CPA the CPA owner will provide the detailed project diagram and meter location demonstrating that the metering system is in line with both the methodology and the national requirements at the verification stage as described in FAR 2.

Methods for measurement are as per the applicable methodology and methods for project emissions are as per ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources (Version 12.3.0) guidance.

The validation team thus confirmed that the parameters identified to be monitored are completely in accordance with the selected methodology.

Management system and quality assurance

The monitoring arrangements described in the monitoring plan of the PoA-DD have been assessed by the validation team, by means of documentation review, interviewing the representative from the CME and CPA owner. On that basis, the effective implementation of the monitoring plan is considered feasible. The validation team considered that the CME and CPA owner are capable of implementing the monitoring plan.

The DOE confirms compliance of the monitoring plan with the requirements of the methodology and that it is feasible to be implemented.

The annual monitoring reports and data quality check will be realised jointly by CME and the CPA-owner.

Based on the above, SQS confirms that

- the monitoring plan contains all necessary parameters, they are clearly described and that the means of monitoring described in the plan complies with the requirements of the methodology.

It is SQS' opinion that

- the monitoring arrangements described in the PoA monitoring plan and the CME operational manual are feasible within the PoA and its CPA(s); and that
- the CME is able to implement the monitoring plan;
- the 1st CPA is able to implement the monitoring plan.

3.10 Environmental impacts

The host party requires an environmental impact assessment for the component project activities under the PoA. According to South African law, wind power plants shall have their environmental impacts assessed with an Environmental Impact Assessment (EIA). The DOE's validation opinion is that for the 1st CPA an appropriate analysis of potential environmental impacts have been conducted [31].

As stated, The Republic of South African regulation does require EIAs for wind parks, this implies that a formal EIA is required in all of the cases including the 1st CPA. The so-called RoD (Record of Decision) is the final governmental approval for the EIA. However, the 1st CPA' RoD (RoD for the EIA) is yet to be received from the respective authorities. The DNA of The Republic of South Africa provided the LoA on an exceptional basis without the receipt of the RoD [28]. FAR 3 stipulates that the RoD is received in due course, prior to the implementation of the 1st CPA, and is available at the initial verification.

The area where the project is located is unpopulated terrain, without any protected natural areas or species. The 1st CPA owner is obliged to guarantee that during construction and operation phases the applicable environmental norms are followed."

3.11 Local stakeholder consultation

The CME is obliged to conduct the local stakeholder consultation for each CPA, this is according to EB 55 Annex 38. The LSC was conducted by an independent, experienced and professional entity, Global Carbon Exchange.

In SQS' opinion, Global Carbon Exchange selected the right groups and attempted to conduct the consultation - both in a meeting and via written follow-up - and reported the local stakeholder consultation correctly and sufficiently despite the fact that no one turned up at the meeting and no feedback arrived for the written approaching of the identified local stakeholders either. As no comments were received despite the effort of Global Carbon Exchange, the LSC was concluded without any further action identified [18,19,20].

SQS is satisfied about the manner of how the responsible entity attempted to conduct the local stakeholder consultation. The DOE's validation opinion is that the local stakeholder consultation process was adequate despite the imminent lack of feedback from local stakeholders.

4 List of Interviewees and Documents Reviewed

The on-site audit and interviews were done according to the on-site visit programme with the stakeholders interviewed during the validation are listed in Appendix A and B. The documents that were assessed during the validation are listed in Appendix C.

5 Validation Team and Reviewer

The following matrix shows the names and roles of the members of the validation team and the technical reviewer. The reviewer is not a member of the validation team. Certificates of competence for each validation team member and of the reviewer are included in Appendix D to this report.

Name	Role (1)	Country	Duties				
			Desk review	On-site audit	Resolution of CAR & CL	Report	Technical review
Mr Zsolt Lengyel	LA	Switzerland	X	X	X	X	
Mr Martin Enderlin	LA	Switzerland				X	
Mr Oliver Stankiewicz	TR	Switzerland					X

(1) LA = Lead auditor/assessor; TM = Team member; TE = Technical expert (if any); TR = Technical reviewer

6 Quality Control

Cross checks and/or other plausibility checks undertaken during validation are mentioned in the report or in the protocol. The draft validation report, including the initial validation findings, is checked by an internal reviewer (a member of the validation team) before being sent to the PPs. The final validation report undergoes a technical review before requesting registration of the project activity. The technical reviewer (not a member of the validation team) is qualified in accordance with SQS' qualification scheme for CDM validation and verification.

7 Appendix A and B: On-Site Visit Programme & Interviews

Date 11-13/12/2011

Time		Topic	Function/Department	People interviewed
from	to			
11/12/2011				
9.00	12.00	PoA presentation, PoA analysis, Document check CME capacity	1. Mabanaf, Business Development Manager 2. Perspectives GmbH, CDM Consultant 3. EcoSur, CDM/JI Project Manager	1. Patricia Rosenthal Liebesny 2. Arindam Basu 3. María Belén Migone
13.00	14.00	EIA discussion	In addition to the CME representative and project consultants listed above: Aurecon, EIA Expert in charge of the 1 st CPA EIA	Louise Corbett
14.00	17.00	CPA presentation, Investment Analysis; Document Check, Benchmark Discussion ER-Calculation	In addition to the CME representative and project consultants listed above: 1. Plan 8, Engineering Manager 2. Plan 8, Project Manager	1. Zuben Jessa 2. Jason Cope
12/12/2011				
11.00	16.00	On-site visit at project location, discussion with the single entity affected by the project, the nearby military test facility	Alkantpan Test Range, Manager	Keith Woolf
13/12/2011				
9.00	12.00	Identification and discussion of key findings	1. Perspectives GmbH, CDM Consultant 2. EcoSur, CDM/JI Project Manager	1. Arindam Basu 2. María Belén Migone

8 Appendix C: Documents Reviewed

No	Title
1	PoA-DD, CPA-DD (generic, 1st CPA) South Africa Wind Energy Version 1 dated 20/11/2011
2	PoA-DD, CPA-DD (generic, 1st CPA) South Africa Wind Energy Version 2 dated 04/04/2012
3	PoA-DD, CPA-DD (generic, 1st CPA) South Africa Wind Energy Version 3 dated 06/07/2012
4	LoA of The Republic of South Africa for the South Africa Wind Energy PoA without reference dated 06/07/2012
5	LoA of The Netherlands for the South Africa Wind Energy PoA with reference 011ANL589 dated 09/03/2012
6	IRR and Emission reduction calculation of the 1st CPA "10_Mabanaft-SA Wind PoA_1stCPA_IRR and ER.xls"
7	Grid factor calculation for South African grid; "EF-SA PoA Average OM.xls"
8	ESKOM Fact sheets - Pricing and the Inclined Block Tariff (IBT)
9	South African Government announcing the IPP / Independent Power Producer) programme (tender) 09_Govt DoE IPP -PPa_ announcement.df
10	Department of Environmental Affairs; EIA progress document showing that EIA was submitted to the Ministry for final approval – "10_Ack for ROD.pdf"
11	Department of Energy IPP Tender (call for new generation capacities) "11_RFP.pdf" dated 03/08/2011
12	DNA Guidance document for CDM applicants, "12_GreenBook SA DNA.pdf"
13	ODA / Public Funding statement by Mabanaft Carbon B.V that the PoA does not receive public funding "13_Mabanaft ODA."
14	ODA / Public Funding statement by Plan 8 that the 1st CPA does not receive public funding "14_Plan8 ODA."
15	Income tax, rules on depreciation "15_Tax Depreciation.pdf"
16	Technical specification of the wind park/turbines "16_Nordex Tech Specs.pdf"
17	Wind measurements for 2011 January-2012 March period to establish the Plant Load Factor – for the calculations "17_Plant Load Factor - "17_Plant Load Factor - wind measurements 2011 January-2012 March.pdf"
18	Local stakeholder Consultations advert "18_LSC Advert.pdf", Letter sent to Local Stakeholders "19_Letter to Stakeholders.pdf"
19	Report of Local Stakeholder meeting (including presentations)
20	List of stakeholders informed & invited "015_List of Stakeholders.pdf"
21	GSP measurements s at Copperton wind Farm (wind mast; border; gate)
22	NERSA, National Energy Regulator of South Africa, Draft Guidelines on Renewable Energy feed/in Tariff "22 REFIT_guidelines_draft_080515_pdf.pdf"
23	NERSA 2009 decision ON RENEWABLE ENERGY FEED-IN TARIFF (REFIT) establishing the 1.25 ZAR/Kwh tariff; available from: http://www.dpe.gov.za/news-3
24	CME Operational Manual: "006-CME Manual_MBV_Wind_ver 1.1.pdf"
25	Overview of issued Written Approvals for participation in a CDM project activity per 4 April 2012 by the Netherlands DNA "25 Overview of issued Written Approvals for participation in a CDM project activity per 4 April 2012.pdf"
26	MoC Form, signed by PP on 04/07/2012
27	ESKOM data for grid factor calculation (available at: http://www.eskom.co.za/live/click.php?u=%2Fcontent%2FCEF_CalculatorFINAL2010-2011%7E1.xls&o=Item%2B236&v=454b33)
28	DNA decision to issues LoAs for Projects with pending EIAs/ record of decision "28 Record of Decision (EIA) for CDM projects 2012 04 04 by South African DNA.htm"
29	Approved 28 IPP Generation Licences "29 State-ment_on_approved_28_IPP_Generation_Licences3822082012102229[1].pdf" available http://www.nersa.org.za/ContentPage.aspx?PagelId=526&PageName=Media Releases/Statements
30	Inclusion agreement for CPA between CME and 1st CPA owner, Plan8 Infinite Energy (Pty) Ltd "30 CPA_agreement_copperton_signed.pdf". dated 30 November 2011
31	Draft Environmental Impact Assessment Report, Aurecon « 31 EIA Summary Eng FINAL" received directly from Aurecon
32	Statement by 1stCPA owner, Plan 8 that only new equipment will be used in the 1st CPA. "32 letter p8 WTG 6 july 2012.pdf"
33	Email from Designated National Authority for Clean Development Mechanism Department of Energy (Republic of South Africa) explaining the LoA conditions dated 09/07/2012

9 Appendix D: Certificates of Competence

Name: Mr Zsolt Lengyel

Scopes of expertise:

1	Energy industries (renewable/non-renewable sources) TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar TA 1.2: Energy generation from renewable energy sources	X <input type="checkbox"/> X
2	Energy distribution TA 2.1: Electricity distribution TA 2.2: Heat distribution	X <input type="checkbox"/> X
3	Energy demand TA 3.1 Energy demand	X X
4	Manufacturing industries TA 4.1: Cement sector TA 4.2: Aluminium TA 4.3: Iron and steel TA 4.4: Refinery	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5	Chemical industry TA 5.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
6	Construction TA 6.1: Construction	<input type="checkbox"/> <input type="checkbox"/>
7	Transport TA 7.1: Transport	<input type="checkbox"/> <input type="checkbox"/>
8	Mining/mineral production TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below TA 8.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9	Metal production TA 9.1: Metal production	<input type="checkbox"/> <input type="checkbox"/>
10	Fugitive emissions from fuels TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below TA 10.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride TA 11.1: Chemical process industries TA 11.2: GHG capture and destruction	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
12	Solvents use TA 12.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
13	Waste handling and disposal TA 13.1: Waste handling and disposal TA 13.2: Animal waste management	X X <input type="checkbox"/>
14	Afforestation and reforestation TA 14.1: Forestry	<input type="checkbox"/> <input type="checkbox"/>
15	Agriculture TA 15.1: Agriculture TA 15.2: Animal waste management	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Name: Mr Martin Enderlin, PhD

Scopes of expertise:

1	Energy industries (renewable/non-renewable sources) TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar TA 1.2: Energy generation from renewable energy sources	X X X
2	Energy distribution TA 2.1: Electricity distribution TA 2.2: Heat distribution	X <input type="checkbox"/> X
3	Energy demand TA 3.1 Energy demand	X X
4	Manufacturing industries TA 4.1: Cement sector TA 4.2: Aluminium TA 4.3: Iron and steel TA 4.4: Refinery	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5	Chemical industry TA 5.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
6	Construction TA 6.1: Construction	<input type="checkbox"/> <input type="checkbox"/>
7	Transport TA 7.1: Transport	X X
8	Mining/mineral production TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below TA 8.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9	Metal production TA 9.1: Metal production	<input type="checkbox"/> <input type="checkbox"/>
10	Fugitive emissions from fuels TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below TA 10.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride TA 11.1: Chemical process industries TA 11.2: GHG capture and destruction	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
12	Solvents use TA 12.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
13	Waste handling and disposal TA 13.1: Waste handling and disposal TA 13.2: Animal waste management	X X <input type="checkbox"/>
14	Afforestation and reforestation TA 14.1: Forestry	<input type="checkbox"/> <input type="checkbox"/>
15	Agriculture TA 15.1: Agriculture TA 15.2: Animal waste management	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Name: Mr Oliver Stankiewitz

Scopes of expertise:

