




Validation report form for CDM project activities

(Version 02.0)

Complete this form in accordance with the "Attachment: Instructions for filling out the validation report form for CDM project activities" at the end of this form.

VALIDATION REPORT

Title of the project activity	Grid-connected Solar PV project in Méouane
Version number of the validation report	2.0 TN P-No. : 8000455401 – 15/189
Completion date of the validation report	25/11/2016
Version number of PDD to which this report applies	1.5
Date when PDD was uploaded for global stakeholder consultation	05/01/2016
Project participant(s)	Senergy PV SA
Host Party	Senegal
Estimated annual average GHG emission reductions or net removals in the crediting period (tCO₂e)	33,992
Sectoral scope(s) and selected methodology(ies)	Scope: 1 / Technical Area: 1.2 CDM Methodology: ACM0002,; <i>Grid-connected electricity generation from renewable sources</i> , version 16.0
Name of DOE	TÜV NORD CERT GmbH
Name, position and signature of the approver of the validation report	 Stefan Winter Final Approver

SECTION A. Executive summary

Senenergy PV SA has commissioned the TÜV NORD JI/CDM Certification Program to carry out the validation of the project:

“Grid-connected Solar PV project in Méouane”

with regard to the relevant requirements for CDM project activities.

The proposed project activity is a Greenfield project consisting of Photovoltaic solar plants (Solar PV modules) of capacity 29.49 MW. The 29.49 MW total output capacity is to produce renewable electricity, which is to be exported to the national grid.

Details of the project location are given in table A-1 below:

Table A-1: Project Location

No.	Project Location
Host Country	Republic of Senegal
Region:	Thies
Latitude:	15° 07' 53.52" N
Longitude:	16° 40' 22.28" W
Project location address:	Village of Santhiou Mékhé, Commune of Méouane, Department of Tivaouane

Basic technical details of the project are summarized in table A-2.

Table - A-2: Technical data of the solar cell modules

Parameter	Unit	Description
Type		Polycrystalline
Number of PV Modules		92,160
Model		JC320M/24-Abs Poly Silver Frame
Nominal Power	W	320
Nominal Module Efficiency	%	15.2
Rated voltage (Vmpp) STC	V	37.4
Rated current (Impp) STC	A	8.56
Yield	%	16.5
Cell Dimensions	mm	1,956 x 994 x 40
Average Lifetime	Years	25
Manufacturer	-	Renesolar

Table - A-3: Technical data of the inverter

Parameter	Unit	Description
Model		Conext Core XC Series XC 680
Maximum Input Current	A	1280
Rated AC power	Wp	680 kW
Operating frequency range	Hz	50/60 Hz

Parameter	Unit	Description
Maximum efficiency	%	99.1
Manufacturer		Schneider Electric

Table - A-4: Technical data of the transformer

Parameter	Unit	Description
Manufacturer	-	Schneider Electric
Rated capacity	kVA	2040
Rated voltage H/L	V	20-22/3-33
Rated frequency	Hz	50 or 60Hz
Manufacturer		Schneider Electric

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria Senegal and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of Senegal vide the Letter of Approval (HCA) dated 11/04/2016 (Code: 0784MEDD/DEEC/DCC).
- The project's additionality is sufficiently justified and referenced in the PDD.
- The monitoring plan is transparent and adequate.
- The sustainable development is sufficiently justified and referenced.
- The calculation of the project emission removals is carried out in a transparent and conservative manner, so that the calculated emission removals of **237,949 tCO₂e** are most likely to be achieved within the 7 years of the renewable crediting period.
- The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader/Validator	EI	Kochaniewicz	Grzegorz	-	x	x	x	x
2.	Team Member	EI	Lubanga	David	-	x	-	-	x

B.2. Technical reviewer and approver of the validation report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical Reviewer	IR	Stöhr	Christina	TÜV NORD CERT GmbH
2.	Technical Reviewer/ Approver	IR	Winter	Stefan	TÜV NORD CERT GmbH

SECTION C. Means of validation**C.1. Desk review**

During the desk review all documents initially provided by the client and publicly available documents relevant for the validation were reviewed. The main documents are listed below:

- the draft PDD including the monitoring plan^{/PDD/},
- regulations and approval of project activity^{/EIES/}
- the Local Stakeholder Consultation Report^{/LSCR/},
- technical details of the project^{/RENS/}
- the Grid Emission Factor calculation spreadsheet and data Sources^{/GEF/}.
- the emission reduction calculation spreadsheet^{/ER/}.
- National legislation^{/ADC/},

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed. The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

C.2. On-site inspection

Duration of on-site inspection: 13/01/2016 - 14/01/2016				
No.	Activity performed on-site	Site location	Date	Team member
1	Opening meeting: <ul style="list-style-type: none"> ○ Round of introductions ○ Attendance list ○ Procedure of the audit ○ <u>Introduction of company and local facilities</u> <ul style="list-style-type: none"> ○ History, size, future development ○ Personal organisation and responsibilities ○ Legal status of PV plant ○ Plant permissions ○ EIA requirements ○ Environmental Impact Assessment (EIA) ○ Landownership ○ LSC 	Dakar, Senegal	13/01/2016	G. Kochaniewicz
2	Meeting with onsite stakeholder's.	Village of Santhiou Mékhé	13/01/2016	G. Kochaniewicz

Duration of on-site inspection: 13/01/2016 - 14/01/2016				
No.	Activity performed on-site	Site location	Date	Team member
	<ul style="list-style-type: none"> Review/Confirmation of Local Stakeholder Consultation Discussion of Landownership, Discussion of Land agreement between PP and local land user. 			
3	Site inspection: <ul style="list-style-type: none"> Location of the Power plant Grid connection 	Village of Santhiou Mékhé	13/01/2016	G. Kochaniewicz
4	Meeting with DNA (Director Environment in Direction de l'Environnement et des Etablissements Classees (DEEC) of Senegal). <ul style="list-style-type: none"> National requirements of CDM project approval National requirements for conducting LSC National requirements for implementation of power generation 	Dakar, Senegal	13/01/2016	G. Kochaniewicz
5	Meeting with Senelec. <ul style="list-style-type: none"> Actual power generation in Senegal Grid boundary Operating power plants Availability of data Review of existing PV plants in Senegal 	Dakar, Senegal	14/01/2016	G. Kochaniewicz

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Dunod	Alexandre	Ecosur Afrique	13/01/2016	Onsite visit, LoA, EIA & LSC Reports, GEF & ER calculations	Grzegorz Kochaniewicz
2.	Mayr	Sebastian	Ecosur Afrique	13/01/2016		
3.	Mefdi	Maryanne	Meridiam	13/01/2016	Project history, Project partners, Management structure, Management capacity and training, Local Stakeholder Consultation.	Grzegorz Kochaniewicz
4.	Nbaya	Sarr	Cabinet EES	13/01/2016		
5.	Mcruyer	Isabella	Salaire Direct	13/01/2016		
6.	Ba	Abdurakin	Cabinet EES	13/01/2016		
7.	Woheiyé	Sidy	Asisec. / S. Reoth	13/01/2016		
8.	Boyé	Suda	Rerpmsatb Janise	13/01/2016		
9.	Cheienni	Ká	Cultivateur	13/01/2016	Land ownership, Land tenure, Number of families affected, Compensations, Project impact on the local population, Local	Grzegorz Kochaniewicz
10.	Kof	Fama	Cultivateur	13/01/2016		
11.	Sull	Pjoreunu	Ctu Sellofo	13/01/2016		
12.	Baye	Sangoné	Cultivateur	13/01/2016		
13.	Aziz Gay	Aldou	Cultivateur	13/01/2016		
14.	Sarr	Moussa	Culivateur	13/01/2016		
15.	Yatma	Gaye	Cultivateur	13/01/2016		
16.	Gorgui	Thiaur	Cultivateur	13/01/2016		
17.	Lat	Gaye	Cultivateur	13/01/2016		