1	Energy industries (renewable/non-renewable sources) TA 1.1: Thermal energy generation from fossil fuels as well as thermal energy from solar TA 1.2: Energy generation from renewable energy sources	X <input type="checkbox"/> X
2	Energy distribution TA 2.1: Electricity distribution TA 2.2: Heat distribution	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	Energy demand TA 3.1 Energy demand	<input type="checkbox"/> <input type="checkbox"/>
4	Manufacturing industries TA 4.1: Cement sector TA 4.2: Aluminium TA 4.3: Iron and steel TA 4.4: Refinery	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5	Chemical industry TA 5.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
6	Construction TA 6.1: Construction	X X
7	Transport TA 7.1: Transport	X X
8	Mining/mineral production TA 8.1: Mining and mineral processes, excluding those included in TA 8.2 below TA 8.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9	Metal production TA 9.1: Metal production	<input type="checkbox"/> <input type="checkbox"/>
10	Fugitive emissions from fuels TA 10.1: Mining and mineral processes, excluding those included in TA 10.2 below TA 10.2: Oil and gas industry, coal mine methane recovery and use	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride TA 11.1: Chemical process industries TA 11.2: GHG capture and destruction	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
12	Solvents use TA 12.1: Chemical process industries	<input type="checkbox"/> <input type="checkbox"/>
13	Waste handling and disposal TA 13.1: Waste handling and disposal TA 13.2: Animal waste management	X X X
14	Afforestation and reforestation TA 14.1: Forestry	X X
15	Agriculture TA 15.1: Agriculture TA 15.2: Animal waste management	X X X

10 Appendix E: Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CPA	CDM Programme Activity / Component Project Activity
CPA DD	CDM Programme Activity / Component Project Activity Design Document
DNA	Designated National Authority
EIA	Environmental Impact Assessment
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IEE	Initial Environmental Examination
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
N ₂ O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
PoA	Programme of Activities
PDD	Project Design Document
SQS	Swiss Association for Quality and Management Systems
UNFCCC	United Nations Framework Convention on Climate Change

**Swiss Association for Quality and
Management Systems (SQS)**

B e r n s t r a s s e 1 0 3
P . O . B o x 6 8 6
C H - 3 0 5 2 Z o l l i k o f e n
T e l . + 4 1 3 1 9 1 0 3 5 3 5
F a x . + 4 1 3 1 9 1 0 3 5 4 5
h e a d o f f i c e @ s q s . c h
w w w . s q s . c h

CDM Validation Protocol

Enterprise

Business account:	322860
Company:	Mabanaft Carbon B.V.
Address:	Wilhelminakade 101 (43rd floor) NL-3072 AP Rotterdam
Phone:	+31 10 290 69 42
Fax:	+31 10 411 07 53
E-Mail:	patricia.rosenthal@mabanaft.nl
Contact person:	Ms Patricia Rosenthal

Service

Audit/Assessment:	CDM PoA Validation
Audit/Assessment beginning/end:	27/09/2011 – 14/09/2012
Project name:	South Africa Wind Energy
GBZ/Report-No.:	323989 / P31934.55
UNFCCC Scope(s)/Technical area(s):	1 Energy
UNFCCC Methodology:	ACM0002 (Version 12.3.0) for Consolidated baseline methodology for grid-connected electricity generation from renewable sources
UNFCCC Scale:	Large-scale, Programme of Activities
Team of auditors/assessors:	Mr Zsolt Lengyel Mr Martin Enderlin

Contents

Introduction	2
Normative References/Documents.....	2
Protocol 1: General CDM Requirements	3
Protocol 2: Methodological Requirements (incl. tools).....	22
Tool to calculate the emission factor for an electricity system	28
Protocol 3: Project Specific Requirements	32
Protocol 4: Summary of Requests.....	33

Introduction

[VVM] 26: The purpose of validation is to ensure a thorough, independent assessment of proposed CDM project activities submitted for registration as a proposed CDM project activity against the applicable CDM requirements.

[VVM] 35: The DOE shall raise a corrective action request (CAR) if one of the following occurs:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The CDM requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

[VVM] 36: The DOE shall raise a clarification request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

[VVM] 37: The DOE shall raise a forward action request (FAR) during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

Normative References/Documents

No.	Title	Version
[1]	Clean Development Mechanism Validation and Verification Manual	1.2
[2]	Guidance in the demonstration and assessment of prior consideration of CDM	4
[3]	Guidelines on the Assessment of Investment Analysis	5
[4]	Glossary of CDM terms	6
[5]	Modalities and Procedures for a Clean Development Mechanism	unedited
[6]	ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources,	12.3.0
[7]	Tool for the demonstration and assessment of additionality	06..0.0
[8]	Tool to calculate the emission factor for an electricity system	02.2.0

Protocol 1: General CDM Requirements

Note: the template text refers to PDD; however in case of PoAs this term implies the full PoA documentation (PoA-DD, specific CPA, generic CPA).

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
1	Validation requirements based on paragraph 37 of the CDM modalities and procedures				
1.1	APPROVAL				
[1] 44	All Parties involved have approved the project activity. Comment: CAR1: Please provide host country Letter of Approval (LoA) for the project and its project participant (PP). LoAs of both countries were received and therefore, CAR 1 was closed.	4,5	DR	CAR1	OK
1.1.1 [1] 45	The DOE shall determine whether the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD has provided a written letter of approval. The DOE shall determine whether each letter confirms that: (a) The Party is a Party to the Kyoto Protocol; (b) Participation is voluntary; (c) In the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country; (d) It refers to the precise proposed CDM project activity title in the PDD being submitted for registration. Comment: The LoAs are in accordance with CDM modalities and procedures. Neither of the LoAs contains reference to the version number of the PDD.	4,5	DR	OK	OK
1.1.2 [1] 46	The DOE shall determine whether the letter(s) of approval is unconditional with respect to (a) to (d) above. Comment: The LoAs are unconditional. SQS validated that these additional conditions (1 to 4) introduced by the DNA of The Republic of South Africa do not compromise VVM article 45-46 requirements. Therefore, the LoA of The Republic of South Africa is unconditional with respect to (a) to (d) above.	4,5	DR	OK	OK
1.1.3 [1] 47	The DOE shall confirm that the letter(s) of approval was issued by the respective Party's designated national authority (DNA) and is valid for the proposed CDM project activity under validation. A list of DNAs is available on the UNFCCC CDM website. Comment: The DOE received the Annex I LoA from the project participant. And the Host Country LoA from the DNA directly.	4,5	DR	OK	OK
1.1.4 [1] 48	If the DOE doubts the authenticity of the letter of approval, the DOE shall verify with the DNA that the letter of approval is authentic. Comment: The authenticity of both LoAs is unambiguous and have been checked with the issuing DNAs.	4,5	DR	OK	OK
1.2	PARTICIPATION				
[1] 51	All project participants have been listed in a consistent manner in the project documentation. Also, their participation in the project activity was approved by a Party to the Kyoto Protocol. Comment: Documentation, including the MoC form, is consistent. The PP's participation was approved by parties to the Kyoto Protocol.	3,4, 5,26	DR	OK	OK
1.2.1 [1] 52	The DOE shall confirm that the project participants are listed in tabular form in section A.3 of the PDD and that this information is consistent with the contact details provided in Annex 1 of the PDD. The DOE shall determine whether the participation of each PP has been approved by at least one Party involved, either	3	DR	OK	OK

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	in a LoA or in a separate letter specifically to approve participation. The DOE shall confirm that no entities other than those approved as project participants are included in these sections of the PDD.				
	Comment: The PP is listed appropriately in the PoA documentation and they are the only entities that were approved by the respective DNAs.				
1.2.2 [1] 53	The DOE shall ensure that the approval of participation was issued from the relevant DNA and if in doubt shall verify with the DNA that the approval of participation is valid for the proposed CDM project participant.	4,5	DR	OK	OK
	Comment: The authenticity of both LoAs is unambiguous.				
1.3	PROJECT DESIGN DOCUMENT				
[1] 55	The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.	3	DR	OK	OK
	Comment: The PoA documentation has used the latest template.				
1.3.1 [1] 56	The DOE shall determine whether the PDD is in accordance with the applicable CDM requirements for completing PDDs.	3	DR	OK	OK
	Comment: The PoA documentation is in full compliance with relevant forms and guidance.				
1.4	PROJECT DESCRIPTION				
[1] 58	The PDD shall contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.	3	DR	OK	OK
	Comment: Project activities both for the PoA level and the 1 st and the generic CPAs are clearly described.				
1.4.1 [1] 59	The DOE shall confirm that the description of the proposed CDM PoA as contained in the PoA documentation sufficiently covers all relevant elements, is accurate and that it provides the reader with a clear understanding of the nature of the proposed CDM project activity.	3	DR	CAR2 CAR3 CAR4 CAR5 CAR6 CAR7 CL1 CL2 CL4 CL5 CL6 CL7 CL8 CL9 CL10 CL11 CL12 CL13 CL14 CL15	OK
	See Protocol 4 for the detailed description of the CAR-CLs.				
	Comment: The PoA documentation has been amended and supportive materials have been provided regarding the above listed CLs and therefore these CLs have been closed.				

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	The PoA project description is therefore accurate and complete.				
1.4.2 [1] 60	For proposed CDM project activities in existing facilities or utilizing existing equipments, the DOE shall conduct a physical site inspection to confirm that the description in the PDD reflects the proposed CDM project activity for the following types of CDM project activities unless other means are specified in the methodology: (a) Large scale projects; (b) Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year; (c) Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes per year; in such case the number of physical site visits may be based on sampling, if the sampling size is appropriately justified through statistical analysis.	3,31	DR, I	OK	OK
	Comment: An on-site visit confirmed that the description in the 1 st CPA reflects the proposed CDM PoA CPA project activity accurately.				
1.4.3 [1] 61	For other individual proposed small scale CDM project activities with emission reductions not exceeding 15 000 tonnes per year, the DOE may conduct a physical site visit as appropriate.			N/A	N/A
	Comment:				
1.4.4 [1] 62	For all other proposed CDM project activities not referred to in paragraphs 59-61, the DOE shall undertake the validation by reviewing available designs and feasibility studies and may conduct comparison analysis to equivalent projects, as appropriate. The DOE may conduct physical site visit to assess the plan. For proposed CDM project activities for which the DOE does not undertake a physical site inspection, this shall be appropriately justified.			N/A	N/A
	Comment:				
1.4.5 [1] 63	If the proposed CDM project activity involves the alteration of an existing installation or process, the DOE shall ensure that the project description clearly states the differences resulting from the project activity compared to the pre-project situation.			N/A	N/A
	Comment:				
1.5	BASELINE AND MONITORING METHODOLOGY				
1.5.1	General requirement				
1.5.1.1 [1] 65	The DOE shall ensure that the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board.	3	DR	OK	OK
	Comment: The baseline and monitoring methodology used in the project fully complies with CDM EB requirements.				
1.5.1.2 [1] 66	To ensure that the project activity meets this general requirement, the DOE shall determine whether: (a) The selected methodology is applicable to the project activity; (b) The PP has correctly applied the selected methodology.	3	DR	OK	OK
	Comment: The baseline and monitoring methodology used in the project fully complies with CDM EB requirements.				
1.5.1.3 [1] 67	The DOE shall ensure that the selected methodology applies to the project activity and has correctly been applied with respect to the following: (a) Project boundary;	3	DR	CAR2 CAR6	OK

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	(b) Baseline identification; (c) Algorithms and/or formulae used to determine emission reductions; (d) Additionality; (e) Monitoring methodology.				
	<p>Comment: CAR 2: Sources and gases included/excluded in project boundary was incorrectly indicated PoA documentation amended therefore CAR 2 is closed.</p> <p>CAR 6: The 1st CPA does not include the F, Nall; Ndiff calculations quantifying the common practice in line with the applicable Tool.</p> <p>CPA documentation amended therefore CAR 6 is closed.</p>				
1.5.2	Applicability of the selected methodology to the project activity				
[1] 68	The DOE shall validate that the selected baseline and monitoring methodology previously approved by the CDM Executive Board is applicable to the project activity, including that the used version is valid.	3	DR	OK	OK
	Comment: The methodology is applicable and the version used is the latest one available.				
[1] 69	The DOE shall apply specific guidance provided by the CDM Executive Board in respect to any approved methodology.	3	DR	OK	OK
	Comment: The applicability of the methodology is unambiguous.				
1.5.2.1 [1] 70	The DOE shall determine whether the methodology is correctly quoted and applied by comparing it with the actual text of the applicable version of the methodology available on the UNFCCC CDM website.	3	CAR3	OK	OK
	<p>Comment: CAR 3: Please update the PoA-DD, generic CPA-DD and 1st CPA-DD to reflect EB 65 PoA Standard (Annex 3) and other applicable PoA related decisions coming into force since drafting the PoA documentation.</p> <p>PoA documentation amended, therefore CAR 3 is closed.</p> <p>The methodology and its supporting tools are correctly quoted and applied.</p>				
1.5.2.2 [1] 71	A selected approved methodology applies to the project activity if the applicability conditions of the methodology are met and the project activity is not expected to result in emissions other than those allowed by the methodology. The DOE shall determine whether the choice of methodology is justified, and the project participants have shown that the project activity meets each of the applicability conditions of the approved methodology or any tool or other methodology component referred to therein. This shall be done by validating the documentation referred to in the PDD and by verifying that its content is correctly quoted and interpreted in the PDD. If the DOE, based on local and sectoral knowledge, is aware that comparable information is available from sources other than the one used in the PDD, then the DOE shall cross check the PDD against the other sources to confirm that the project activity meets the applicability conditions of the methodology.	3	DR	OK	OK
	Comment: The proposed PoA project activity is in line with applicability criteria. Therefore, the validation opinion is unambiguous regarding the applicability of the selected methodology to the proposed CDM PoA.				
1.5.2.3 [1] 72	If the DOE cannot make a determination regarding the applicability of the selected methodology to the proposed CDM project activity, the DOE shall request clarification of the methodology in accordance with the guidance provided by the CDM Executive Board.			N/A	N/A
	Comment:				
1.5.2.4 [1] 73	If the DOE determines that the proposed CDM project activity does not comply with the applicability conditions of the methodology, the DOE may proceed by means of requesting revision to or deviation from the methodology in accordance with the guidance provided by the CDM Executive Board.			N/A	N/A

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	Comment:				
1.5.2.5 [1] 74	If the DOE has requested clarification of revision to or deviation from a methodology, the DOE shall not submit a request for registration until the CDM Executive Board has approved the proposed deviation or revision.			N/A	N/A
	Comment:				
1.5.2.6 [1] 75	Under no circumstance shall the DOE consider the submission of a request for registration as a means of seeking clarification from the CDM Executive Board on the applicability of a methodology.			N/A	N/A
1.5.3	Project boundary				
[1] 78	The PDD shall correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity.	3	DR	CAR2	OK
	Comment: CAR 2: Sources and gases included/excluded in project boundary was incorrectly indicated PoA documentation amended therefore CAR 2 is closed. Project boundary is appropriately described.				
1.5.3.1 [1] 79	Based on documented evidence and corroborated by a site visit where required by paragraphs 59-62 above, the DOE shall determine whether the delineation in the PDD of the project boundary is correct and meets the requirements of the selected baseline methodology. The DOE also shall confirm that all sources and GHGs required by the methodology have been included within the project boundary. If the methodology allows project participants to choose whether a source or gas is to be included within the project boundary, the DOE shall determine whether the project participants have justified that choice. The DOE shall confirm that the justification provided is reasonable, based on assessment of supporting documented evidence provided by the project participants and corroborated by observations if required.	3,21	DR	OK	OK
	Comment: Project boundary is appropriately described.				
1.5.4	Baseline identification				
[1] 81	The PDD shall identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity.	3	DR	OK	OK
	Comment: Baseline has been established in line with the methodology.				
[1] 82	The DOE shall confirm that any procedure contained in the methodology to identify the most reasonable baseline scenario has correctly been applied. If the selected methodology requires use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario, the DOE shall consult the methodology on the application of these tools. In such cases, the guidance in the methodology shall supersede the tool. The DOE shall check each step in the procedure described in the PDD against the requirements of the methodology.	3	DR	OK	OK
	Comment: The identification of the most reasonable baseline scenario has correctly been conducted.				

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
1.5.4.1 [1] 83	If the methodology requires several alternative scenarios to be considered in the identification of the most reasonable baseline scenario, the DOE shall, based on financial expertise and local and sectoral knowledge, determine whether all scenarios that are considered by the project participants and are supplementary to those required by the methodology, are reasonable in the context of the proposed CDM project activity and that no reasonable alternative scenario was excluded.			N/A	N/A
	Comment:				
1.5.4.2 [1] 84	The DOE shall determine whether the baseline scenario identified is reasonable by validating the assumptions, calculations and rationales used as described in the PDD. It shall ensure that documents and sources referred to in the PDD are correctly quoted and interpreted. The DOE shall cross check the information provided in the PDD with other verifiable and credible sources, such as local expert opinion, if available.	3	DR	OK	OK
	Comment: Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable.				
1.5.4.3 [1] 85	The DOE shall determine whether all applicable CDM requirements have been taken into account in the identification of the baseline scenario for the proposed CDM project activity, including "relevant national and/or sectoral policies and circumstances." Drawing on its knowledge of the sector and/or advice from local experts, the DOE shall confirm that all relevant policies and circumstances have been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board.	3,9, 10,2 8	DR	OK	OK
	Comment: Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD. It must be noted that grid connected electricity generation is stringently regulated and all Independent Power Producers (IPPs) tendering for capacities/connection to the grid must comply with regulations.				
1.5.4.4 [1] 86	The DOE shall determine whether the PDD provides a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity.	3	DR	OK	OK
	Comment: The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.				
1.5.5	Algorithms and/or formulae used to determine emission reductions				
[1] 89	The steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions shall comply with the requirements of the selected baseline and monitoring methodology.	3,6	DR	OK	OK
	Comment: The equations applied to calculate project emissions, baseline emissions, leakage and emission reductions are compliant with the methodology and its applicable tools.				
1.5.5.1 [1] 90	The DOE shall determine whether the equations and parameters in the PDD were correctly applied by comparing them to those in the selected approved methodology. If the methodology provides for selection between different options for equations or parameters, the DOE shall confirm that adequate justification was provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided) and that the correct equations and parameters were used, in accordance with the methodology selected.	3,6	DR	OK	OK
	Comment: All assumptions and data used by the PPs are listed in the PoA documentation, including their references and sources. All documentation used by the PPs as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA documentation.				

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
1.5.5.2 [1] 91	<p>The DOE shall verify the justification given in the PDD for the choice of data and parameters used in the equations. If data and parameters will not be monitored throughout the crediting period of the proposed CDM project activity but have already been determined and will remain fixed throughout the crediting period, the DOE shall assess that all data sources and assumptions are appropriate and that calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions. If data and parameters will be monitored on implementation and hence become available only after validation of the project activity, the DOE shall confirm that the estimates provided in the PDD for these data and parameters are reasonable.</p> <p>Comment: All values used in the PoA Documentation are considered reasonable in the context of the proposed CDM project activity. The baseline methodology was applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA documentation.</p>	3,6	DR	OK	OK
1.6	ADDITIONALITY OF A PROJECT ACTIVITY				
[1] 94	<p>The PDD shall describe how a proposed CDM project activity is additional.</p> <p>Comment: The PoA documentation sufficiently describes the additionality of the project. FAR 1: The 1st CPA starting date is the financial closure for the wind park investment which is expected by the second half of 2013. As the CPA starting date is in the future, the then available investment analysis shall be checked whether it still supports the claim that the project IRR is below the validated benchmark. This FAR, based on the 1st CPA, is in line with VVM paragraph 37 as it does not relate to the CDM requirements for registration. FAR 1 will be addressed at the initial verification of the 1st CPA.</p>	3	DR	OK FAR 1	OK
1.6.1 [1] 95	<p>The DOE shall assess and verify the reliability and credibility of all data, rationales, assumptions, justifications and documentation provided by project participants to support the demonstration of additionality. This requires the DOE to critically assess the presented evidence, using local knowledge and sectoral and financial expertise.</p> <p>Comment: CL 7: The reference to the national standards for depreciation chosen (20 years) for each components of wind power projects is missing. CAR 5: Source of data for all key assumptions and parameters of the investment analysis as listed in EB 62 (Annex 5, version 05) is missing. The amended PoA documentation describes the relevant aspects of energy generation in a reliable and credible manner. Therefore, CL7 and CAR5 are closed.</p>	3,6	DR	CL7 CAR5	OK
1.6.2 [1] 96	<p>The DOE shall consider tools and documents provided by the CDM Executive Board to demonstrate the additionality of proposed CDM project activities as well as specific complementary or alternative requirements included in approved CDM methodology.</p> <p>Comment: The additionality tool is used and no alternative/additional requirements are applicable. CAR 6: The 1st CPA does not include the F, Nall; Ndiff calculations quantifying the common practice in line with the applicable tool. The 1st CPA has been amended and fully complies with the additionality tool. Therefore, CAR 6 is closed.</p>	3	DR	CAR6	OK
1.6.1	Prior consideration of the clean development mechanism				
[1] 98	<p>If the project activity start date is prior to the date of publication of the PDD for stakeholder comments, it shall be demonstrated that the CDM benefits were considered necessary in the decision to undertake the project as a proposed CDM project activity.</p>	3	DR	OK	OK

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	<p>Comment:</p> <p>Though the DOE is not required to assess prior consideration of CDM for PoAs in line with EB 62 Annex 13 requirements, it is confirmed that the first component of the programme will commence after the starting date of validation, 27/09/2011, the contract signature for validation. The 1st CPA will reach financial closure by second half of 2013 which will be considered as the starting date of the CPA.</p>				
1.6.1.1 [1] 99	<p>The DOE shall confirm that the start date of the project activity, reported in the PDD, is in accordance with the "Glossary of CDM terms". If the reported date is not in accordance with the glossary, the DOE shall raise a CAR to ensure that the start date is correctly reported in a revised PDD. In particular, for project activities that require construction, retrofit or other modifications, the date of commissioning cannot be considered the project activity start date.</p>	3	DR	OK	OK
	<p>Comment:</p> <p>Though the DOE is not required to assess prior consideration of CDM for PoAs in line with EB 62 Annex 13 requirements, it is confirmed that the first component of the programme will commence after the starting date of validation, 27/09/2011, the contract signature for validation. The 1st CPA will reach financial closure by second half of 2013 which will be considered as the starting date of the CPA.</p>				
1.6.1.2 [1] 100	<p>The DOE, in accordance with the guidance from the CDM Executive Board, shall determine whether it is a new project activity (a project activity with a start date on or after 02/08/2008) or an existing project activity (a project activity with a start date before 02/08/2008).</p>	3	DR	OK	OK
	<p>Comment:</p> <p>The project is a "new project activity" according to the EB guidance.</p>				
1.6.1.3 [1] 101	<p>For a new project activity, for which the PDD has not been published for global stakeholder consultation or a new methodology proposed to the CDM Executive Board before the project activity start date, the DOE shall ensure by means of confirmation from the UNFCCC secretariat that PPs had informed the host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status. If such a notification has not been provided by the project participants within six months of the project activity start date, the DOE shall determine that the CDM was not seriously considered in the decision to implement the project activity.</p>	3	DR	OK	OK
	<p>Comment:</p> <p>Prior consideration confirmation to the UNFCCC of a PoA is not applicable (see 1.6.1.2).</p>				
1.6.1.4 [1] 102	<p>For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, the DOE shall assess the project participant's prior consideration of the CDM through document reviews and shall satisfy following requirements:</p> <p>(a) Evidence which must indicate that the awareness of the CDM prior to the project activity start date, and that the benefits of the CDM, were a decisive factor in the decision to proceed with the project. Evidence to support this would include, inter alia, minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity.</p> <p>(b) Reliable evidence from project participants which must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation. Evidence to support this should include, inter alia, contracts with consultants for CDM/PDD/methodology services, Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds), evidence of agreements or negotiations with a DOE for validation services, submission of a new methodology to the CDM Executive Board, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNFCCC secretariat.</p>			N/A	N/A

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	Comment:				
1.6.1.5 [1] 103	If evidence to support the serious prior consideration of the CDM as indicated above is not available, the DOE shall determine that the CDM was not considered in the decision to implement the project activity.			N/A	N/A
	Comment:				
1.6.2	Identification of alternatives				
[1] 105	The PDD shall identify credible alternatives to the project activity in order to determine the most realistic baseline scenario, unless the approved methodology that is selected by the proposed CDM project activity prescribes the baseline scenario and no further analysis is required.	3	DR	OK	OK
	Comment: The approved methodology prescribes the baseline scenario.				
1.6.2.1 [1] 106	The DOE shall assess the list of alternatives given in the PDD and ensure that: (a) The list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity; (b) The list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity; (c) The alternatives comply with all applicable and enforced legislation.	3	DR	OK	OK
	Comment: See 1.5.4. and 1.6.2 above.				
1.6.3	Investment analysis				
[1] 108	If the investment analysis has been used to demonstrate the additionality of the proposed CDM project activity, the PDD shall provide evidence that the proposed CDM project activity would not be: (a) The most economically or financially attractive alternative; or (b) Economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs).	3,6	DR	CAR7	OK
	Comment: CAR7: The 1 st CPA-DD does not include project IRR with and without CER revenues. The 1 st CPA-DD does not include the values of the identified key parameters with which the project IRR exceed the benchmark and the possibility of this occurring. 1 st CPA has been amended to include the additional information, therefore CAR7 is closed. Investment analysis have been used appropriately to demonstrate the additionality of the project.				
[1] 109	Project participants can show this through one of the following approaches, by demonstrating that: (a) The proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified, and demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity; (b) The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative; (c) The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	3,6	DR	OK	OK
	Comment: The proposed CDM activity is less economically or financially attractive than at least one other credible and realistic alternative, and the financial returns of the proposed CDM PoA component project activity would be insufficient to justify the required investment.				
[1] 110	The DOE shall comply with the latest version of the "Guidance on the Assessment of Investment Analysis" as provided by the CDM Executive Board and with other relevant guidance, including the latest guidelines on plant load factors "guidelines for the reporting and validation of plant load factors".	3,6	DR	OK	OK