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
18.	Mbaye	Modoy	Cultivateur	13/01/2016	Stakeholder Consultation process,	
19.	Cheikh	Chucro	Cultivateur	13/01/2016		
20.	Dwja	Kida	Cultivateur	13/01/2016		
21.	Mtacké	Grege	Cultivateur	13/01/2016		
22.	Drojr	Biraine	Cultivateur	13/01/2016		
23.	Ghias	Pepe	Cultivateur	13/01/2016		
24.	Mrangone	Garye	Cultivateur	13/01/2016		
25.	Dieng	Mathiaus	Cultivateur	13/01/2016		
26.	Gueye	Alrana	Cultivateur	13/01/2016		
27.	Dieng	Abdou	Cultivateur	13/01/2016		
28.	Gueye	Brianne	Cultivateur	13/01/2016		
29.	Gueye	Abdou	Cultivateur	13/01/2016		
30.	Gueye	Abdou	Cultivateur	13/01/2016		
31.	Dvije	Mass	Cultivateur	13/01/2016		
32.	Dvije	Gamsir	Cultivateur	13/01/2016		
33.	Gueya	Massarbe	Cultivateur	13/01/2016		
34.	Ghiaur	Marser	Cultivateur	13/01/2016		
35.	Ghiosse	Maussa	Cultivateur	13/01/2016		
36.	Gueye	Briane	Cultivateur	13/01/2016		
37.	Grege	Magueye	Cultivateur	13/01/2016		
38.	Thietacmé	Diop	SG	13/01/2016		Grzegorz Kochaniewicz
39.	Diouf	Madeleine	DNA Senegal	14/01/2016	National law and regulation, LSC requirements, Definition of Senegal grid, Number and the art of power plants serving the grid, Prior Consideration, Issuance of LoA	Grzegorz Kochaniewicz
40.	Ndiaye	Gabriel	DEEC	14/01/2016		
41.	Barry	Ahmadou T.	DEEC/DCC	14/01/2016		
42.	Nasuo	Fatsu	Senelec	14/01/2016	Power plants serving the system, National law and regulations, Grid code of Senegal	Grzegorz Kochaniewicz
43.	Siuf	Serigne	EES. Sar	14/01/2016		
44.	Peller	Mathieu	Meridiam	14/01/2016		

C.4. Sampling approach

D.4.1 Sampling during validation

<input checked="" type="checkbox"/>	No sampling approach has been used by the PP to determine the monitored parameters				
<input type="checkbox"/>	A sampling approach has been taken for the following monitored parameter(s):				
	Parameter	Sampling approach ¹⁾	Sampling Type ²⁾	Population	Sample Size

¹⁾ Sampling Approaches:

SiRS: Simple Random Sampling
 StRS: Stratified Random Sampling
 SS: Systematic Sampling
 CS: Cluster Sampling
 MSS: Multi-stage Sampling

²⁾ Sampling Types:

PS: Parameter Sampling

C.5. Clarification requests, corrective action requests and forward action requests raised

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Global stakeholder consultation	0	0	0
Approval	0	1	0
Authorization	0	1	0
Contribution to sustainable development	0	0	0
Modalities of communication	0	0	0
Project design document	0	1	0
Description of project activity	0	0	0
Application of selected baseline and monitoring methodology and selected standardized baseline			
- Applicability of methodology and standardized baseline	0	1	0
- Deviation from methodology	0	0	0
- Clarification on applicability of methodology, tool and/or standardized baseline	0	1	0
- Project boundary	0	0	0
- Establishment and description of baseline scenario	0	0	0
- Demonstration of additionality	0	0	1
- Emission reductions	0	2	0
- Monitoring plan	0	1	0
Duration and crediting period	0	1	0
Environmental impacts	0	0	1
Local stakeholder consultation	0	0	0
Others (please specify) -Editorials	0	0	0
Total	0	9	2

SECTION D. Validation findings**D.1. Global stakeholder consultation**

Means of validation	By means of the draft PDD submitted to the validation team by the project participants, the DOE has made the PDD publicly available prior to the start of the validation activities through a dedicated interface on the UNFCCC CDM website in accordance with applicable validation requirements related to the global stakeholder consultation in the VVS.		
	The following sources of information have been used in this context: <ul style="list-style-type: none">• /PDD/• /unfccc/		
Findings	<input checked="" type="checkbox"/>	The PDD was made publicly available through a dedicated interface on the UNFCCC CDM website for global stakeholder consultation.	
	<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period.	
	<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:	
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.	
	The validation team has checked the stakeholder's comments and respective action from PP and concluded that the project is in line with the respective requirements.		

D.2. Approval

Means of validation	By means of the LoA issued by the DNA of Sengal, the validation team was able to assess the approval from the DNA in accordance with related applicable validation requirements in the VVS. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD/ • /HCA/ • /dna/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	All DNAs from each party involved in the PA issued a LoA.
	<input checked="" type="checkbox"/>	The LoA(s) confirms: <ul style="list-style-type: none"> - that the party is a party to the Kyoto Protocol; - that participation is voluntary; - that the project contributes to sustainable development (only host party LoA); the precise project activity title in the PDD intended for submission for registration.
	<input checked="" type="checkbox"/>	The LoA is authentic.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR D.2
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.

D.3. Authorization

Means of validation	By means of the LoA issued by the DNA of Senegal, the validation team is able to assess the authorization from the DNA in accordance with related applicable validation requirements in the VVS. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD/ • /HCA/ • /dna/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	The host Party has authorized the project activity in accordance with applicable validation requirements related to the authorization in the VVS.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR D.2;
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.

D.4. Contribution to sustainable development

Means of validation	<p>By means of the PDD submitted by the project participants, site visit to project location and interviews with project participant representatives, the validation team has assessed the contribution of the project activity to the sustainable development of the host Country in accordance with applicable related validation requirements in the VVS.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /HCA/ • /dna/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	The PDD clearly states that the project contributes to sustainable development of the host country and evidence were presented to the validation team to confirm this information.
	<input type="checkbox"/>	The LoA confirms that the project contributes to sustainable development of the host country.
	<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:</p> <p>CAR D.2;</p>
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context.
	<input checked="" type="checkbox"/>	<p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p> <p>The Project contributes to sustainable development through:</p> <ul style="list-style-type: none"> • Participation in Senegal's energy security and contribute to its self-sufficiency; • Reduction of emissions of greenhouse gas; • Development of renewable energy; • Production of electricity without noise, without waste and without water consumption; • Enhance the country's attractiveness for companies in the photovoltaic sector; • Strengthen the knowledge and experience of the country on the development of solar projects; • Production of electricity in an amount equivalent to the need of more than 50,000 people; • Trough supply of electricity improvement of health conditions;

D.5. Modalities of communication

Means of validation	<p>By means of comparison of the Modalities of Communication (MoC) submitted by the project participants and the contract among the PP and TÜV Nord, the validation team has assessed the MoC in accordance with applicable related validation requirements in the VVS.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /MoC/ • /unfccc/ 	
Findings	<input type="checkbox"/>	A valid Modalities of Communication (MoC) was provided to the validation team from a project participant with whom the DOE has a contractual relationship.
	<input type="checkbox"/>	The MoC was signed by a duly authorized person on behalf of the respective project participant.
	<input type="checkbox"/>	The MoC statement was correctly completed.

Conclusion	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:
		CAR D.2
	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
The project participant and focal point is included in the presented Modalities of Communication statement, as well as the personal identities, including specimen signatures and employment status.		
The representatives who submitted the MoC statement to the DOE are duly authorized to do so, on behalf of the respective project participant.		

D.6. Project design document

Means of validation	<p>The project participants submitted a draft PDD to the validation team.</p> <p>By means of the UNFCCC website it has been checked whether the latest applicable PDD template CDM-PDD-FORM has been used.</p> <p>Further it has been checked whether the latest instructions for filling out the PDD template have been followed. Every section has been checked against the respective guidance.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /PDD-T/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	The latest reporting template CDM-PDD-FORM as listed on the UNFCCC website has been used for the Project Design Document to be uploaded.
	<input checked="" type="checkbox"/>	The latest instructions for filling out the PDD have been followed. All raised findings have been correctly solved.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:
		CAR D.7
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The latest applicable PDD template (CDM-PDD-FORM – version 07.0) has been used and correctly filled out.	

D.7. Description of project activity

Means of validation	<p>By means of comparison of the PDD submitted by the project participants, site visit to project location and interviews with project participant representatives, the validation team has assessed the description of the proposed CDM project activity in accordance with applicable related validation requirements.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /unfccc/ • /Tec/ 	
Findings	<input checked="" type="checkbox"/>	The PDD contains a clear, accurate and complete project description.
	<input checked="" type="checkbox"/>	The information regarding the project participant is listed at the PDD and it is consistent with Appendix 1 that contains the contact information.
	<input checked="" type="checkbox"/>	This description is in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented

		according to the project description.
	<input type="checkbox"/>	The project involves an alteration of the existing installation or process and there is a clear description available regarding the differences between the project and the pre-project situation.
	<input type="checkbox"/>	The project qualifies as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II.
	<input type="checkbox"/>	The project qualifies as an afforestation and reforestation (A/R) CDM project activity.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR D.7
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.

D.8. Application of selected baseline and monitoring methodology and selected standardized baseline

D.8.1. Applicability of methodology and standardized baseline

Means of validation	By means of comparison of the PDD with (i) the applied CDM methodology, (ii) all applicable CDM Meth tools, and (iii) if applicable, a standardized baseline the validation team has checked whether the project activity is in compliance with the related requirements of the applied methodology/tools/SB. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ • /GEFT/ 	
Findings	<input checked="" type="checkbox"/>	The project applies a valid version of a CDM Methodology.
	<input checked="" type="checkbox"/>	All applied methodological tools are valid and approved.
	<input checked="" type="checkbox"/>	The applied methodology and methodological tools are derived from UNFCCC CDM website.
	<input checked="" type="checkbox"/>	All methodology applicability conditions are met.
	<input checked="" type="checkbox"/>	The project is in line with all requirements and stipulations mentioned in all sections of the applied methodology.
	<input type="checkbox"/>	The project activity is expected to result in significant emissions, related both to project and leakage, other than those listed in the methodology.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR 8.1
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		The project activity applies approved methodology ACM0002 version 16.0, Grid-connected electricity generation from renewable sources which is valid at the

	<p>moment of the validation process.</p> <p>All applicability conditions of the applied methodology are met (refer to Appendix 7 for details).</p> <p>The project activity also applies the following methodological tools:</p> <ul style="list-style-type: none"> - <i>Tool to calculate the emission factor for an electricity system</i> ^{/TL/} <p>which are the last ones available.</p> <p>Methodology and tools are derived from UNFCCC CDM website.</p> <p>Hence, the PA is in line with all requirements and stipulations mentioned in all sections of the applied methodology.</p>
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D.8.2. Deviation from methodology

Means of validation	<p>By means of comparison of the PDD with the applied CDM methodology and methodological tools, it has been checked whether any deviation from applied methodologies, including standardized baselines have been verified.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ 								
Findings	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>No deviation from or revision of the methodology is necessary.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>A deviation from or revision of the methodology is to be requested and approved.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:</td> </tr> <tr> <td></td> <td>-</td> </tr> </table>	<input checked="" type="checkbox"/>	No deviation from or revision of the methodology is necessary.	<input type="checkbox"/>	A deviation from or revision of the methodology is to be requested and approved.	<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:		-
<input checked="" type="checkbox"/>	No deviation from or revision of the methodology is necessary.								
<input type="checkbox"/>	A deviation from or revision of the methodology is to be requested and approved.								
<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:								
	-								
Conclusion	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</td> </tr> </table> <p>The project activity applies approved methodology ACM0002 ver. version 16.0 which is valid at the moment of the validation process.</p> <p>No deviation or revision of the methodology was requested during the validation period.</p>	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.				
<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.								
<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.								

D.8.3. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	<p>By means of verification of the proposed CDM project activity with</p> <ol style="list-style-type: none"> the applied CDM methodology, all applicable CDM Meth tools, and if applicable, a standardized baseline <p>the validation team has checked whether if any clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity has been issued.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ 								
Findings	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>No clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity has been issued.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>A clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity has been issued.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:</td> </tr> <tr> <td></td> <td>-</td> </tr> </table>	<input checked="" type="checkbox"/>	No clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity has been issued.	<input type="checkbox"/>	A clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity has been issued.	<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:		-
<input checked="" type="checkbox"/>	No clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity has been issued.								
<input type="checkbox"/>	A clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity has been issued.								
<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:								
	-								
Conclusion	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</td> </tr> </table>	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.				
<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.								
<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.								

	<p>The project activity applies approved methodology ACM0002 ver. version 16.0 which is valid at the moment of the validation process.</p> <p>There is no clarification on applicability of methodology, tool and/or standardized baseline to the proposed CDM project activity.</p>
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D.8.4. Project boundary

Means of validation	<p>By means of comparison of the PDD with the applied CDM methodology, the validation team has assessed the project boundary in accordance with applicable related validation requirements in the VVS.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ • /goog/ • /TL/ 										
Findings	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td><td>The spatial (geographical) boundaries of the project are clearly defined at the PDD.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>All sources and GHGs are included in the project boundary as required in the applied methodology.</td></tr> <tr> <td><input type="checkbox"/></td><td>The methodology allows choosing whether a source and/or gas is to be included. The choice is sufficiently explained and justified.</td></tr> <tr> <td><input type="checkbox"/></td><td>Emission sources that are expected to contribute more than 1% of the overall expected average annual emissions reductions and which are not addressed by the selected approved methodology have been identified</td></tr> <tr> <td><input type="checkbox"/></td><td>The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:</td></tr> </table>	<input checked="" type="checkbox"/>	The spatial (geographical) boundaries of the project are clearly defined at the PDD.	<input checked="" type="checkbox"/>	All sources and GHGs are included in the project boundary as required in the applied methodology.	<input type="checkbox"/>	The methodology allows choosing whether a source and/or gas is to be included. The choice is sufficiently explained and justified.	<input type="checkbox"/>	Emission sources that are expected to contribute more than 1% of the overall expected average annual emissions reductions and which are not addressed by the selected approved methodology have been identified	<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:
<input checked="" type="checkbox"/>	The spatial (geographical) boundaries of the project are clearly defined at the PDD.										
<input checked="" type="checkbox"/>	All sources and GHGs are included in the project boundary as required in the applied methodology.										
<input type="checkbox"/>	The methodology allows choosing whether a source and/or gas is to be included. The choice is sufficiently explained and justified.										
<input type="checkbox"/>	Emission sources that are expected to contribute more than 1% of the overall expected average annual emissions reductions and which are not addressed by the selected approved methodology have been identified										
<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:										
Conclusion	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td><td>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</td></tr> <tr> <td><input type="checkbox"/></td><td>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</td></tr> </table> <p>The project boundary is validated as correct and compliant with the applied large-scale consolidated methodology and applied tools.</p>	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.						
<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.										
<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.										