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable

CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	Comment: The investment analysis is compliant with the respective EB guidance.				
1.6.3.1 [1] 111	<p>To verify the accuracy of financial calculations carried out for any investment analysis, the DOE shall:</p> <p>(a) Conduct a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices;</p> <p>(b) Cross-check the parameters against third-party or publicly available sources, such as invoices or price indices;</p> <p>(c) Review feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants;</p> <p>(d) Assess the correctness of computations carried out and documented by the project participants;</p> <p>(e) Assess the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur and the likelihood of these conditions.</p>	3,6	DR	OK	OK
	Comment: The parameters used in the financial analysis were validated by comparing official sources (e.g. IRR benchmark SARB base rate etc.) and expert judgement (e.g. CAPEX of proposed project).				
1.6.3.2 [1] 112	<p>To confirm the suitability of any benchmark applied in the investment analysis, the DOE shall:</p> <p>(a) Determine whether the type of benchmark applied is suitable for the type of financial indicator presented;</p> <p>(b) Ensure that any risk premiums applied in determining the benchmark reflect the risks associated with the project type or activity;</p> <p>(c) Determine whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by, for example, assessing previous investment decisions by the project participants involved, and determining whether the same benchmark has been applied or if there are verifiable circumstances that have led to a change in the benchmark.</p>	3,6	DR	OK	OK
	Comment: The IRR used in the PDD was compared to the EB guidance value and the prevailing lending and capital costs of the South African Republic.				
1.6.3.3 [1] 113	<p>The CDM Executive Board clarified that in cases where project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities, DOEs are required to ensure that:</p> <p>(a) The FSR has been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed;</p> <p>(b) The values used in the PDD and associated Annexes are fully consistent with the FSR, and where inconsistencies occur, the DOE should validate the appropriateness of the values;</p> <p>(c) On the basis of its specific local and sectoral expertise, confirmation is provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision.</p>			N/A	N/A
	Comment: FSR or similar studies are not required by South African authorities.				
1.6.4	Barrier analysis				
[1] 115	If barrier analysis was used to demonstrate the additionality of the proposed CDM project activity, the PDD shall demonstrate that the proposed CDM project activity faces barriers that:			N/A	N/A

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	(a) Prevent the implementation of this type of proposed CDM project activity; (b) Do not prevent the implementation of at least one of the alternatives.				
	Comment: According to the additionality tool, a barrier analysis is not required to be used.				
1.6.4.1 [1] 116	Issues that have a clear direct impact on the financial returns of the project activity cannot be considered barriers and shall be assessed by investment analysis. This does not refer to either: (a) Risk related barriers, for example risk of technical failure, that could have negative effects on financial performance, or (b) Barriers related to the unavailability of sources of finance for the project activity.			N/A	N/A
	Comment:				
1.6.4.2 [1] 117	The DOE shall apply a two-step process to assessing the barrier analysis performed as follows: (a) <i>Determine whether the barriers are real.</i> The DOE shall assess the available evidence and/or undertake interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist. The DOE shall ensure that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics. If existence of a barrier is substantiated only by the opinions of the project participants, the DOE shall not consider this barrier to be adequately substantiated. If the DOE considers, on the basis of its sectoral or local expertise, that a barrier is not real or is not supported by sufficient evidence, it shall raise a CAR to have reference to this barrier removed from the project documentation; (b) <i>Determine whether the barriers prevent the implementation of the project activity but not the implementation of at least one of the possible alternatives.</i> Since not all barriers present an insurmountable hurdle to a project activity being implemented, the DOE shall apply its local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of <i>at least one of the possible alternatives</i> , in particular the identified baseline scenario.			N/A	N/A
	Comment:				
1.6.5	Common practice analysis				
[1] 119	For proposed large-scale CDM project activities, unless the proposed project type is first-of-its kind, common practice analysis shall be carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality. This is a test to complement the investment analysis (Step 2 of the additionality tool) or barrier analysis (Step 3 of the additionality tool) to confirm that the project activity is not widely observed and commonly carried out in the region.	3	DR	CAR6	OK
	<p>As a compulsory credibility check on the investment analysis results, a common practice analysis was conducted.</p> <p>Comment: CAR6: The 1st CPA does not include the F, Nall; Ndiff calculations quantifying the common practice in line with the applicable tool</p> <p>The PDD has been amended accordingly, including the calculation of the factors F, Nall, Ndiff, therefore CAR 6 is closed.</p>				

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
1.6.5.1 [1] 120	<p>The DOE shall use its local and sectoral expertise to:</p> <p>(a) Assess whether the geographical scope (e.g. the defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type. For certain technologies, the relevant region for assessment will be local. For others, it may be transnational/global. If a region other than the entire host country is chosen, the DOE shall assess the explanation why this region is more appropriate;</p> <p>(b) Using official sources as well as local and industry expertise, determine to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, were undertaken in the defined region;</p> <p>(c) If similar and operational projects, other than CDM project activities, are already "widely observed and commonly carried out" in the defined region, assess whether there are essential distinctions between the proposed CDM project activity and the other similar activities.</p>	3	DR	OK	OK
	<p>Comment: The proposed 1st CPA activity is not common practice. See 1.6.5 above.</p>				
1.7	MONITORING PLAN				
[1] 122	<p>The PDD shall include a monitoring plan. This monitoring plan shall be based on the approved monitoring methodology applied to the proposed CDM project activity.</p>	3	DR	OK FAR2	OK
	<p>Comment: The monitoring plan is based on the approved monitoring methodology. FAR2: The 1st CPA owner shall provide the detailed project diagram and meter location demonstrating that the metering system is in line with both the methodology and the national requirements. This FAR 2 will be addressed at the initial verification of the 1st CPA.</p>				
1.7.1 [1] 123	<p>The DOE shall apply a two-step process to assessing compliance with this requirement as follows:</p> <p>(a) <i>Compliance of the monitoring plan with the approved methodology.</i> The DOE shall:</p> <p>(i) By means of document review, identify the list of parameters required by the selected approved methodology;</p> <p>(ii) Confirm that the monitoring plan contains all necessary parameters, that they are clearly described and that the means of monitoring described in the plan complies with the requirements of the methodology;</p> <p>(b) <i>Implementation of the plan.</i> The DOE shall, by means of review of the documented procedures, interviews with relevant personnel, project plans and any physical inspection of the proposed CDM project activity site in accordance with paragraphs 59-62, assess whether:</p> <p>(i) The monitoring arrangements described in the monitoring plan are feasible within the project design;</p> <p>(ii) The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified.</p>	3	DR	OK	OK
	<p>Comment: The monitoring plan is in compliance with the requirements of the methodology.</p>				
1.8	SUSTAINABLE DEVELOPMENT				
[1] 125	<p>CDM project activities shall assist Parties not included in Annex I to the convention in achieving sustainable development.</p>	3,4, 10,1 2,31	DR	OK FAR3	OK

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	<p>The host country LoA explicitly refers to the project benefits to sustainable development.</p> <p>FAR3: The 1st CPA's RoD (Record of Decision for the EIA) is yet to be received from the respective authorities. The DNA of The Republic of South Africa provided the LoA on an exceptional basis without the receipt of the RoD [28]. FAR 3 stipulates that the RoD is received in due course, prior to the implementation of the 1st CPA, and is available at the initial verification.</p> <p>This FAR 2 will be addressed at the initial verification of the 1st CPA.</p>				
1.8.1 [1] 126	<p>The DOE shall determine whether the letter of approval by the DNA of the host Party confirms the contribution of the proposed CDM project activity to the sustainable development of the host Party.</p> <p>Comment: The host party's DNA confirmed the contribution of the project to the sustainable development of the host party.</p>	4	DR	OK	OK
1.9	LOCAL STAKEHOLDER CONSULTATION				
[1] 128	<p>Local stakeholders shall be invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website.</p> <p>Comment: LSC has been conducted and documented appropriately.</p>	3,18 ,19, 20	DR	OK	OK
1.9.1 [1] 129	<p>The DOE shall, by means of document review and interviews with local stakeholders as appropriate, determine whether:</p> <p>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</p> <p>(b) The summary of the comments received as provided in the PDD is complete;</p> <p>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</p> <p>Comment: The local stakeholder consultation was appropriately and adequately conducted.</p>	3,18 ,19, 20	DR	OK	OK
1.10	ENVIRONMENTAL IMPACTS				
[1] 131	<p>Project participants shall submit documentation to the DOE on the analysis of the environmental impacts of the project activity in accordance with paragraph 37(c) of the CDM modalities and procedures.</p> <p>Comment: The full set of environmental documentation have been submitted and analysed. FAR3: The 1st CPA's RoD (Record of Decision for the EIA) is yet to be received from the respective authorities. The DNA of The Republic of South Africa provided the LoA on an exceptional basis without the receipt of the RoD [28]. FAR 3 stipulates that the RoD is received in due course, prior to the implementation of the 1st CPA, and is available at the initial verification. This FAR 2 will be addressed at the initial verification of the 1st CPA.</p>	3,4, 10,2 8,31	DR	OK FAR3	OK
1.10.1 [1] 132	<p>The DOE shall confirm, by means of a document review and/or using local official sources and expertise, whether the project participants have undertaken an analysis of environmental impacts and, if required by the host Party, an environmental impact assessment.</p> <p>Comment: The environmental impact assessment for the 1st CPA was conducted in accordance with procedures as required by the host party. However, the EIA has not been approved yet (see 1.131 and FAR3).</p>	3,4, 10,2 8,31	DR	OK	OK
2	Specific validation activities				
2.1	BACKGROUND				
[1] 134	Project participants may contract a DOE to undertake certain specific validation activities. For such validation activities, the DOE shall apply the general means of validation and reporting requirements described above as well as those described below.				

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
2.2	PROJECT DESIGN OF SMALL-SCALE CLEAN DEVELOPMENT MECHANISM PROJECT ACTIVITIES				
[1] 135	The DOE shall determine whether a proposed small-scale CDM project activity meets the requirements of the simplified modalities and procedures for small-scale CDM project activities.			N/A	N/A
	Comment:				
2.2.1 [1] 136	During its validation of a small-scale project activity, the DOE shall confirm that: (a) The project activity qualifies within the thresholds of the three possible types of small-scale project activities. It may include more than one component; for example, a type III methane recovery component activity and a type I electricity component activity; (b) The project activity conforms to one of the approved small-scale categories and applies the relevant tool or methodology. The DOE shall confirm that the small-scale methodologies are applied in conjunction with the general guidelines to SSC CDM methodologies, which provides guidelines on equipment capacity, equipment performance/lifetime, baseline identification for type-II/III Greenfield project activities, sampling and other monitoring-related issues; (c) The project activity is not a debundled component of a large-scale project, in accordance with the rules defined in Appendix C of the simplified modalities and procedures for small-scale CDM project activities; (d) Whether an assessment of the environmental impacts of the proposed CDM project activity is required by the host Party.			N/A	N/A
	Comment:				
2.3	AFFORESTATION OR REFORESTATION PROJECT ACTIVITIES UNDER THE CLEAN DEVELOPMENT MECHANISM				
2.3.1	General requirement				
[1] 138	The guidance provided in section 1 above also applies to the validation of A/R CDM project activities to the extent defined in modalities and procedures for afforestation or reforestation (A/R) CDM project activities and relevant guidance by the CDM Executive Board.			N/A	N/A
	Comment:				
2.3.1.1 [1] 139	In addition, the DOE shall confirm that specific requirements, as defined in the modalities and procedures for A/R CDM project activities, were followed, including: (a) Project boundary for A/R CDM project activities; (b) Selection of carbon pools; (c) Eligibility of land; (d) Approach proposed to address non permanence; (e) Timing of management activities, including harvesting cycles, and verifications; (f) Socio-economic and environmental impacts, including impacts on biodiversity and natural ecosystems.			N/A	N/A
	Comment:				
2.3.2	Project boundary for A/R CDM project activities				
[1] 140	The PDD shall contain a description of the project boundary that geographically delineates the proposed afforestation or reforestation CDM project activity under the control of the project participants. The proposed A/R CDM project activity may contain more than one discrete area of land.			N/A	N/A

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	Comment:				
2.3.2.1 [1] 141	The DOE shall confirm whether the PDD contains a description of the CDM project boundary which encircles discrete areas of land planned for the proposed afforestation or reforestation CDM project activity under the control of the project participants.				
	Comment:				
2.3.2.2 [1] 142	The DOE shall, through document review and/or interviews, validate that the project participants for all areas of land planned for A/R CDM project activity: (a) Have already established the control over afforestation or reforestation activities; or (b) The control over afforestation or reforestation is expected to be established in accordance to the guidance specified in the EB 44 report, Annex 16. The control has to include at minimum the exclusive right, defined in a way acceptable under the legal system of the host country, to perform the A/R activity with the aim of achieving net anthropogenic GHG removals by sinks. If the total number of documents to be reviewed and persons/entities to be interviewed is not less than ten, then the DOE may apply a sampling approach.			N/A	N/A
	Comment:				
2.3.3	Selection of carbon pools				
[1] 144	Proposed A/R CDM project activity may account for verifiable changes in the following carbon pools within the project boundary: above-ground biomass, below-ground biomass, litter, dead wood, and soil organic carbon.			N/A	N/A
	Comment:				
2.3.3.1 [1] 145	The DOE shall determine whether the PDD selected the carbon pools to be considered in the proposed A/R CDM project activity in accordance with the requirements of the selected approved methodology. If the approved methodology allows for an option to exclude certain carbon pools, the DOE shall confirm that verifiable information was provided to justify the exclusion. For this, the DOE shall ensure that all documents referred to in the PDD are correctly quoted and interpreted. If relevant, the DOE shall cross check the information provided in the PDD with other available information from public sources or local experts.			N/A	N/A
	Comment:				
2.3.4	Eligibility of land				
[1] 147	Project participants shall provide evidence that the land within the planned project boundary is eligible for a proposed A/R CDM project activity following the most recent version of the "Procedures to demonstrate the eligibility of land for A/R CDM project activities".			N/A	N/A
	Comment:				
2.3.4.1 [1] 148	The DOE shall validate, based on review of information that reliably discriminates between forest and non-forest land according to the particular thresholds adopted by the host country (exemplary sources are listed in the abovementioned procedures) and a site visit, that the area of land included within the project boundary is eligible for afforestation or reforestation activity.			N/A	N/A
	Comment:				