D.8.5. Establishment and description of baseline scenario

Means of validation	<p>By means of comparison of the PDD with the applied CDM methodology, the validation team has assessed the baseline scenario in accordance with applicable related validation requirements in the VVS.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /TL/ • /unfccc/ • /ER/ 						
Findings	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td><td>The baseline scenario is given by the applied methodology: <i>'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".'</i></td></tr> <tr> <td><input type="checkbox"/></td><td>All possible baseline scenarios have been considered.</td></tr> <tr> <td><input type="checkbox"/></td><td>The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:</td></tr> </table>	<input checked="" type="checkbox"/>	The baseline scenario is given by the applied methodology: <i>'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".'</i>	<input type="checkbox"/>	All possible baseline scenarios have been considered.	<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:
<input checked="" type="checkbox"/>	The baseline scenario is given by the applied methodology: <i>'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".'</i>						
<input type="checkbox"/>	All possible baseline scenarios have been considered.						
<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:						

Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	For a detailed assessment of the baseline identification refer to Appendix 5.	

D.8.6. Demonstration of additionality

Means of validation	<p>By means of comparison of the PDD with the applied CDM methodology, the validation team has assessed the additionality of the project activity in accordance with applicable related validation requirements in the VVS.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ • /TEC/ • /LoNO/ 	
Findings	<input checked="" type="checkbox"/>	The PDD describes how the project is additional in accordance with the requirements of the applied methodology
	<input checked="" type="checkbox"/>	The simplified procedure to demonstrate additionality as per applied methodology is applicable
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: CAR D.8.2;
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	<p>The prior consideration was submitted to UNFCCC on 07/02/2015. Project Idea Note (PIN) was submitted to DNA of Senegal on 07/09/2015. DNA of Senegal issued Letter of non-Objection to the project on 07/09/2015.</p> <p>As per the applied methodology, ACM0002 Version 16, the simplified procedure to demonstrate additionality is applicable to five grid connected electricity generation technologies (positive list), including solar photovoltaic technologies.</p> <p>At the time of PDD submission, Solar PV technology is automatically additional if at the time of PDD submission any of the following conditions is met: -</p> <p>(a) The percentage share of total installed capacity of the specific technology in the total installed grid connected power generation capacity in the host country is equal to or less than two per cent;</p> <p>or</p> <p>(b) The total installed capacity of the technology in the host country is less than or equal to 50 MW.</p> <p>The project activity is a PV project and meets condition b), as data from the state utility Senelec, confirms that the total installed capacity of the PV technology in the host country is less than 50 MW at the time of PDD submission for registration. Furthermore the DNA of Senegal confirmed the information on PV plants in Senegal.</p> <p>The project activity is therefore additional.</p>	

D.8.7. Emission reductions

Means of verification	<p>By means of comparison of the PDD with the applied CDM methodology, methodological tools and presented calculations, the validation team has assessed the estimated emission reductions of the project activity are in accordance with applicable related validation requirements in the VVS.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /ACM2/ • /ER1/ • /GR1/ • /PDD/ • /TL/ 											
Findings	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p>The equations applied for calculation are correctly applied according to the approved methodology.</p> <p>Conservative assumptions were used when calculating the project emissions.</p> <p>All values of data to be applied for the purpose of calculating expected emissions reductions are considered to be reasonable, applicable and conservative.</p> <p>The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR D.8.4.1, CAR D.8.4.2</p>										
Conclusion	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>No CARs/CLs/FARs has been raised in this context. No correction was required. The project is in line with the respective requirements.</p> <p>The raised CARs/CLs/FARs has been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p> <p>During the validation the calculations of GHG emissions reductions and the grid emission factor of the project electricity system (national grid of Senegal) have been checked. In line with the methodological tool 'Tool to calculate the emission factor for an electricity system', version 05.0, data for $FC_{i,m,y}$, $NCV_{i,y}$ and $EG_{m,y}$ were obtained from public utility Senelec and therefore reliable. Default IPCC data have been applied for $EF_{CO2,i,y}$.</p> <p>Estimations on electricity generation are from the EPC contractor, whose report was based on a combination of manufacture specifications, performance ratio, potential losses and local environmental conditions. The estimated ex-ante 7-year average net value of 50,004 MWh/year is therefore accepted as reasonable for ex-ante ER calculations.</p> <p>After the closure of related findings raised in Appendix 3 of this report, the validation team confirms that the calculation of the GEF is overall correct.</p> <p>The ER calculation is as following:</p> $ER_y = BE_y - PE_y$ $BE_y = EG_{PJ,y} * EF_{grid,CM,y}$ <p>Where:</p> <table border="0"> <tr> <td>ER_y</td> <td>Emission reductions</td> </tr> <tr> <td>PE</td> <td>Project emissions</td> </tr> <tr> <td>BE_y</td> <td>: Baseline emission in year y; (tCO₂/year).</td> </tr> <tr> <td>$EG_{PJ,y}$</td> <td>Quantity of net electricity generation</td> </tr> <tr> <td>$EF_{grid,CM,y}$</td> <td>CO2 emission factor for grid connected power generation</td> </tr> </table>	ER_y	Emission reductions	PE	Project emissions	BE_y	: Baseline emission in year y; (tCO ₂ /year).	$EG_{PJ,y}$	Quantity of net electricity generation	$EF_{grid,CM,y}$	CO2 emission factor for grid connected power generation
ER_y	Emission reductions											
PE	Project emissions											
BE_y	: Baseline emission in year y; (tCO ₂ /year).											
$EG_{PJ,y}$	Quantity of net electricity generation											
$EF_{grid,CM,y}$	CO2 emission factor for grid connected power generation											

	<p>According to the methodology,</p> $PE_y = 0 \text{ t CO}_{2e}$ <p>and $EG_{PJ,y} = EG_{facility,y}$</p> <p>Therefore</p> $ER_y = 50,004 \text{ MWh} \times 0.6798 \text{ tCO}_2/\text{MWh} - 0 \text{ tCO}_2$ $= 33,992 \text{ tCO}_2$ <p>The calculations of the grid emission factor has been carried out in accordance with the options, equations and methods described in the <i>Tool to calculate the emission factor for an electricity system</i>^{TU}. The emission factor applied is an ex-ante value valid for the 1st crediting period.</p> <p>As per §60 of the applied baseline and monitoring methodology ACM0002^{/ACM2/}, no leakage emissions are considered for this project activity.</p> <p>It can therefore be confirmed that the emission reduction calculation is correct and in line with the applicable methodology and tool.</p>
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D.8.8. Monitoring plan

Means of validation	<p>During the validation all monitoring parameters (as listed in chapter B.7.1 of the PDD) have been checked with regard to the</p> <ul style="list-style-type: none"> (i) description, (ii) source of data, (iii) appropriateness of the applied measurement / determination method, (iv) monitoring frequency, (v) applied QA/QC measures, (vi) purpose of data (vii) formats. <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ • /GEFT/ 								
Findings	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td><td>All monitoring parameters required by the applied methodology are contained in the monitoring plan.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The means of monitoring of all parameters contained in the monitoring plan are feasible.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>All equations necessary to ex-post emission reduction calculation are clearly defined.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR 8.5;</td></tr> </table>	<input checked="" type="checkbox"/>	All monitoring parameters required by the applied methodology are contained in the monitoring plan.	<input checked="" type="checkbox"/>	The means of monitoring of all parameters contained in the monitoring plan are feasible.	<input checked="" type="checkbox"/>	All equations necessary to ex-post emission reduction calculation are clearly defined.	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR 8.5;
<input checked="" type="checkbox"/>	All monitoring parameters required by the applied methodology are contained in the monitoring plan.								
<input checked="" type="checkbox"/>	The means of monitoring of all parameters contained in the monitoring plan are feasible.								
<input checked="" type="checkbox"/>	All equations necessary to ex-post emission reduction calculation are clearly defined.								
<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR 8.5;								
Conclusion	<table border="1"> <tr> <td><input type="checkbox"/></td><td>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</td></tr> </table> <p>It can be confirmed that all monitoring parameters required by the applied methodology are contained in the monitoring plan and the means of their monitoring is feasible. The validation procedure is described parameter-wise in the project specific validation checklist (Appendix 6).</p>	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.				
<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.								
<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.								

D.9. Duration and crediting period

Means of validation	By means of comparison of the PDD and evidence presented, the validation team has checked the compliance of the duration and crediting period with validation requirements related to the starting date, duration and crediting period in the VVS. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD/ • /PDD-T/ • /GT/ • /LA/ 	
Findings	<input checked="" type="checkbox"/>	The starting date of the project activity is clearly defined and evidenced.
	<input type="checkbox"/>	The type, duration and start date of the crediting period are clearly defined.
	<input checked="" type="checkbox"/>	The operational lifetime of the project activity is clearly defined and evidenced.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: CAR D.9
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	The project start date is 13/05/2016, the date of signing loan agreement between Senergy PV SA and Proparco S.A and therefore, real action as per CDM Glossary of Terms. The start of the (<i>renewable</i>) crediting period is appropriately given as 01/05/2017.	

D.10. Environmental impacts

Means of validation	By means of provided evidence and by the assessment of host party regulations regarding the environment, the validation team has checked the compliance of the analysis of the environmental impacts with applicable validation requirements related to the environmental impacts in the VVS. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /EIA/ • /PDD/ • /IM01/ • /EIAR/ 	
	<input checked="" type="checkbox"/>	The project complies with host Party requirements for an Environmental Impact Assessment.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context: FAR D.10;
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	An Environment & Social Impact Assessment (ESIA) is required for the project activity. It has been assessed that the environmental impacts associated with the installation and operation of the proposed PV solar plants will be minimal, and the mitigation measures proposed are sufficient.	

D.11. Local stakeholder consultation

Means of validation	By means of provided evidence and by the assessment of host party regulations, the validation team has checked the compliance of the local stakeholder consultation process with applicable validation requirements related to the local stakeholder consultation in the VVS. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /LSC/ • /PDD/ • /IM01/ 	
Findings	<input checked="" type="checkbox"/>	The relevant local stakeholders were invited to consultation prior to the publication of the PDD.
	<input checked="" type="checkbox"/>	The local stakeholder consultation process can be assessed as adequate and in accordance with host Country requirements.
	<input type="checkbox"/>	The respective requirements have widely been complied with. However, the following issues needed to be addressed in this context:
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
	A local stakeholder consultation was conducted. The following meetings were held: <ul style="list-style-type: none"> • Meeting with administrative and municipal authorities, on 29 of January 2015, • Institutional meetings, on 9 to 13th of March 2015 and on 10th of April 2015, • Meetings with concerned villages, from March 9th to 13th 2015 A summary of comments and how they have been considered is included in Sections E.2 and E.3 of the PDD. A list of participants as well as how their comments have been addressed has sufficiently been included in the PDD.	

SECTION E. Internal quality control

Before the submission of the final validation report a technical review of the whole validation procedure was carried out. The technical reviewers are competent GHG auditors where at least one is being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may have been confirmed or revised. Furthermore reporting improvements might have been achieved.

After the successful technical review, an overall (esp. procedural) assessment of the complete validation has been carried out by a senior assessor located in the accredited premises of TÜV NORD CERT GmbH.

After this step the submission for requesting for registration is conducted.

SECTION F. Validation opinion

Senegy PV SA has commissioned the TÜV NORD JI/CDM Certification Program to validate the CDM project “**Grid-connected Solar PV project in Méouane**”, with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board.

In detail the conclusions can be summarized as follows:

- The project is in line with all relevant host country criteria (Senegal) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from DNA of Host Country vide the Letter of Approval (HCA) dated 11/04/2016;
- The baseline has been appropriately identified as per the applied methodology;
- The framework for determination project additionality is sufficiently justified in the PDD in line with the applied methodology;
- All applicability conditions of the applied methodology have been fulfilled;
- the monitoring plan is transparent and adequate;
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of **237,949 tCO₂e** are most likely to be achieved within the (1st renewable) crediting period;
- Information on the environmental impact assessment and local stakeholders' consultation by the project participant is sufficiently provided.

Kigali, 25/11/2016




Dr. Grzegorz Kochaniewicz
TÜV NORD JI/CDM CP
Validation Team Leader

Appendix 1. Abbreviations

Abbreviations	Full texts
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO ₂	Carbon dioxide
CO _{2eq}	Carbon dioxide equivalent
CL	Clarification Request
DOE	Designated Operating Entity
DValR	Draft Validation Report
EIA	Environmental Impact Assessment
ESIA	Environmental & Social Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IM	Interview Memo
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
PDD	Project Design Document
PP	Project Participant
PRC	Post Registration Changes
PS	CDM Project Standard
QA/QC	Quality Assurance / Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD J/CDM Certification Program

Mr. Grzegorz Kochaniewicz

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2019-02-08
VCS / ISO 14064-2	Senior Assessor	2019-02-08


Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy Demand
14.1	Afforestation and Reforestation

173 - Rev. 7, Date: 2016-02-09

173_B01-VA060-F20_2016-02-09_rev7.doc

B01-VA060-F20 rev3 / 2012-10-25



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD J/CDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2018-10-20
VCS / ISO 14064-2	Lead Assessor	2018-10-20


Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand

251 - Rev. 4, Date: 2015-10-21

251_B01-VA060-F20_2015-10-21_rev4.doc

B01-VA060-F20 rev3 / 2012-10-25



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD J/CDM Certification Program

Ms. Christina Stöhr

SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification) Technical Reviewer	2017-12-12
VCS / ISO 14064-2	Assessor/ Technical Reviewer	


Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
13.1	Solid waste and wastewater

200 - Rev. 4 Date: 2015-06-09

200_B01-VA060-F20_2014-12-13_rev4.doc

B01-VA060-F20 rev3 / 2012-10-25



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD J/CDM Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2017-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
4.1	Cement and lime production
4.2	Paper
5.2	Caprolactam, nitric and adipic acid
9.1	Aluminium and magnesium production
9.2	Iron, steel and Ferro-alloy production
13.1	Solid waste and wastewater
13.2	Manure