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable

CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
2.3.5	Conservative choice and application of default data				
[1] 150	Project participants shall ensure that application of default data in estimation of the net anthropogenic GHG removals by sinks results in conservative, but not overly conservative, estimates. An acceptable method for satisfying the above-mentioned requirement is provided in the most recent version of the "Guidelines on conservative choice and application of default data in estimation of the net anthropogenic GHG removals by sinks".			N/A	N/A
	Comment:				
2.3.5.1 [1] 151	The DOE shall review the PDD to ensure satisfactory application of "Guidelines on conservative choice and application of default data in estimation of the net anthropogenic GHG removals by sinks" in order to prevent any overestimation of reductions in anthropogenic emissions according to the provisions of the modalities and procedures for afforestation and reforestation CDM project activities.			N/A	N/A
	Comment:				
2.3.6	Approach proposed to address non permanence				
[1] 153	Project participants shall specify the approach proposed to address non permanence in accordance with paragraph 38 of the modalities and procedures for afforestation or reforestation CDM project activities.			N/A	N/A
	Comment:				
2.3.6.1 [1] 154	The DOE shall review the PDD to ensure an approach to address that non permanence is selected according to the provisions of the modalities and procedures for afforestation or reforestation CDM project activities.			N/A	N/A
	Comment: The validation report shall describe the approach selected by the project participants to address non permanence.				
2.3.7	Timing of management activities, including harvesting cycles, and verifications				
[1] 156	Project participants shall plan management activities, including harvesting cycles, and verifications such that a systematic coincidence of verification and peaks in carbon stocks would be avoided.			N/A	N/A
	Comment:				
2.3.7.1 [1] 157	The DOE shall review the forest management plan and the monitoring plan for the proposed A/R CDM project activity to ensure that a systematic coincidence of verification and peaks in carbon stocks is avoided.			N/A	N/A
	Comment:				
2.3.8	Socio-economic and environmental impacts, including impacts on biodiversity and natural ecosystems				
[1] 159	Project participants shall submit to the DOE documentation on their analysis of the socioeconomic and environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary of the proposed afforestation or reforestation project activity under the CDM.			N/A	N/A
	Comment:				
2.3.8.1 [1] 160	The DOE shall confirm, by means of a document review and/or using local official sources and expertise, whether the project participants have undertaken an analysis of the socio-economic and environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project			N/A	N/A

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	boundary.				
	Comment:				
2.3.8.2 [1] 161	Should the above-mentioned analysis lead to conclusion that any negative impact that may be considered significant by the project participants or the host Party was detected, then the DOE shall, by means of document review, ascertain that a socio-economic impact assessment and/or an environmental impact assessment has been undertaken in accordance with relevant host Party regulations, and that the outcome of such impact assessment is summarized in the PDD. The DOE shall also ascertain that a description of the planned monitoring and remedial measures to address the negative impacts has been included in the PDD.			N/A	N/A
	Comment:				
2.4	PROJECT DESIGN OF SMALL-SCALE AFFORESTATION OR REFORESTATION PROJECT ACTIVITIES				
[1] 163	Small-scale afforestation or reforestation CDM project activities shall be validated using the requirements for afforestation or reforestation CDM project activities as described in section 2.3 above, while taking into account the simplified modalities and procedures for small-scale afforestation and reforestation CDM project activities.			N/A	N/A
	Comment:				
2.4.1 [1] 164	During its validation of a proposed small-scale A/R CDM project activity, the DOE shall determine whether: (a) The project activity complies with the thresholds for the small-scale A/R CDM project activities; (b) The project activity complies with one of the types of small-scale A/R project activities defined in Appendix B of the Annex to decision 6/CMP.1 and qualifies to apply one of the approved simplified baseline and monitoring methodology for small-scale afforestation and reforestation project activities; (c) The proposed CDM project activity is not a part of a debundled large-scale A/R project activity, in accordance with the rules defined in Appendix C of the Annex to decision 6/CMP.1; (d) The proposed CDM project activity was developed or implemented by low-income communities and individuals as confirmed by the host Party.			N/A	N/A
	Comment:				
2.5	PROGRAMME OF ACTIVITIES				
[1] 165	The CDM Executive Board has provided guidance and procedures for registering a programme of activities (PoA) as a single CDM project activity. In validating a PoA and any CDM programme activities (CPAs) proposed to be included in the PoA, the DOE shall, in general, apply the means of validation and reporting requirements described in this Manual. However, there are a number of requirements unique to PoAs for which additional instructions are provided below. The precise extent of validation required in each of these areas will need to be determined by the DOE, based on the type or PoA being validated.			N/A	N/A
	Comment:				
2.5.1	Operational and management arrangements for the PoA				

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
[1] 166	The DOE shall assess the operational and management arrangements which have been established by the coordinating/managing entity in order to determine whether these arrangements are suitable for the PoA being validated. The arrangements shall be sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs and will be in a position to ensure that each CPA is being operated in accordance with the specific requirements of the programme. Where the DOE considers the arrangements to be unsatisfactory or insufficient, a CAR shall be raised. A request for registration shall not be submitted until the CAR has been resolved to the satisfaction of the DOE.			N/A	N/A
	Comment:				
2.5.2	Eligibility criteria for CPAs				
[1] 167	The DOE shall assess the specified eligibility criteria in the POA-DD in order to determine whether or not these criteria are sufficient to ensure that all CPAs would comply with the CDM requirements applicable to the PoA. These requirements will include, inter alia, the means of demonstrating the additionality of the CPA and the applicability of the applied methodology. The eligibility criteria represent an essential element of ensuring the smooth functioning or programmatic CDM. Therefore, the DOE may raise CARs which ensure the ease of application of the eligibility criteria.			N/A	N/A
	Comment:				
2.5.3	Validation of CPAs				
[1] 168	The DOE shall assess any proposed CPA, which a coordinating/managing entity wishes to include in the PoA, to determine whether or not it complies with the eligibility criteria specified in the POA-DD. The means of validation to determine compliance with this requirement will be specific to the PoA. The DOE may consider a desk review of the documentation sufficient to determine compliance in certain instances. It may also consider follow-up interviews and/or site visits necessary for other types of PoA.			N/A	N/A
	Comment:				
2.6	RENEWAL OF CREDITING PERIOD				
[1] 169	When contracted to validate a proposed CDM project activity for a second or further crediting period, the DOE shall undertake a thorough reassessment of the validity of the original baseline or any updates thereto proposed by the project participants, and the corresponding estimation of emission reductions for the applicable crediting period, based on the latest version of the procedures for renewing the crediting period, the latest applicable version of approved methodology and the means of validation described in this Manual.			N/A	N/A
	Comment:				
2.7	CHANGES TO THE START DATE OF THE CREDITING PERIOD				
[1] 170	The CDM Executive Board has revised procedures for requesting post registration changes to the start date of the crediting period. The requirement for the Host Country to re-confirm that the delay in the start date of crediting period will not affect project's contribution to sustainable development was removed, and that these revised procedures also contain provisions for project activities hosted in Least Developed Countries (LDCs). If project participants wish to delay the start date of the crediting period by more than one year but less than two			N/A	N/A

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable

CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	years, and if project participants of projects hosted by a LDC wish to delay the start date of the crediting period by more than two year but less than four years, the DOE shall validate the baseline scenario in accordance with chapter V, section E, subsection 5(d) above.				
	Comment:				

Protocol 2: Methodological Requirements (incl. tools)

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.										
3	Methodology ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources - Version 12.2.0														
3.1	GENERAL APPLICABILITY														
3.1.1	<p>This methodology is applicable to grid-connected renewable power generation project activities that</p> <p>(a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant)</p> <p>(b) involve a capacity addition</p> <p>(c) involve a retrofit of (an) existing plant(s)</p> <p>(d) involve a replacement of (an) existing plant(s).</p> <table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Y</td></tr><tr><td>Compliance provable?</td><td>Y</td></tr><tr><td>Compliance verified?</td><td>Y</td></tr><tr><td>Is the option correctly presented and confirmed?</td><td>Y</td></tr></table> <p>Comment: Applicability has been confirmed.</p>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Y	Compliance provable?	Y	Compliance verified?	Y	Is the option correctly presented and confirmed?	Y	3	DR	OK	OK
Applicability checklist	Yes / No / NA														
Criterion discussed in the PDD?	Y														
Compliance provable?	Y														
Compliance verified?	Y														
Is the option correctly presented and confirmed?	Y														
3.1.2	<p>Applicability Criterion 1:</p> <p>The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types:</p> <ul style="list-style-type: none">hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir),wind power plant/unit,geothermal power plant/unit,solar power plant/unit,wave power plant/unit, ortidal power plant/unit. <table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Y</td></tr><tr><td>Compliance provable?</td><td>Y</td></tr><tr><td>Compliance verified?</td><td>Y</td></tr></table> <p>Comment: The PoA is aiming at building new wind power plants/units (Greenfield).</p>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	Y	Compliance provable?	Y	Compliance verified?	Y	3,16 ,31	DR	OK	OK		
Applicability checklist	Yes / No / NA														
Criterion discussed in the PDD?	Y														
Compliance provable?	Y														
Compliance verified?	Y														
3.1.3	<p>Applicability Criterion 2:</p> <p>In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use to calculate the parameter $EG_{PJ,y}$): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.</p> <table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr></table>	Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	NA	Compliance provable?	NA	3	DR	OK	OK				
Applicability checklist	Yes / No / NA														
Criterion discussed in the PDD?	NA														
Compliance provable?	NA														

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable

CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.													
	Compliance verified? <div>NA</div>																	
	Comment: The criterion is not applicable as the PoA covers Greenfields (See Criterion no 1 above)																	
3.1.4	Applicability Criterion 3: In case of hydro power plants, one of the following conditions must apply:		3	DR	OK	OK												
	<table><tr><th>Applicability checklist hydro</th><th>Yes / No / NA</th></tr><tr><td>The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs.</td><td>NA</td></tr><tr><td>The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m².</td><td>NA</td></tr><tr><td>The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m².</td><td>NA</td></tr></table>						Applicability checklist hydro	Yes / No / NA	The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs.	NA	The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m².	NA	The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m².	NA				
	Applicability checklist hydro	Yes / No / NA																
	The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs.	NA																
	The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m².	NA																
	The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m².	NA																
	In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m² ALL the following conditions must apply:																	
	<table><tr><th>Applicability checklist hydro B</th><th>Yes / No / NA</th></tr><tr><td>The power density calculated for the entire project activity using equation 5 is greater than 4 W/m².</td><td>NA</td></tr><tr><td>Multiple reservoirs and hydro power plants located at the same river and where are designed together to function as an integrated project that collectively constitute the generation capacity of the combined power plant.</td><td>NA</td></tr><tr><td>Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity.</td><td>NA</td></tr><tr><td>Total installed capacity of the power units, which are driven using water from the reservoirs with power density lower than 4 W/m², is lower than 15 MW.</td><td>NA</td></tr><tr><td>Total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4 W/m², is less than 10% of the total installed capacity of the project activity from multiple reservoirs.</td><td>NA</td></tr></table>						Applicability checklist hydro B	Yes / No / NA	The power density calculated for the entire project activity using equation 5 is greater than 4 W/m².	NA	Multiple reservoirs and hydro power plants located at the same river and where are designed together to function as an integrated project that collectively constitute the generation capacity of the combined power plant.	NA	Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity.	NA	Total installed capacity of the power units, which are driven using water from the reservoirs with power density lower than 4 W/m², is lower than 15 MW.	NA	Total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4 W/m², is less than 10% of the total installed capacity of the project activity from multiple reservoirs.	NA
	Applicability checklist hydro B	Yes / No / NA																
	The power density calculated for the entire project activity using equation 5 is greater than 4 W/m².	NA																
Multiple reservoirs and hydro power plants located at the same river and where are designed together to function as an integrated project that collectively constitute the generation capacity of the combined power plant.	NA																	
Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity.	NA																	
Total installed capacity of the power units, which are driven using water from the reservoirs with power density lower than 4 W/m², is lower than 15 MW.	NA																	
Total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4 W/m², is less than 10% of the total installed capacity of the project activity from multiple reservoirs.	NA																	
Comment: The criterion is not applicable as the PoA covers wind power installations.																		
Applicability Criterion 4: In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance.																		
<table><tr><th>Applicability checklist</th><th>Yes / No / NA</th></tr><tr><td>Criterion discussed in the PDD?</td><td>NA</td></tr><tr><td>Compliance provable?</td><td>NA</td></tr></table>		Applicability checklist	Yes / No / NA	Criterion discussed in the PDD?	NA	Compliance provable?	NA											
Applicability checklist	Yes / No / NA																	
Criterion discussed in the PDD?	NA																	
Compliance provable?	NA																	
3.1.5			3	DR	OK	OK												