163 - Rev. 4, Date: 2015-01-05

163_B01-VA060-F20_2015-01-05_rev4.doc

B01-VA060-F20 rev3 / 2012-10-25

Appendix 3. Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1	UNFCCC	/ACM2/	ACM0002: Large-scale Consolidated methodology - <i>Grid-connected electricity generation from renewable sources</i> , version 16.0		Other
2	DOE	/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)		Other
3	IPCC	/IPCC/	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book	www.ipcc-nggip.iges.or.jp	Other
4	UNFCCC	/KPI/	Kyoto Protocol (1997)	http://unfccc.int/kyoto_protocol/items/2830.php	Other
5	UNFCCC	/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)	http://cdm.unfccc.int/Reference/CO2PMOP/index.html	Other
6	UNFCCC	/PDD/	Project Design Document for CDM project: “Grid-connected Solar PV project in Méouane” • Version 1.0, dated 23/12/2015 • Version 1.1, dated 04/03/2016 • Version 1.2, dated 07/04/2016 • Version 1.3, dated 02/05/2016 • Version 1.4, dated 13/09/2016 • Version 1.5, dated 25/11/2016		PP
7	UNFCCC	/PDD-T/	Project Design Document Form (CDM-PDD-FORM) - Version 8.0	https://cdm.unfccc.int/Reference/PDDs_Forms/index.html	Other
8	UNFCCC	/PS/	CDM Project Standard (Version 9.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
9	UNFCCC	/VVS/	CDM Validation and Verification Standard (Version 09.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
10	UNFCCC	/PCP/	CDM Project Cycle Procedure (Version 09.0)	https://cdm.unfccc.int/Reference/Procedures/index.html	Other
11	UNFCCC	/PS/	CDM Project Standard (Version 09.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
12	UNFCCC	/TL/	Tool to calculate the emission factor for an electricity system Version 05.0	http://cdm.unfccc.int/Reference/tools/index.html	Other
13	UNFCCC	/GT/	Glossary “CDM terms” (version 08.0)	https://cdm.unfccc.int/filestorage/extra/extfile-20150226124447549-	Other

No.	Author	Reference	Title	References to the document	Provider
				glos_CDM.pdf/glos_CDM.pdf?t=UmZ8bnFjODI3fDCW9A3vJwR03kQ Qh4sbLiYu	
14	Alban Pelletier	/MTP/	Private power production and integration opportunities. A case study for decentralized energy production in Senegal.		Other
15	Senergy PV SA & Proparco SA	/LA/	Loan Agreement (extract) between Senergy PV SA and Societe de Promotion et de Participation pour la Coopération Economique (Proparco) SA, signed by both parties, dated 13/05/2016		Other
ER spreadsheets					
1	PP	/ER1/	ER calculation (Senelec) version 01.0 ER calculation (Senelec) version 02.0 161124 - ER Spreadsheet - SPVMEO		PP
Equipment & Instrument					
1	ReneSola Inc Solar Schneider-Electronic	/TEC/	<ul style="list-style-type: none"> Conext Core XC series central inverter ReneSola, Virtus III amodule 320 W 	www.ReneSola.com www.Solar.schneider-electric.com	Other
2	Solar Schneider-Electronic	/SSE/	www.Solar.schneider-electric.com	ReneSolar	Other
Regulatory & Approvals					
1	Senegal DNA	/LoA/	Host Country Letter of Approval	Senegal DNA	PP
2	Senergy PV SA	/ESIA/	Environmental and Social Impact Assessment (Draft)		PP
3	Senelec	/PPA/	Contract d'achat d'énergie (PPA) dated 31/12/2013		PP
4	Senergy	/PCO/	Prior consideration of the CDM		PP
5	Senergy	/PIN/	Project Information Note		PP
6	Senergy	/OWN/	Protocole d'Accord (Land owners agreement), dated 09/11/2013		PP
7	Republique du Senegal Department de Tivaouane Commune de Meouane	/ADC/	Constriction Authorisation (Authorisation de Construire)		PP
8	Tribunal Regional Hors Classe De Dakar	/REG/	Registry of Meridiam and Senergy Suarl		PP
9	Republic du Senegal	/EIES/	Environmental Impact Study	Ministère de l'Environnement et du Développement Durable*	PP
Websites					
1	Senegal	/dna-HP/	http://www.denv.gouv.sn	Direction de	Other

No.	Author	Reference	Title	References to the document	Provider
	DNA			l'Environnement et des Etablissements Classés 106, Rue Carnot Dakar BP 6557 Dakar Etoile (DNA)	
2	Ecosur Afrique	/dna-SP/	http://ecosurafrique.com/	Ecosur Afrique	Other
3	Senelec Senegal	/SEN/	http://www.senelec.sn	Senelec	Other
4	Renesola	/RENS/	http://www.solarelectricsupply.com/commercial-solar-systems/ground-mount	Renesola	Other
5	UNFCCC	/unfccc/	http://cdm.unfccc.int	UNFCCC	Other
6	IPCC	/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications	Other
7	Google	/goog/	https://earth.google.com/	Google Earth	Other

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 3. CL from this validation

CL ID	A1	Section no.	A.3	Date: 26/10/2015
Description of CL				
n/a				
Project participant response (1st round)				Date:
Documentation provided by project participant (1st round)				
<input checked="" type="checkbox"/>	Changes in PDD	Section(s):		New version No.:
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date:
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed		

Table 2. CAR from this validation

CAR ID	D2	Section No.	N/A	Date: 15/01/2015
Description of CAR				
Approval				
1. At the time of onsite visit no LoA was provided. 2. At the time of onsite visit no MoC was provided				
Project participant response (1st Round)				Date: 04/03/2016
1. The LoA request was submitted to the DNA and acknowledged on February 12 th , 2016 2. The signed MoC will be provided to the DOE together with LoA once readily available				
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PDD	Section(s): F		New version No.: 1.1
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:
<input checked="" type="checkbox"/>	Other: Lettre réponse demande d'approbation MDP project Solar meouane.pdf, MoC.doc			
DOE assessment (1st Round)				Date: 09/03/2016
Both documents are pending DOE validation.				
Project participant response (2nd Round)				Date: 08/04/2016
1. The LoA was submitted to the DOE. 2. The signed MoC was provided to the DOE.				
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PDD	Section(s): -		New version No.: -
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:
<input checked="" type="checkbox"/>	Other:			
DOE assessment (2nd Round)				Date: 27/04/2016
1. The LoA from DNA of Senegal, dated 11/04/2016 was provided by PP. The LoA was issued by Ministère de l'Environnement Et Des Développement Durable, Direction De L'Environnement Et Des Etablissements Classes. The Direction De L'Environnement Et Des Etablissements Classes is the DNA of Senegal listed on the UNFCCC homepage. The LoA confirms that The Republic of Senegal has ratified the Kyoto Protocol, participates voluntary in the CDM and that the project will contribute to the sustainable development of Senegal. The LoA refers to the precise project title in the PDD submitted for registration. The LoA approval and authorisation of Senergy PV SA is unconditional.				
2. Valid MoC was provided from Senergy PV SA the party that has contractual relationship with DOE. The				

MoC statement was completed correctly. Mr. Mathieu Peller, West Africa Director by Meridiam, signed the MoC. As per onsite interviews and information provided in the PDD, Meridiam is an investment funds owning Senergy PV SA. Mr. M. Peller is also the signatory of service contract between Senergy PV SA and the DOE. DOE conducted onsite interviews with Mr. Peller confirming his position and organization as the West Africa Director by Meridiam. A prove of the contractual/ownership relation between Senergy PV SA and Meridiam was provided.

Project participant response (3rd Round)		Date: 02/05/2016
PP provided the Registry of Meridiam and Senergy Suarl (Declaration de Constitution de Personne Morale) confirming the position of Mr. Peller Mathieu as a Director general.		
Documentation provided by project participant		
<input type="checkbox"/> Change in the PDD	Section(s): -	New version No-
<input type="checkbox"/> Change in XLS	Worksheet(s):	New version No:
<input type="checkbox"/> Other:		
DOE assessment (3rd Round)		Date: 15/07/2016
PP provided evidence confirming the position and authority of Mr. Peller Mathieu		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

CAR ID	D.7.	Section No.	n/a	Date: 15/01/2015
Description of CAR				
Description of project activity <ol style="list-style-type: none"> 1. PP did not consistently use IS units. 2. Not all abbreviations given in the PDD were explained. 3. The project size of 29.45 MW is inconsistent with PAA that was negotiated for 20 MW. 4. The Plant approval from the Host Country was not provided. 5. The methodologies and tools listed in section B.1 were not referenced as per guideline. 6. The Flow Diagram of the project boundary is not transparent. 				
Project participant response (1st round)				Date: 04/03/2016
<ol style="list-style-type: none"> 1. The use of IS units has been corrected in the PDD. 2. All abbreviations given in the PDD have been explained. 3. An amendment signed between the SENELEC and the Project Proponent on January 28th, 2016 is provided to the DOE (see new power capacity maximum indicated p.19, 4th paragraph). 4. A Power Purchase Agreement was signed on December 31st, 2013 and was amended on January 28th, 2016. These two contracts are provided to the DOE. These documents attest that the Host Country approved the Project. 5. The methodologies and tool listed in section B.1 have been amended in accordance with the guidelines. 6. The Flow Diagram has been amended. 				
Documentation provided by project participant				
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): All sections	New version No.: 1.1		
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/> Other: PPA amendment Jan-16.pdf				
DOE assessment (1st round)				Date: 09/03/2016
<ol style="list-style-type: none"> 1. The international System of Units does not permit the use of suffixes or additional symbols like "p" in used unit of MWp/kWp. Please clarify the difference between MW and MWp and correct using only international units. Please clarify the meaning of „tonnes CO2eq.par an“. Use common CDM English nomenclature. 2. All abbreviations have now been (e.g. HTB, SDE, etc) explained. 3. The PP has provided an amended PPA between Senergy SUARL and SENELEC dated 28/01/2016. Section 16 of the PPA states that the maximum capacity would be 29.5 MW. Therefore, this is now consistent with information in the PDD 4. The amendment of the PPA between Senergy Suarl and Senelec, societe anonyme de droit 				

senegalaise, was provided. In the amendment installation of PV plant of 29.5 MW capacity and production of 50GWh per year was defined.

Nevertheless it is not clear if the project was granted an approval to construct and operate the power plant (operation license/licenses d'exploitation) from government of Senegal. Relevant approvals as per host country laws and regulations of power/solar projects are hereby requested.

5. The exact references to the approved baseline and monitoring methodology ACM0002, version 16.0, and the applied methodological tool: Tool to calculate the emission factor for an electricity system, version 05.0, have now been correctly referenced in the revised PDD, version 1.1
6. The project boundary includes the project power plant and all power plants/units connected physically to the electricity system (Senegalese grid). The project boundary diagram has been corrected to reflect the project boundary definition of the applied methodology.

Project participant response (2nd Round)		Date: 08/04/2016	
1. The units were corrected.			
4. Construction authorization was provided.			
Documentation provided by project participant			
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): all	New version No.: 1.2	
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/> Other:			
DOE assessment (2nd Round)		Date: 27/04/2016	
1 The units were corrected and only SI units are used in the PDD.			
4. The project was granted construction authorization from the Senegalese authority.			
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

CAR ID	D.8.1	Section No.	B.2	Date: 15/01/2015
Description of CAR				
The applicability conditions of applied tool(s) are not complete.				
Project participant response (1st round)				Date: 04/03/2016
The applicability of the methodology and tool have been completed.				
Documentation provided by project participant				
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.2	New version No.: 1.1		
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/> Other:				
DOE assessment (1st round)				Date: 09/03/2016
All applicability conditions of the applied methodology and tool have been justified and evidenced.				
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

CAR ID	D.8.2	Section No.	B.5	Date: 15/01/2015
Description of CAR				
Demonstration of additionality				
The source and date of the list of existing PV plants in Senegal is from 2013. An update of the information is requested.				
Project participant response (1st round)				Date: 04/03/2016
The source and date of the list of existing PV plants in Senegal has been updated.				
Documentation provided by project participant				
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.5	New version No.: 1.1		
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/> Other:				
DOE assessment (1st round)				Date: 09/03/2016

During the onsite visit a meeting with Senelec Authorities was held. Senelec Provided the recent list of power plants serving the system. The source and date of the list of existing PV plants in Senegal has now been correctly updated.

Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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CAR ID	D.8.4.1	Section No.	B.6.1	Date:	15/01/2015
Description of CAR					
Emission reductions: During the onsite visit a meeting with Senelec Authorities was held. Senelec Provided the recent list of power plants serving the system. Update of grid EF using the latest available data is requested.					
Project participant response					Date:
The grid EF and the emission reductions calculation have been updated using the latest data available, from year 2011 to 2015. Modifications have been applied in the ER calculation sheet as well as in the PDD.					
Documentation provided by project participant					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s):	6.1	New version No.:	1.1
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment					Date:
The grid emission factor has been updated based on the latest data available to the project entity. The grid emission factor calculation is in line with the applied tool ^{TV} . The same has been checked and deemed correct. The ex-ante ER calculations have been updated accordingly					
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

CAR ID	D.8.4.2	Section No.	B.6.2	Date:	15/01/2015
Description of CAR					
Emission reductions: As per information provided By Senelec during onsite visit the share of PV in Senegal is not correct.					
Project participant response (1st round)					Date:
The ER calculation has been corrected in accordance with the information collected during the visit on site and taking into account the revised share of PV in Senegal.					
Documentation provided by project participant					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s):	B.6.2	New version No.:	1.1
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment (1st round)					Date:
The grid emission factor has been updated based on the latest data available to the project entity. The share of solar PV technology in Senegal has been appropriately revised. At the time of PDD submission to registration there is only one grid connected PV plant with 2 MW installed capacity in Senegal (0.02% of total grid generation).					
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed				

CAR ID	D.8.5	Section No.	B.7	Date:	15/01/2015
Description of CAR					
Monitoring plan:					
<ol style="list-style-type: none"> 1. The start date of the estimated ex-ante power generation is not consistent with the information on project starting date and implementation. 2. Emergency and trouble-shooting procedures are not specified (§246 of CDM PS) 3. The information provided in section B.7.1 doesn't satisfy the requirements for filling the PDD. 4. The information provided in section B.7.3 is not always relevant for monitoring of ER 					
Project participant response (1st round)					Date:
1. The start date of the estimated ex-ante power generation has been corrected as per the project					

starting date and implementation.			
2. Emergency and trouble-shooting procedures have been added in accordance with the paragraph 246 of the CDM PS.			
3. The section B.7.1 has been modified in accordance with the PDD guidelines.			
4. The information provided on section B.7.3 has been corrected in order to provide only the relevant information related to the monitoring of the emission reductions.			
Documentation provided by project participant			
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.7	New version No.: 1.1
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:
<input type="checkbox"/>	Other:		
DOE assessment (1st round)			Date: 09/03/2016
1. The starting date of power generation is 01/05/2017 which is consistent with the assigned start of crediting period, and after the project starting date. The starting date of the project activity is the date of signing the loan agreement with PROPARCO, which is 13/05/2016. The loan agreement has been checked ^{/LA/} .			
2. Section B.7.3 of the revised PDD contains further information on emergency and troubleshooting procedures, in line with the CDM PS, version 09.0			
3. The section B.7.1 is now completed in accordance with the PDD guidelines, and requirements of the CDM PS.			
4. Section B.7.3 has been checked and found completed as per requirements of the latest PDD template version 06.0, and §65 of the CDM PS, version 09.0			
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