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.	
	Compliance verified? NA					
	Comment: The criterion is not applicable as the PoA covers wind power installations.					
3.2	DESCRIPTION OF THE SOURCES AND GASES INCLUDED IN THE PROJECT BOUNDARY					
	Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with “No”.					
3.2.1	Baseline: CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.		3,6, 7	DR	OK	OK
	Boundary checklist					
	Source and gas(es) discussed in the PDD?					
	Inclusion / exclusion justified?					
	Explanation / Justification sufficient?					
	Consistency with monitoring plan?					
	Comment: Grid factor calculations have been carried out in line with the methodology and applicable tool requirements.					
3.2.2	Project Activity: For geothermal power plants, fugitive emissions of CH ₄ and CO ₂ from non-condensable gases contained in geothermal steam.				N/A	N/A
	Boundary checklist					
	Source and gas(es) discussed in the PDD?					
	Inclusion / exclusion justified?					
	Explanation / Justification sufficient?					
	Consistency with monitoring plan?					
	Comment:					
3.2.3	Project Activity: CO ₂ emissions from combustion of fossil fuels for electricity generation in solar thermal power plants and geothermal power plants.				N/A	N/A
	Boundary checklist					
	Source and gas(es) discussed in the PDD?					
	Inclusion / exclusion justified?					
	Explanation / Justification sufficient?					
	Consistency with monitoring plan?					
	Comment :					
3.2.3	Project Activity: For hydro power plants, emissions of CH ₄ from the single or multiple reservoirs.				N/A	N/A
	Boundary checklist					
	Source and gas(es) discussed in the PDD?					
	Inclusion / exclusion justified?					
	Explanation / Justification sufficient?					
	Consistency with monitoring plan?					
	Comment:					

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.										
3.3	DESCRIPTION OF HOW THE BASELINE SCENARIO IS IDENTIFIED AND OF THE IDENTIFIED BASELINE SCENARIO														
3.3.1	If the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:	3	DR	OK	OK										
	<table><tr><th>Baseline identification checklist</th><th>Yes / No</th></tr><tr><td>Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Compliance provable?</td><td>Y</td></tr></table>					Baseline identification checklist	Yes / No	Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.	Y	Explanation / Justification sufficient?	Y	Compliance provable?	Y		
	Baseline identification checklist					Yes / No									
	Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.					Y									
	Explanation / Justification sufficient?					Y									
Compliance provable?	Y														
Comment: The methodology prescribes the baseline.															
3.3.2	If the project activity is a capacity addition to existing grid-connected renewable power plant/unit, the baseline scenario is the following:			N/A	N/A										
	<table><tr><th>Baseline identification checklist</th><th>Yes / No</th></tr><tr><td>In the absence of the CDM project activity, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted (DATE_{BaselineRetrofit}). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur.</td><td></td></tr><tr><td>Explanation / Justification sufficient?</td><td></td></tr><tr><td>Compliance provable?</td><td></td></tr></table>					Baseline identification checklist	Yes / No	In the absence of the CDM project activity, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted (DATE _{BaselineRetrofit}). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur.		Explanation / Justification sufficient?		Compliance provable?			
	Baseline identification checklist					Yes / No									
	In the absence of the CDM project activity, the existing facility would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted (DATE _{BaselineRetrofit}). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and no emission reductions are assumed to occur.														
	Explanation / Justification sufficient?														
Compliance provable?															
Comment:															
3.3.3	If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit(s) at the project site, the following step-wise procedure to identify the baseline scenario shall be applied:			N/A	N/A										
	<table><tr><th>Step 1 realistic and credible alternative baseline scenarios for power generation</th><th>Yes / No</th></tr><tr><td>Is Step 1 to identify realistic and credible alternative baseline scenarios for power generation correctly applied using the "Combined tool to identify the baseline scenario and demonstrate additionality?"</td><td></td></tr><tr><td>Do the options considered include P1, P2 and P3?</td><td></td></tr><tr><td>Explanation / Justification sufficient?</td><td></td></tr><tr><td>Compliance provable?</td><td></td></tr></table>					Step 1 realistic and credible alternative baseline scenarios for power generation	Yes / No	Is Step 1 to identify realistic and credible alternative baseline scenarios for power generation correctly applied using the "Combined tool to identify the baseline scenario and demonstrate additionality?"		Do the options considered include P1, P2 and P3?		Explanation / Justification sufficient?		Compliance provable?	
	Step 1 realistic and credible alternative baseline scenarios for power generation					Yes / No									
	Is Step 1 to identify realistic and credible alternative baseline scenarios for power generation correctly applied using the "Combined tool to identify the baseline scenario and demonstrate additionality?"														
	Do the options considered include P1, P2 and P3?														
	Explanation / Justification sufficient?														
	Compliance provable?														
	<table><tr><th>Step 2 Barrier Analysis</th><th>Yes / No</th></tr><tr><td>Is Step 2 correctly applied by using Step 2 of the “Combined tool to identify the baseline scenario and demonstrate additionality”?</td><td></td></tr><tr><td>Explanation / Justification sufficient?</td><td></td></tr><tr><td>Compliance provable?</td><td></td></tr></table>					Step 2 Barrier Analysis	Yes / No	Is Step 2 correctly applied by using Step 2 of the “Combined tool to identify the baseline scenario and demonstrate additionality”?		Explanation / Justification sufficient?		Compliance provable?			
	Step 2 Barrier Analysis					Yes / No									
	Is Step 2 correctly applied by using Step 2 of the “Combined tool to identify the baseline scenario and demonstrate additionality”?														
Explanation / Justification sufficient?															
Compliance provable?															

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
	Step 3 Investment Analysis	Yes / No			
	Apply an investment comparison analysis, if more than one alternative is remaining after Step 2 and if the remaining alternatives include scenarios P1 and P3.				
	Has the investment comparison analysis been applied following Step 3 of the "Combined tool to identify the baseline scenario and demonstrate additionality"?				
	Apply a benchmark analysis, if more than one alternative is remaining after Step 2 and if the remaining alternatives include scenarios P1 and P2.				
	Has the benchmark analysis been applied following Step 2b of the "Tool for the demonstration and assessment of additionality"?				
	Comment:				
3.3.4	In case of any modification or retrofit of existing facilities: Is data available to determine the historic production level?			N/A	N/A
	Comment:				
3.3.5	In case of any modification or retrofit of existing facilities: Have conservative assumptions been applied in order to estimate the point in time when the existing equipment needs to be replaced?			N/A	N/A
	Comment:				
3.3.6	Describe why the alternative scenarios are credible and realistic?	3	DR	OK	OK
	Comment: The methodology prescribes the baseline. Therefore, the PoA documentation focus is not on "baseline selection" but on "additionality".				
3.3.7	Can the list of alternatives considered to be complete, why? Is as baseline scenario the project activity without being registered as CDM project included?	3	DR	CAR7	OK
	Comment: The additionality analysis focuses on comparing the project activity scenario with the project activity without being registered as CDM. CAR7: The 1 st CPA-DD does not include project IRR with and without CER revenues. The 1 st CPA-DD does not include the values of the identified key parameters with which the project IRR exceed the benchmark and the possibility of this occurring. 1 st CPA has been amended and therefore CAR7 is closed.				
3.3.8	In case several different facilities, technologies, outputs or services are present in the project, are separately alternative scenarios for each of them included?			N/A	N/A
	Have realistic combinations been considered as project scenario?				
	Comment:				
3.3.9	Does the project identify correctly and exclude those options not in line with regulatory or legal requirements?			N/A	N/A
	Comment:				
3.3.10	If a scenario does not comply with the mandatory laws and regulations; it is clearly demonstrated that the law and/or regulation is systematically not enforced in the country?			N/A	N/A
	Comment:				

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
3.3.11	Changes are required for methodology implementation in 2 nd and 3 rd crediting periods: Has the continued validity of the baseline been correctly assessed?			N/A	N/A
	Comment:				

Tool to calculate the emission factor for an electricity system

The ACM0002 methodology requires the use of the “Tool to calculate the emission factor for an electricity system” to determine the CO₂ emission factor for the displacement of electricity generated by power plants in an electricity system, by calculating the “Operating Margin” (OM) and “Build Margin” (BM) as well as the “Combined Margin” (CM).

CHECKLIST TOPIC / QUESTION	Ref.	MoV*	Draft Concl	Final Concl								
H. Tool to calculate the emission factor for an electricity system												
H.1. Justification of the choice of the tool and why it is applicable to the project activity												
H.1.1. Is the applied tool considered the most appropriate one?	3	DR	OK	OK								
Comment:	Yes, the tool is considered the most appropriate one.											
H.1.2. Criterion 1: Is the tool used for the purpose of calculating baseline emissions where a project activity supplies electricity to a grid?	3,7	DR	OK	OK								
<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the PDD?</td> <td>Y</td> </tr> <tr> <td>Compliance provable?</td> <td>Y</td> </tr> <tr> <td>Compliance verified?</td> <td>Y</td> </tr> </tbody> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Y	Compliance provable?	Y	Compliance verified?	Y				
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Y											
Compliance provable?	Y											
Compliance verified?	Y											
Comment:	The tool is used for the purpose of calculating baseline emissions where a project activity supplies electricity to a grid.											
H.1.3. Criterion 2: Is the tool used for the purpose of calculating baseline emissions for a project activity that results in savings of electricity that would have been provided by the grid?			N/A	N/A								
<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the PDD?</td> <td></td> </tr> <tr> <td>Compliance provable?</td> <td></td> </tr> <tr> <td>Compliance verified?</td> <td></td> </tr> </tbody> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?		Compliance provable?		Compliance verified?					
Applicability checklist	Yes / No											
Criterion discussed in the PDD?												
Compliance provable?												
Compliance verified?												
Comment:												
H.1.4. Criterion 3: Is the tool used for the purpose of calculating project and leakage emissions in case where a project activity consumes electricity from the grid or results in increase of consumption of electricity from the grid outside the project boundary?			N/A	N/A								
<table border="1"> <thead> <tr> <th>Applicability checklist</th> <th>Yes / No</th> </tr> </thead> <tbody> <tr> <td>Criterion discussed in the PDD?</td> <td>Y</td> </tr> <tr> <td>Compliance provable?</td> <td>Y</td> </tr> <tr> <td>Compliance verified?</td> <td>Y</td> </tr> </tbody> </table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Y	Compliance provable?	Y	Compliance verified?	Y				
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Y											
Compliance provable?	Y											
Compliance verified?	Y											
Comment:												
H.2. Description of the parameters included in the tool												
Integrate the required amount of sub-checklists for parameters as given by the tool applied and comment on at least every line answered with “No”												
H.2.1. Parameter: EF _{grid,CM,y}	3,7	DR	OK	OK								
Combined margin CO ₂ emission factor for grid connected power generation in												

Date:
14/09/2012

Report-No:
P31934.55

Page:
29 of 40

CHECKLIST TOPIC / QUESTION	Ref.	MoV*	Draft Concl	Final Concl										
<div>year y</div> <div>Unit: tCO₂/MWh</div> <div>Type: calculated</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y				
Boundary checklist	Yes / No													
Parameter discussed in the PDD?	Y													
Inclusion / exclusion justified?	Y													
Explanation / Justification sufficient?	Y													
Consistency with monitoring plan?	Y													
<div>Comment:</div> <div>Combined margin CO₂ emission factor for grid connected power generation in year y is calculated correctly.</div>														
<div>H.2.2. Parameter: EF_{grid,BM,y}</div> <div>Build margin CO₂ emission factor for grid connected power generation in year y</div> <div>Unit: tCO₂/MWh</div> <div>Type: calculated</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y	3,7	DR	OK	OK
Boundary checklist	Yes / No													
Parameter discussed in the PDD?	Y													
Inclusion / exclusion justified?	Y													
Explanation / Justification sufficient?	Y													
Consistency with monitoring plan?	Y													
<div>Comment:</div> <div>Build margin CO₂ emission factor for grid connected power generation in year y is calculated correctly.</div>														
<div>H.2.3. Parameter: EF_{grid,OM,y}</div> <div>Operating margin CO₂ emission factor for grid connected power generation in year y</div> <div>Unit: tCO₂/MWh</div> <div>Type: calculated</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y	3,7	DR	OK	OK
Boundary checklist	Yes / No													
Parameter discussed in the PDD?	Y													
Inclusion / exclusion justified?	Y													
Explanation / Justification sufficient?	Y													
Consistency with monitoring plan?	Y													
<div>Comment:</div> <div>Operating margin CO₂ emission factor for grid connected power generation in year y is calculated correctly.</div>														
<div>H.2.4. Parameter: FC_{i,m,y}, FC_{i,y}, FC_{i,j,y}, FC_{i,k,y}, FC_{i,n,y} and FC_{i,n,h}</div> <div>Amount of fossil fuel type i consumed by power plant / unit m, j, k or n (or in the project electricity system in case of FC_{i,y}) in year y or hour h</div> <div>Unit: mass or volume unit</div> <div>Type: official publication</div> <table><tr><th>Boundary checklist</th><th>Yes / No</th></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>	Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y	3,7	DR	OK	OK
Boundary checklist	Yes / No													
Parameter discussed in the PDD?	Y													
Inclusion / exclusion justified?	Y													
Explanation / Justification sufficient?	Y													
Consistency with monitoring plan?	Y													

MoV = Means of Validation, DR = Document Review, I = Interview, N/A = Not Applicable
CAR = Corrective Action Request, CL = Clarification Request, FAR = Forward Action Request