CAR ID	D.9	Section No.	C.2.2	Date: 15/01/2015
Description of CAR				
Duration and crediting period: The section C.2.2 was not completed as per guideline.				
Project participant response (1st round)				Date: 04/03/2016
The section C.2.2 has been amended in accordance with the guideline.				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): C.2.2	New version No.: 1.1	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date: 09/03/2016
The start date of the crediting period has been assigned as 01/05/2017 in line with template requirements. The start date of crediting period shall be 01/05/2017, on registration date, or after the date of project registration, in line with §69 of the CDM PS, version 09.0				
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Table 3. FAR from this validation

FAR ID	B1	Section No.	B.5	Date: 23/11/2016
Description of FAR				
In line with §31 of the applied methodology ACM0002, version 16.0, the project proponent has applied the simplified procedure to demonstrate additionality and shall therefore provide information on actual capital cost of the project activity at the time of the first verification.				
Project participant response (1st round)				Date:
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date: DD/MM/YYYY

Conclusion <i>Tick the appropriate checkbox</i>		<input checked="" type="checkbox"/> To be checked during the next periodic verification
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FAR ID	D1	Section No.	D.1	Date: 15/01/2015
Description of FAR				
The ESIA was not approved yet.				
Project participant response (1st round)				Date: 04/03/2016
The ESIA has not been approved yet. A copy of the final document will be provided to the DOE as soon as it gets signed.				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): D.1	New version No.: 1.2	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment (1st round)				Date: DD/MM/YYYY
Conclusion <i>Tick the appropriate checkbox</i>				
<input checked="" type="checkbox"/> To be checked during the next periodic verification				

Appendix 5. Assessment of Baseline Identification

Table A-5: Assessment of Baseline Identification (VVS §§ 88 – 95)

<input checked="" type="checkbox"/>	Baseline is pre-defined by the methodology
<input type="checkbox"/>	Assessment of baseline alternatives see below

Appendix 6. Monitored Parameters

Table A-6: Validation Checklist – Monitored Parameters

Checklist Item (incl. guidance for the verification team)	Reference	Validation Team Comments (Means and results of assessment)	Draft Concl.	Final Concl.																																																								
1. $EG_{facility,y}$	<i>Parameter:</i>	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y																																																										
<p>Indicate whether the provided information for the monitoring parameter complies with the approved methodology including applicable tool(s) in the aspects listed.</p> <p>For checking the use of international standards in the nomenclature, consider:</p> <p>Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).</p> <p>Values shall be directly given in SI units – or additionally to original units transferred to SI.</p> <p>Short scale naming system: (Only) million = 10^6 and billion 10^9 shall be used.</p>	/MR/ /AM109/	<table><tr><td>Requirement</td><td>OK</td><td>Not OK</td><td>N/A</td></tr><tr><td>Label</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Data Unit</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Description</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Source of data</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Measurement equipment / measure method</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Monitoring frequency</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>QA/QC procedures</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Purpose of data</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Standard format</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>SI units</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Short scale naming</td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td colspan="4">In the context of this parameter the following finding was raised:</td></tr><tr><td colspan="4">N/A</td></tr></table>	Requirement	OK	Not OK	N/A	Label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Data Unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Source of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Measurement equipment / measure method	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Monitoring frequency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QA/QC procedures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Purpose of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard format	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SI units	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Short scale naming	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	In the context of this parameter the following finding was raised:				N/A				CAR D-8.5	OK
Requirement	OK	Not OK	N/A																																																									
Label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Data Unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Description	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Source of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Measurement equipment / measure method	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Monitoring frequency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
QA/QC procedures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Purpose of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Standard format	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
SI units	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
Short scale naming	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																									
In the context of this parameter the following finding was raised:																																																												
N/A																																																												

Appendix 7. Assessment of Applicability Criteria of Methodology

Table A-7: Assessment of Applicability Criteria

Applicability Criteria	Evidence used	Met	N/A	Assessment of validation team
This methodology is applicable to grid-connected renewable power generation project activities that (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).	Onsite inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	During the site visit no installation existing on the project site were detected. The construction did not commence. The project is a green field project. Requirement is fulfilled.
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	/PDD/ /TEC/ /SSE/	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The project will install solar power plant. The construction did not yet commence. The project is a green field project, which has been checked during on site visit. The equipment contracts for the PV modules and the meters have been checked. Requirement is fulfilled.
In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 11 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;	/PDD/ onsite inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The project will install solar power plant on a site where no power generation power plant existed prior to project implementation. The project is a green field project, which has been checked during on site visit. Requirement is fulfilled.
In 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; or 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; or 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/m². 	/PDD/ onsite inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The project will install solar power plant. The construction did not yet commence. The equipment contracts for the PV modules and the meters have been checked. Requirement is N/A

Applicability Criteria	Evidence used	Met	N/A	Assessment of validation team
<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. 	/PDD/ onsite inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The project will install solar power plant on a site where no power generation power plant existed prior to project implementation. The project is a green field project, which has been checked during on site visit.</p> <p>The project does not involve switching from fossil fuels to renewable energy sources at the site of the project activity and no Biomass fired power plant is involved. Requirement is fulfilled.</p>
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.	/PDD/ onsite inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The project will install solar power plant on a site where no power generation power plant existed prior to project implementation. The project is a green field project, which has been checked during on site visit.</p> <p>Requirement is N/A</p>
This tool (" <i>Tool to calculate the emission factor for an electricity system</i> ") may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).	/PDD/ /EXCEL/ onsite inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The project will be connected and national grid of Senegal and substitutes grid electricity. The PDD has been checked against information validated during on site visit and interviews.</p> <p>Requirement is fulfilled.</p>
Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off - grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in "Appendix 2: Procedures related to off-grid power generation" should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.	/PDD/ /EXCEL/ /MTP/ onsite inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Both grid and of-grid power plants were included in the calculation of grid emission factor. All respective steps in the calculation were followed. All conditions to include the of-grid power generation were met. The PDD and emission factor calculation have been checked against the applied tool.</p> <p>Requirement is fulfilled.</p>

Applicability Criteria	Evidence used	Met	N/A	Assessment of validation team
In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	PDD/ /EXCEL/ /MTP/ onsite inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The project is completely located in Senegal which is not Annex 1 country. The PDD has been checked against the LOA and information validated during on site visit Requirement is fulfilled.
Under this tool, the value applied to the CO ₂ emission factor of biofuels is zero.	PDD/ /EXCEL/ /MTP/ onsite inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The project will install solar power plant on a site where no power generation plant existed prior to project implementation. No biofuel will be used. The PDD and emission factor calculation have been checked against the applied tool.

Appendix 8. Assessment of Financial Parameters

Table A-8: Assessment of Financial Parameters

<input checked="" type="checkbox"/>	No financial parameters are used for additionality justification
<input type="checkbox"/>	Assessment of all financial parameters see below