CHECKLIST TOPIC / QUESTION		Ref.	MoV*	Draft Concl	Final Concl										
Comment:	Amount of fossil fuel type i consumed by power plant / unit m, j, k or n (or in the project electricity system in case of FCI,y) in year y or hour h is calculated correctly.														
H.2.6. Parameter: EF _{CO2,i,y} CO ₂ emission factor of fossil fuel type i in year y Unit: tCO ₂ /GJ Type: <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>		Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y	3,7	DR	OK	OK
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	Y														
Inclusion / exclusion justified?	Y														
Explanation / Justification sufficient?	Y														
Consistency with monitoring plan?	Y														
Comment:	CO ₂ emission factor of fossil fuel type i in year y is calculated correctly.														
H.2.7. Parameter: EG _{m,y} , EG _y , EG _{j,y} , EG _{k,y} and EG _{n,h} Net electricity generated and delivered to the grid by power plant / unit m, j, k or n (or in the project electricity system in case of EGy) in year y or hour h Unit: MWh Type: monitored <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>		Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y	3,7	DR	OK	OK
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	Y														
Inclusion / exclusion justified?	Y														
Explanation / Justification sufficient?	Y														
Consistency with monitoring plan?	Y														
Comment:	Net electricity generated and delivered to the grid by power plant / unit m, j, k or n (or in the project electricity system in case of EGy) in year y or hour h is calculated correctly.														
H.2.8. Parameter (only for dispatch data OM): EG _{PJ,h} Electricity displaced by the project activity in hour h of year y Unit: MWh Type: monitored <table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Parameter discussed in the PDD?</td><td>Y</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Y</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Y</td></tr><tr><td>Consistency with monitoring plan?</td><td>Y</td></tr></table>		Boundary checklist	Yes / No	Parameter discussed in the PDD?	Y	Inclusion / exclusion justified?	Y	Explanation / Justification sufficient?	Y	Consistency with monitoring plan?	Y	3,6,16,17	DR	OK	OK
Boundary checklist	Yes / No														
Parameter discussed in the PDD?	Y														
Inclusion / exclusion justified?	Y														
Explanation / Justification sufficient?	Y														
Consistency with monitoring plan?	Y														
Comment:	Electricity displaced by the project activity in hour h of year y is calculated correctly.														
H.2.9. Parameter: (only for dispatch data OM) η _{m,y} Average net energy conversion efficiency of power unit m in year y Unit: - Type:		3,7	DR	OK	OK										

CHECKLIST TOPIC / QUESTION		Ref.	MoV*	Draft Concl	Final Concl
Boundary checklist	Yes / No				
Parameter discussed in the PDD?	Y				
Inclusion / exclusion justified?	Y				
Explanation / Justification sufficient?	Y				
Consistency with monitoring plan?	Y				
Comment:	Average net energy conversion efficiency of power unit m in year y is calculated correctly.				
H.2.10. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?		3,21	DR	OK	OK
Comment:	The spatial and technological boundaries of the 1 st CPA as verified on-site comply with the first CPA-DD.				
H.3. Description of how the baseline methodology procedure is identified and description of the identified baseline procedure					
H.3.1. Is every selection of options offered by the tool correctly justified and is this justification in line with the situation verified on-site?		3,7	DR	OK	OK
Comment:	Choice between the options offered by the tool are correctly justified.				
H.3.2. Are the formulae required for the determination of the Operating Margin correctly presented, enabling a complete identification of parameter to be used and / or monitored?		3,7	DR	OK	OK
Comment:	All formulae required for the determination of the Operating Margin are correctly presented.				
H.3.3. Is the method to calculate the Operating Margin (Simple OM, Simple Adjusted OM, Dispatch data OM, or Average OM), the most appropriated one?		3,7	DR	OK	OK
Comment:	The Simple OM has been selected and it is appropriate given the host country circumstances and data availability.				
H.3.4. Are the formulae required for the determination of the Build Margin correctly presented, enabling a complete identification of parameter to be used and / or monitored?		3,7	DR	OK	OK
Comment:	The formulae required for the determination of the Build Margin are correctly presented.				
H.3.5. Is the set of power units (the set of five power units that have been built most recently, or the set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently), comprising the larger annual generation?		3,7	DR	OK	OK
Comment:	Capacity additions included in the Build Margin emission factor calculation are appropriately selected (the 5 plants have a cumulative capacity of 26.69%).				
H.3.6. Are the formulae required for the determination of the Combined Margin correctly presented, enabling a complete identification of parameter to be used and / or monitored?		3,7	DR	OK	OK
Comment:	The formulae required for the determination of the Combined Margin are correctly presented.				
H.3.7. Are the values used for w_{OM} and w_{BM} correctly applied?		3,7	DR	OK	OK
Comment:	The values used for w_{OM} and w_{BM} are correctly applied.				
H.3.8. Is the calculation of the operating margin and build margin emission factors documented electronically in a spreadsheet attached to the CDM-PDD. This should include all data used to calculate the emission factors		3,7	DR	OK	OK
Comment:	The calculation of the Operating Margin and Build Margin emission factors are documented electronically in a spreadsheet [7].				
H.3.9. Are the default efficiency factors for power plants used according to Annex I of the tool?		3,7	DR	OK	OK
Comment:	The default efficiency factors for power plants are used according to Annex I of the tool.				

Protocol 3: Project Specific Requirements

There are no project specific requirements beyond those already covered by Protocol 1 and Protocol 2. In case of PoA validations, the requirements of the PoA Standard (EB 65 Annex 3) are addressed directly in the Validation Report.

	Requirement	Ref.	MoV	Draft Concl.	Final Concl.
4	Project specific requirements				
4.1					
4.1.1					
	Comment:				
4.1.2					
	Comment:				
4.1.3					
	Comment:				
4.2					
4.2.1					
	Comment:				
4.2.2					
	Comment:				
4.2.3					
	Comment:				
4.3					
4.3.1					
	Comment:				
4.3.2					
	Comment:				
4.3.3					

Protocol 4: Summary of Requests*

*Referring both to PoA-DD and the CPA documentation.

No.:	CL 1	Reference:	A.4.2.2 ; C.3
Validator request:	Specific reference is needed for the Environmental Impact Assessment's (EIA) role in permitting wind farms with specific reference to the Record of Decision (ROD) for the EIA based on the NEMA rules. Given the key role of the EIA, it must be justified if it is not explicitly included in the eligibility criteria for CPAs.		
Project participant response:	<p>The existing NEMA rules require a copy of the PDD along with necessary application form, a signed copy of the draft validation report, copies of relevant electricity license and "Record of Decision" (ROD) be submitted to the DNA. All documents except for the ROD are available for submission to the DNA.</p> <p>The ROD is issued by the Ministry of Environment, South Africa after reviewing the EIA. The final EIA was submitted in March 2012. An acknowledgement from the 'Department of Environmental Affairs' for the draft EIA submitted in Jan 2012 is attached as evidence.</p> <p>Section C3 of the CPA-DD now includes a summary of the above description.</p> <p>Efforts are currently underway to have the LoA issued (in parallel) with the time required for getting the final ROD.</p> <p>As wind projects in SA require an EIA to be undertaken and is also a requirement under the tendering process, each CPA is expected to undertake an EIA. The eligibility criteria has a provision for the EIA to be undertaken for CPA inclusion.</p> <p>Attached evidence: 001-Ack for ROD</p>		
Validator conclusion:	Due to DNA communication to CDM project developers dated 04/04/2012 about "Record of Decision (EIA) for CDM projects", the updated PoA documentation and additional evidence provided CL1 is closed.	Date:	07/05/2012

No.:	CL 2	Reference:	A.4.2.2; C3
Validator request:	<p>Please describe the present CDM regulations and the practice in which PoAs are assessed in the lack of specific PoA regulations with specific attention to CPA inclusion and the Local Stakeholder Consultations that are planned for each CPA.</p> <p>In addition, elaborate on the criteria used by the CME to define the contribution to social purposes on the CPA level (i.e. BBBEE requirements, in what circumstance financial contributions are provided for local communities; the level of this contribution in case it is applicable). See CL 4.</p>		
Project participant response:	<p>The "Green Book" of the SA DNA provides guidelines with regards to the CDM regulation and practices for stand-alone CDM projects and PoA. Currently there are no specific regulations defined for CPA inclusion and the LSC process.</p> <p>The eligibility criteria have been revised that should new relevant regulations be introduced, these will be complied with by the CPAs at the time of inclusion.</p> <p>Attached evidence 002-Green Book SA DNA Updated PoA-DD Section A.4.2.2 and CPA-DD B.2</p> <p>The RFP (Request for Proposal) developed for wind energy projects in SA sets out certain qualification criteria for "Local Economic Development" (LED) which is evaluated based on price and commitment towards LED. The important criteria are as follows:</p> <ul style="list-style-type: none"> - A minimum of 40% of the investment for the wind farms must be from a South African entity 		

<p>who "have contributor status of at least level 5 calculated in terms of the BEE Codes"</p> <ul style="list-style-type: none"> - The local community in which the wind farm is located (ex. the township of Preiska) must be given an ownership of 2.5% to 5% of the project. - The equivalent share of revenues generated is deposited into a trust account which is spent on community projects. - However the local community do not undertake any financial risks for their share of the project (ex. debt related risks) <p>Efforts are currently underway to comprehend and factor the costs into the overall project cost by the project stakeholders.</p> <p>Attached evidence: 003-RFP (Please note, this section provides the overall summary of the RFP)</p>		
Validator conclusion:	PoA documentation updated accordingly and additional evidence provided, therefore CL2 is closed.	Date: 07/05/2012

No.:	CL 3	Reference: Annex 2
Validator request:	Please submit a written statement by Mabanaf B.V. that no public funding is used for the implementation of the project.	
Project participant response:	Attached evidence: 004 - Mabanaf ODA and 005 - Plan 8 ODA.	
Validator conclusion:	Required statements has been submitted, therefore CL3 is closed.	Date: 07/05/2012

No.:	CL 4	Reference: A.4.2.2
Validator request:	Further elaboration is needed for describing the ESKOM tendering process for wind farms.	
Project participant response:	A general overview of the ESKOM tendering process is available at: http://www.ipp-renewables.co.za/index.php/press/detail/media-statement-14nov20111 A short description is included in the CPA-DD (Section A.2)	
Validator conclusion:	PoA documentation has been updated accordingly, therefore CL4 is closed.	Date: 07/05/2012

No.:	CL 5	Reference: C3.; A.4.2.2 entire documentation
Validator request:	Please include weblinks and mirror them in case webpage modification is likely (e.g. NEMA, renewable White Paper on government websites) and provide the procedures (see CAR 4) for document recording and handling during the lifetime of the CME.	
Project participant response:	Please refer to the document recording and handling procedures in the CME Manual. Attached Evidence: 006 – CME Manual Attached Evidence: 007 – PoA-DD Hyperlinks (Zip Folder) Attached Evidence 008 – CPA-DD Hyperlinks (Zip Folder)	
Validator conclusion:	PoA documentation and CME Manual has been updated accordingly, therefore CL5 is closed.	Date: 07/05/2012

No.:	CL 6	Reference: B.3 1 st CPA
Validator request:	Provide evidence for 1 st CPA with project documentation regarding the equity/loan proportions resulting of the calculated 12.97% benchmark.	
Project participant response:	The financial analysis has been retained as per the original calculations. All hyperlinks have been activated and a zip folder contains screen shots of relevant web sites. The financial analysis will require to be revisited once the LED (refer CL 2) is taken into consideration. Attached Evidence: 009 – Screenshots FA (Zip Folder) Attached Evidence 010 – Financial Analysis	
Validator conclusion:	Evidence and updates to calculations have been provided, therefore CL 6 is closed.	Date: 07/05/2012

No.:	CL 7	Reference:	Excel calculation sheet
Validator request:	The reference to the national standards for depreciation chosen (20 years) for each component of wind power projects is missing. See CAR 5.		
Project participant response:	<p>The INCOME TAX ACT NO. 58 OF 1962 (the Act) – Section 11 (e) defines the “write-off” period as follows (para 4.3.3, sub-para b):</p> <p>Assets for which write-off periods have not been listed in Annexure A</p> <p>The period of write-off of any asset not included in the schedule must be determined by its expected life.</p> <p>As wind turbine generators are not listed in Annexure A, the depreciation rate is the technical life span of wind turbines which is accepted at 20 years by Nordex</p> <p>Website: SA Tax Code - http://sars.gov.za/</p> <p>Attached Evidence: 011 – Tax depreciation</p> <p>Attached Evidence: 012 - Nordex Tech Specs (page 4 of 16)</p>		
Validator conclusion:	Required evidences have been provided, therefore CL 7 is closed.	Date:	07/05/2012

No.:	CL 8	Reference:	E.6.2, Annex 3
Validator request:	Please elaborate the way how the grid emission factor calculation is updated for the purposes of (a) monitoring and for (b) new CPA inclusions using the publicly available ESKOM data in case Option 2 is chosen for the grid factor calculation. Describe the updating process in the CME Manual if Option 2 applicable; See CAR 4.		
Project participant response:	<p>ESKOM annually publishes several types of data including capacity, generation, fuel type and emission factors. To ensure that the grid emission factor is in compliance with the UNFCCC approved “Tool to calculate the emission factor for an electricity system” the GEF will be annually calculated by the CME or a CME approved 3rd party and the information made available to all relevant stakeholders.</p> <p>Section 6.2 of PoA-DD and CPA-DD already elaborates the steps for calculating the GEF based on the stated Tool.</p> <p>Annex 3 of PoA-DD now includes the link to the website indicated below as additional information. The Annex 3 of CPA-DD already contains the required information.</p> <p>Relevant website: http://financialresults.co.za/2011/eskom_ar2011/add_info_tables.php</p>		
Validator conclusion:	Grid factor calculations have been elaborated and CME roles added, therefore CL 8 is closed.	Date:	07/05/2012

No.:	CL 9	Reference:	A.1. 1 st CPA, generic CPA
Validator request:	Unique and easily identifiable CPA naming standard shall be established by referring to the ESKOM/EIA etc officially used project name and/or an addition of the location (including region) of the CPA.		
Project participant response:	All CPAs shall follow a unique identification system in the manner of Mabanaft-SA-Wind-001. The same has now been included in the Section A.1 CPA-DD and respective the eligibility criteria.		
Validator conclusion:	Naming standard for CPAs is introduced, therefore CL 9 is closed.	Date:	07/05/2012

No.:	CL 10	Reference:	1 st CPA D.2, D.3
Validator request:	Please elaborate further the LSC section in line with documentation describing the local stakeholder consultation.		
Project participant response:	<p>Additional information pertaining to contacting stakeholders by mail has now been included in section D2 of CPA-DD</p> <p>Attached evidence: 013 – LSC Advert</p> <p>Attached evidence: 014 – Letter sent to potential stakeholders</p> <p>Attached evidence: 015 – List of stakeholders</p> <p>Attached evidence: 016 – LSC Report</p>		

Validator conclusion:	Additional information re. LSC has been provided, therefore CL 10 is closed.	Date:	07/05/2012
-----------------------	--	-------	------------

No.:	CL 11	Reference:	PoA-DD D; 1 st CPA D.2, D.3
Validator request:	In case the national stakeholder consultation, under the auspices of the South African DNA (PoA documentation publication on the DNA's website), delivers comments please include them and the way how they were addressed.		
Project participant response:	The "Green Book" (attached evidence 002, page 09-10) provides an overview of the approval process. The approved national process by the DNA is as follows; based on the information submitted the DNA and comments raised during the public consultation process, the DNA may request for "supplementary and recommendation" information which is then reviewed by a "steering committee". The committee is responsible for providing its comments and recommendation to the DNA for the final approval. If the criteria are not met, the DNA can reject the LoA providing reasons for rejection. The project participant has a 60 day time frame to appeal to the relevant Minister should the LoA be rejected.		
Validator conclusion:	The national consultation process prior to the issuance of the host country LoA has not resulted in any requests, therefore CL11 is closed.	Date:	03/07/2012

No.:	CL 12	Reference:	1 st CPA B.3; Excel sheet
Validator request:	Calculate and include the IRR values in case of CER revenues (for the 1 st crediting period and the potential, full 21 years within the lifetime of the PoA).		
Project participant response:	The financial analysis is currently retained as that originally submitted.		
Validator conclusion:	Financial calculations have been updated, therefore CL 12 is closed.	Date:	07/05/2012

No.:	CL 13	Reference:	1 st CPA-DD
Validator request:	Please update the 1 st CPA-DD to reflect the actual progress/changes (e.g. field study report for EIA, obtaining RoD) occurred since drafting the PoA documentation.		
Project participant response:	Response provided in CL 1 is now included in the CPA-DD (Section C2)		
Validator conclusion:	CPA-DD has been updated, therefore CL 13 is closed.	Date:	07/05/2012

No.:	CL 14	Reference:	Entire documentation
Validator request:	Justify the choice between updating to the latest (EB 66 Annex 35) or using the originally available methodology version (expiring on 25/07/2012) for the project. See CAR 3.		
Project participant response:	The changes in the newer version of methodology pertain to hydro power projects hence do not have any impact to the wind project activity. However the PDDs has been updated with latest version of methodology, i.e. ver 12.3.0		
Validator conclusion:	Latest methodology is used, therefore CL 14 is closed.	Date:	07/05/2012

No.:	CL 15	Reference:	A.4. 1 st CPA, Excel calculation
Validator request:	Include the results of the latest available on-site wind measurement data in the PLF calculations.		
Project participant response:	A comprehensive report based on the on-site wind measurement data will be available in May-June 2012. 3E a reputable company has been appointed for independent review. Attached evidence provides an overview of the nature of data collection currently in progress (data collected from Jan 2011 to date) Attached evidence: 017 – PLF The Financial Analysis and PDDs will be updated when the final PLF is available.		
Validator conclusion:	PLF calculations have been updated reflecting the available measurements, therefore CL 15 is closed.	Date:	07/05/2012

No.:	CL 16	Reference:	Entire documentation
Validator request:	Submit electronic versions of all outstanding (used, referred) evidence in association with the PoA documentation.		
Project participant response:	Please refer Zip Folders 07, 08 and 09		
Validator conclusion:	Required additional information have been submitted in electronic format, therefore CL 16 is closed.	Date:	07/05/2012

No.:	CAR 1	Reference:	A.3
Validator request:	Please provide host country LoA for the Project and its project participant. In case the host country LoA does not contain the CME authorisation, CME shall request that DNA provides a supplementary letter referring to the LoA and confirming that the authorisation extends to the CME function.		
Project participant response:	The HCA is yet to be issued by the South African DNA. A copy of the HCA will be made available once the same is received by the CME / project participants. The Written Approval from the Netherland DNA is attached Attached Evidence: 018 – LoA NL		
Validator conclusion:	Both LoAs have been received, therefore CAR 1 is closed.	Date:	19/06/2012

No.:	CAR 2	Reference:	E.3
Validator request:	Correct Table 3, sources and gases included/excluded in project boundary.		
Project participant response:	The tables have been updated		
Validator conclusion:	PoA-DD has been corrected, therefore CAR 2 is closed.	Date:	07/05/2012

No.:	CAR 3	Reference:	A.4.2.2; E.5.1., Entire documentation						
Validator request:	Please update the PoA-DD, generic CPA-DD and 1 st CPA-DD to reflect EB 65 PoA Standard (Annex 3) and other applicable PoA related decisions coming into force since drafting the PoA documentation. EB 65 Annex 21 Common Practice Guidelines (para 43-47) requires incorporation to both PoA-DD and CPA-DD. Explicit references to the use of EB 65 Annex 3 throughout the documents shall be replacing the references to the earlier PoA related requirements (e.g. eligibility criteria (A.4.2.2), CME management and quality system (A.4.4.1 referring to paragraph 17) etc.).								
Project participant response:	The Eligibility Criteria table has been developed as per the guidelines stated in EB 65, Annex 3, para 14. A summary is included below:								
<table><tr><th>Eligibility Criteria as defined by EB 65</th><th>Relevant Eligibility Criteria as defined in the PoA-DD</th></tr><tr><td>(a) The geographical boundary of the CPA including any time-induced boundary...</td><td>a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA, namely the host country of South Africa The CPA shall comply with the latest guidelines for inclusion as defined by the host country DNA.</td></tr><tr><td>(b) Conditions that avoid double counting of emission reductions like unique identifications</td><td>c) To avoid double counting of emission reductions each CPA-DD shall be uniquely</td></tr></table>				Eligibility Criteria as defined by EB 65	Relevant Eligibility Criteria as defined in the PoA-DD	(a) The geographical boundary of the CPA including any time-induced boundary...	a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA, namely the host country of South Africa The CPA shall comply with the latest guidelines for inclusion as defined by the host country DNA.	(b) Conditions that avoid double counting of emission reductions like unique identifications	c) To avoid double counting of emission reductions each CPA-DD shall be uniquely
Eligibility Criteria as defined by EB 65	Relevant Eligibility Criteria as defined in the PoA-DD								
(a) The geographical boundary of the CPA including any time-induced boundary...	a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA, namely the host country of South Africa The CPA shall comply with the latest guidelines for inclusion as defined by the host country DNA.								
(b) Conditions that avoid double counting of emission reductions like unique identifications	c) To avoid double counting of emission reductions each CPA-DD shall be uniquely								

		<p>identified and defined in an unambiguous manner by providing geographic information (e.g. coordinates), a unique CPA identification number, and the exact start date and end date of the crediting period. The following data must be provided to the CME prior to inclusion in the PoA:</p> <ul style="list-style-type: none"> • Name of the CPA; • Name of the CPA developer; • Contact details of the developer including contact person, address, telephone and/or email address; • Installed capacity and other relevant technical specifications of the CPA; • Location of the CPA (e.g. GPS coordinates); • Unique Identification Number
	(c) The specifications of technology/measure including the level and type of service,	e) Each CPA involves the construction and operation of a wind power project connected to the national/sub-national power grid or via local municipalities or private companies involved with transporting power.
	(d) Conditions to check the start date of the CPA through documentary evidence;	d) Start date of the CPA shall be provided through documentary evidence and shall comply with latest CDM guidelines and standards. The start date is defined as the date when the CPA developer / owner makes a payment of 30% or more towards the purchase of wind turbines.
	(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies	g) Applicability conditions in version 12.3.0 of ACM0002: The methodology is not applicable to the following:
	(f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality	h) Only additional projects can be enrolled. Additionality is proven on the CPA level for each CPA separately.
	(g) The PoA-specific requirements stipulated by the CME including any conditions related to LSC and EIA	i) The CPAs must have undertaken an environmental analysis as per requirements of the CDM modalities and procedures as outlined in Section C. j) The CPAs must have undertaken a local stakeholder consultation as outlined in Section D.
	(h) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in diversion of ODA	k) The CPAs must provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance.

As there is no sampling or aggregation involved, the remaining Eligibility Criteria as defined in EB 65 has not been considered.

With regards to the CMA Management and Quality System, EB 65, Annex 3, paragraph 17 states the following:

(a) A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies;

(b) Records of arrangements for training and capacity development for personnel;

- (c) Procedures for technical review of inclusion of CPAs;
- (d) A procedure to avoid double counting (e.g. to avoid the case of including a new CPA that has already been registered either as a CDM project activity or as a CPA of another PoA);
- (e) Records and documentation control process for each CPA under the PoA;
- (f) Measures for continuous improvements of the PoA management system;
- (g) Any other relevant elements.

CME management and quality system

The attached evidence "006 – CME Manual" has been developed in line with the above criteria and contains the following chapters:

- General Management of the PoA:
- Responsibilities of the CME:
- Business Model of the CME:
- General Roles and Responsibilities of Personnel
- Inclusion of CPA:
- Technical Review of Inclusion of CPA:
- Inclusion Agreement:
- Documentation and DOE Management
- Monitoring Procedure
- Technical Review of Monitoring Procedure
- Recording and Documenting Control Procedure
- Recruitment and Training
- Continuous Improvement Standards

Attached evidence 006 – CME Manual

Validator conclusion:	PoA documentation have been updated, therefore CAR 3 is closed.	Date:	19/07/2012
-----------------------	---	-------	------------

No.:	CAR 4	Reference:	A. 4.4.1
Validator request:	Further details regarding the structure of the operational, management and quality assurance arrangements established by the coordinating/managing entity (CME) for the implementation of the PoA shall be provided. These details can be provided in a form of a standalone document (Manual, Standard Operation Procedures, etc.) to be used by the responsible CME personnel guaranteeing that CME satisfies the requirements of EB 65 Annex 3 paragraph 17 and other respective PoA requirements for management and quality systems. See CL 4. regarding the requirements for host country PP and CME.		
Project participant response:	Please refer to CAR 3 with regards to the information included under the heading CME management and quality system. It provides a list of chapters in relevance to the latest guidelines as defined in E 65, Annex 3, paragraph 17. Attached evidence 006 – CME Manual.		
Validator conclusion:	Documentation have been updated, therefore CAR 4 is closed.	Date:	07/05/2012

No.:	CAR 5	Reference:	B.3. 1 st CPA, generic CPA, Excel calculation
Validator request:	Source of data for all key assumptions and parameters of the investment analysis as listed in EB 62 (Annex 5, Version 05) is missing. See CL 7.		
Project participant response:	The Financial Analysis is being submitted without any changes to that originally submitted.		
Validator conclusion:	Financial calculation has been updated, therefore CAR 5 is closed.	Date:	07/05/2012

No.:	CAR 6	Reference:	PoA-DD; 1 st CPA B.1.
Validator request:	The 1 st CPA does not include the F, N _{all} ; N _{diff} calculations quantifying the common practice in line		

	with the applicable tool.	
Project participant response:	The common practice analysis has been updated in the PoA-DD and CPA-DD in line with the applicable tool.	
Validator conclusion:	The PoA documentation has been updated accordingly, therefore CAR 6 is closed.	Date: 11/07/2012

No.:	CAR 7	Reference: 1 st CPA
Validator request:	The 1 st CPA-DD does not include project IRR with and without CER revenues. The 1 st CPA-DD does not include the values of the identified key parameters with which the project IRR exceed the benchmark and the possibility of this occurring.	
Project participant response:	An additional paragraph has been included in Section B.3, in sub-step 2d to provide detailed information on benchmark and a description of the scenario occurring. The section also includes the IRR with CDM.	
Validator conclusion:	The 1 st CPA has been updated accordingly, therefore CAR 7 is closed.	Date: 11/07/2012

No.:	FAR 1	Reference: 1 st CPA B.3.
Validator request:	The 1 st CPA starting date is the financial closure for the wind park investment which is expected by the second half of 2013. As the CPA starting date is in the future, the then available investment analysis shall be checked whether it still supports the claim that the project IRR is below the validated benchmark. This FAR, based on the 1 st CPA, is in line with VVM paragraph 37 as it does not relate to the CDM requirements for registration.	
Project participant response:		
Validator conclusion:	n/a	Date:

No.:	FAR 2	Reference: 1 st CPA
Validator request:	The 1 st CPA owner shall provide the detailed project diagram and meter location demonstrating that the metering system is in line with both the methodology and the national requirements.	
Project participant response:		
Validator conclusion:	n/a	Date:

No.:	FAR 3	Reference: 1 st CPA
Validator request:	The 1 st CPA's RoD (Record of Decision for the EIA) is yet to be received from the respective authorities. The DNA of The Republic of South Africa provided the LoA on an exceptional basis without the receipt of the RoD. FAR 3 stipulates that the RoD is received in due course, prior to the implementation of the 1 st CPA, and is available at the initial verification.	
Project participant response:		
Validator conclusion:	n/a	Date: