




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 Mérina Dakhar
Version number of the validation report	2.0 TN P-No. : 8000466044 - 16/160
Completion date of the validation report	09/06/2017
Version number of PDD to which this report applies	1.1
Date when PDD was uploaded for global stakeholder consultation	02/11/2016
Project participant(s)	Ten Mérina Ndakhar SA
Host Party	Senegal
Estimated annual average GHG emission reductions or net removals in the crediting period (tCO₂e)	34,422
Sectoral scope(s) and selected methodology(ies)	Scope: 1 / Technical Area: 1.2 ACM0002,:Grid-connected electricity generation from renewable sources, version 17.0
Name of DOE	TÜV NORD CERT GmbH
Name, position and signature of the approver of the validation report	 Rainer Winter Final Approver

SECTION A. Executive summary

Ten Mérina Ndakhar SA has commissioned the TÜV NORD JI/CDM Certification Program to carry out the validation of the project:

“Grid-connected Solar PV project in Mérina Dakhar”

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 29.49MW total output capacity is to produce renewable electricity, which is to be exported to the national grid via a 25-year power purchase agreement (PPA) with Société National d'Électricité du Sénégal (SENELEC), the national electricity company of Senegal.

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° 9'32.62"N; 15° 9'32.83"N; 15° 9'3.20"N; 15° 9'2.98"N
Longitude:	16°35'48.54"W; 16°35'18.03"W; 16°35'17.80"W; 16°35'48.32"W
Project location address:	Rural community of Mérina Dakhar, Merina Dakhar Arrondissement, Tivaouane Department

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
NumberofPV Modules		92,160
Model		JKM320PP-72 - Poly Silver Frame
Nominal Power	W	320
Nominal Module Efficiency	%	16.49
Rated voltage (Vmpp) STC	V	37.4
Rated current (Impp) STC	A	8.56
Yield	%	16.49
Cell Dimensions	mm	1,956 x 992 x 40
Average Lifetime	Years	25
Manufacturer	-	JinkoSolar Manufacturer

Table - A-3: Technical data of the inverter(12 number)

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	1620-1890-2040
Rated voltage H/L	V	20-22-33
Rated frequency	Hz	50/60Hz
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 24/02/2017 (Code: 0492MEDD/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 **240,960 tCO₂e** are most likely to be achieved within the 7 years of 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	1.	x	x	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	ER	Lubanga	David	-
2.	Technical Reviewer/ Approver	IR	Winter	Rainer	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^{/JINK/}
- the Grid Emission Factor calculation spreadsheet and data Sources^{/ER/}.
- 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: 17/01/2017- 18/01/2017				
No.	Activity performed on-site	Site location	Date	Team member
1	Opening meeting:	Dakar, Senegal	17/01/2017	G. Kochaniewicz

Duration of on-site inspection: 17/01/2017- 18/01/2017				
No.	Activity performed on-site	Site location	Date	Team member
	<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 			
2	Meeting with onsite stakeholders. <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. 	community of Mérina Dakhar	17/01/2017	G. Kochaniewicz
3	Site inspection: <ul style="list-style-type: none"> ○ Location of the Power plant ○ Grid connection 	community of Mérina Dakhar	17/01/2017	G. Kochaniewicz
4	Meeting with DNA (Director Environment in Direction de l'Environnement et des EtablissementsClassees (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	18/01/2017	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	18/01/2017	G. Kochaniewicz

C.3. Interviews

No .	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Dunod	Alexandre	AERA Group	17/01/2017	Onsite visit, LoA, EIA & LSC Reports, GEF & ER calculations	G. Kochaniewicz
2.	Diakher	Faye	Cabinet EES	17/01/2017		
3.	Sall	Ibrahim	Meridiam	17/01/2017	Project history, Project partners, Management structure, Management capacity and training, Local Stakeholder Consultation.	G. Kochaniewicz
4.	Ndiaye	Karim	Meridiam	17/01/2017		
5.	Ba	Abdourahim	EES	17/01/2017		
9.	Miang	Mansour	EIFFAGE	18/01/2017	Land ownership, Land tenure, Number of families affected, Compensation s, Project impact on the local population, Local Stakeholder Consultation process,	G. Kochaniewicz
10.	Diakhate	Namoor	President Comité de Suivi	18/01/2017		
11.	Diakhate	Mor	Chef the Village Mbuki	18/01/2017		
12.	Dia Khate	Macoumba	Agent de terrain	18/01/2017		
13.	Mogib Jene	Amadou	Meridiam	18/01/2017		
14.	Diouf	Madeleine	DNA Senegal	18/01/2017	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	G. Kochaniewicz
	Papa Lamine	Diouf	DEEC/DEC	18/01/2017		
	Diakher	Faye	EES	18/01/2017		
15.	Mbow	Fatou	SENELEC	18/01/2017	Power plants serving the system, National law and regulations, Grid code of Senegal	G. Kochaniewicz

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	1	3	1
Application of selected baseline and monitoring methodology and selected standardized baseline			
- Applicability of methodology and standardized baseline	0	0	0
- Deviation from methodology	0	0	0
- Clarification on applicability of methodology, tool and/or standardized baseline	0	0	0
- Project boundary	0	0	0
- Establishment and description of baseline scenario	0	0	0
- Demonstration of additionality	0	0	1
- Emission reductions	0	4	0
- Monitoring plan	0	0	0
Duration and crediting period	0	0	0
Environmental impacts	0	0	0
Local stakeholder consultation	0	0	0
Others (please specify) -Editorials	0	0	0
Total	1	10	2

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

Means of validation	<p>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.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/
----------------------------	---

		<ul style="list-style-type: none"> • /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 for stakeholders' comments and confirms that no comments were received. The project is in line with the GSCP requirements.	

D.2. Approval

Means of validation	<p>By means of the LoA issued by the DNA of Senegal, the validation team was able to assess the approval from the DNA in accordance with related applicable validation requirements in the VVS.</p> <p>a written approval from the DNA of Senegal has been received directly from the PP, reference number 0492MEDD/DEEC/DCC dated 24/02/2017. The letter has been signed and stamped by an authorized entity - the Deputy Director of the DNA. The letter confirms that:</p> <ul style="list-style-type: none"> - Ten Mérina Ndakhar SA is the authorized PP of the proposed CDM project activity - Senegal has ratified the Kyoto Protocol (2001) - Senegal's participation in the CDM is voluntary - The project assists Senegal in achieving sustainable development - The LoA is unconditional <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /LoA/ • /dna/ • /unfccc/ 	
Findings	<input checked="" type="checkbox"/>	All DNAs from each party involved in the PA issued a LoA.
	<input checked="" type="checkbox"/>	<p>1. The LoA(s) confirms:</p> <ul style="list-style-type: none"> - the precise title of the proposed project activity - the only PP involved: Ten Mérina Ndakhar - host country Senegal is the sole party involved but not PP
	<input checked="" type="checkbox"/>	The LoA is authentic.
	<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.3</p>
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"/>	<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>Ten Mérina Ndakhar SA is the sole project participant and Senegal the only party involved. Therefore, only one letter of approval and authorization is required. A letter</p>

	of approval was obtained with the precise project activity title, and fulfils all the stated criteria under CDM
--	---

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/ • /LoA/ • /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.3
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 LoA dated 24/02/2017 has been submitted by PP from the host country as the only party involved, and has been duly verified by the validation team.

D.4. Contribution to sustainable development

Means of validation	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. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD/ • /LoA/ • /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 checked="" type="checkbox"/> The LoA confirms that the project contributes to sustainable development of the host country.
	<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.3
Conclusion	<input type="checkbox"/> No CARs/CLs have been raised in this context. No correction was required in the context.
	<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 contributes to sustainable development through: <ul style="list-style-type: none"> • Participation in Senegal's energy security and contribute to its self-sufficiency; • Reduction of emissions of greenhouse gas; • Reduce the carbon footprint and shift toward emission free environment • Development of renewable energy;

	<ul style="list-style-type: none"> • 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; • Through 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 the DOE, 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	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td><td>A valid Modalities of Communication (MoC) was provided to the validation team from a project participant with whom the DOE has a contractual relationship.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The MoC was signed by a duly authorized person on behalf of the respective project participant.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The MoC statement was correctly completed.</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 D.3</td></tr> </table>	<input checked="" 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 checked="" type="checkbox"/>	The MoC was signed by a duly authorized person on behalf of the respective project participant.	<input checked="" type="checkbox"/>	The MoC statement was correctly completed.	<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.3
<input checked="" 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 checked="" type="checkbox"/>	The MoC was signed by a duly authorized person on behalf of the respective project participant.								
<input checked="" type="checkbox"/>	The MoC statement was correctly completed.								
<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.3								
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>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.</p> <p>The representatives who submitted the MoC statement to the DOE are duly authorized to do so, on behalf of the respective project participant.</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.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	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td><td>The latest reporting template CDM-PDD-FORM as listed on the UNFCCC website has been used for the Project Design Document to be uploaded.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The latest instructions for filling out the PDD have been followed. All raised findings have been correctly solved.</td></tr> <tr> <td><input checked="" type="checkbox"/></td><td>The respective requirements have widely been complied with. However, the</td></tr> </table>	<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
<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.6.1
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 latest applicable PDD template (CDM-PDD-FORM – version 08.0) has been used and correctly filled out as per template guidelines.

D.7. Description of project activity

Means of validation		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. The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD/ • /unfccc/ • /TEC/ • /JINK/ • /SSE/ • /LoA/ • /PPA/ • /ESIA/ • /PRS/
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.7.1, CAR D.7.2, CAR D.7.3, CL D.7.1, FAR D.8.8.1
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 description of the proposed CDM project activity is clear and consistent with the provided project documents and onsite visit. The validation team checked the project documents to ensure that the proposed project activity is described accurately by checking the technical specifications of PV module by JinkoSolar manufacturer, the inverter description by Schneider-Electronic. Furthermore, the PPA was checked, loan conditions, the host country approval, as well as the ESIA report were checked.

	<p>The validation further team checked the UNFCCC website for any registered PoA applying the same technology and approved CDM methodology. Out of the four registered PoAs, all were small-scale PoAs which were not applying solar PV technology or ACM0002. Therefore, The proposed CDM project activity is not a Component Project Activity that has been excluded from a registered CDM Programme of Activities as a result of erroneous inclusion of CPAs.</p>
--	--

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	<p>By means of comparison of the PDD with</p> <ul style="list-style-type: none"> (i) the applied CDM methodology, (ii) all applicable CDM Meth tools, and (iii) if applicable, a standardized baseline <p>the validation team has checked whether the project activity is in compliance with the related requirements of the applied methodology or grid emission factor tool.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ • /TL/ 	
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 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.
	<p>The project activity applies approved methodology ACM0002 version 17.0, Grid-connected electricity generation from renewable sources which is valid at the 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 tool:</p> <ul style="list-style-type: none"> - <i>Tool to calculate the emission factor for an electricity system, version 05.0</i> <p>Version 5.0, EB 87, Annex 9 which is the latest one available.</p> <p>Methodology and tool 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>	

D.8.2. Deviation from methodology

Means of validation	By means of comparison of the PDD with the applied CDM methodology and
----------------------------	--

	<p>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	<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	<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 version 17.0 which is valid at the time of submission for registration.</p> <p>No deviation or revision of the methodology was requested during the validation period.</p>

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> <ul style="list-style-type: none"> (i) the applied CDM methodology, (ii) all applicable CDM Meth tools, and (iii) if applicable, a standardized baseline <p>the validation team has checked whether if any clarification on applicability of methodology or tool 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	<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	<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 17.0 which is valid at the moment of the validation process.</p> <p>There is no clarification on applicability of methodology or tool to the proposed CDM project activity.</p>

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/
----------------------------	--

	<ul style="list-style-type: none"> • /unfccc/ • /goog/ • /TL/
Findings	<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	<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 project boundary is validated as correct and compliant with the applied large-scale consolidated methodology and applied tool.

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	<input checked="" type="checkbox"/> The baseline scenario is given by the applied methodology:
	<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.
	The baseline scenario is given by §24 of 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>

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/
----------------------------	---

	<ul style="list-style-type: none"> • /ACM2/ • /unfccc/ • /TEC/ • /SEN/ • /DNA/ • /ER/ 	
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 type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
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 and published by the UNFCCC on 22/09/2016. DNA of Senegal issued Letter Approval to the project on 24/02/2017.</p> <p>As per the applied methodology, ACM0002 Version 17, the simplified procedure to demonstrate additionality is applicable to five grid connected electricity generation technologies (positive list), including solar photovoltaic technologies.</p> <p>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. 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/ • /ER/ • /PDD/ • /TL/ 	
Findings	<input checked="" type="checkbox"/>	The equations applied for calculation are correctly applied according to the approved methodology.
	<input checked="" type="checkbox"/>	Conservative assumptions were used when calculating the project emissions.
	<input checked="" type="checkbox"/>	All values of data to be applied for the purpose of calculating expected emissions reductions are considered to be reasonable, applicable and conservative.

	<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>CL D.8.1, CAR D.8.1, CAR D.8.2, CAR D.8.3 and CAR D.8.4</p>
Conclusion	<input type="checkbox"/>	No CARs/CLs/FARs has been raised in this context. No correction was required. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	<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 for Senegal have been checked. In 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> <p>ER_y Emission reductions</p> <p>$PE_{,y}$ Project emissions</p> <p>$BE_{,y}$ Baseline emission in year y; (tCO₂/year).</p> <p>$EG_{PJ,y}$ Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y</p> <p>$EF_{grid,CM,y}$ Combined `margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"</p> <p>According to the methodology,</p> $PE_y = 0 \text{ tCO}_{2e}$ <p>2. As per §60 of the applied baseline and monitoring methodology ACM0002, version 17.0, no leakage emissions are considered for this project activity.</p> $LE_y = 0 \text{ tCO}_{2e}$ <p>and $EG_{PJ,y} = EG_{facility,y}$</p> <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>. The emission factor applied is an ex-ante value valid for the 1st crediting period.</p> <p>It can therefore be confirmed that the emission reduction calculation is in line with the applicable methodology and tool.</p>

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.
----------------------------	---

	The following sources of information have been used in this context: <ul style="list-style-type: none"> • /PDD/ • /ACM2/ • /unfccc/ • /TL/ 	
Findings	<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 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.
	It can be confirmed that all monitoring parameters required by the applied methodology and grid emission factor tool are contained in the monitoring plan and the means of their monitoring is feasible in the context of the proposed PA. The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed project activity can be reported ex post and verified. The validation procedure is described parameter-wise in the project specific validation checklist (Appendix 6).	

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/ • /PRS/ 	
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 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.

	<p>The project start date is 06/12/2016, the date of signing loan agreement between PP and PROPARGO and BIO and therefore, real action as per CDM Glossary of Terms</p> <p>The start of the (<i>renewable</i>) crediting period is appropriately given as 01/10/2017.</p>
--	---

D.10. Environmental impacts

Means of validation	<p>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.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /ESIA/ • /EIES/ • /PDD/ • /IM01/ 				
	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>The project complies with host Party requirements for an Environmental Impact Assessment.</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 D.2</td> </tr> </table>	<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: CAR D.2
<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: CAR D.2				
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>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. The ESIA approval is granted by the ministerial decree dated 29/12/2016 and the approved report is submitted to the DOE.</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.11. Local stakeholder consultation

Means of validation	<p>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.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /LSCR/ • /PDD/ • /IM01/ • /IM03/ 						
Findings	<table border="1"> <tr> <td><input checked="" type="checkbox"/></td> <td>The relevant local stakeholders were invited to consultation prior to the publication of the PDD.</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>The local stakeholder consultation process can be assessed as adequate and in accordance with host Country requirements.</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 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:
<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	<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.						

A local stakeholder consultation was conducted. The following meetings were held:

- Initial Start of the Project Meeting with the Prefect of the Department of Tivaouane, the Sub-Prefect, the Mayor of the Municipality of Mérida Dakhar, and the chiefs of the neighbored villages was held by the PP on 10th of March 2016
- Meeting with administrative and municipal authorities, between March 17th and 30th 2016
- Meeting to define landowners compensation was held on March 24th, 2016 with the following participants: Prefect of Tivaouane, Sub-Prefect of Mérina Dakhar, Mayor of Mérina Dakhar, representative of the Forestry Department of Tivaouane, representative of the Departmental of Planning Service of Tivaouane, representative of the Ministry of Agriculture of Tivaouane, representatives of Ten Mérina Ndakhar and partners, and the ESIA Cabinet officials
- Meeting with the national structures involved in the management of the project was held between April 10th and 20th, 2016. The project leader met with national institutions involved in the project such as ANER, SENELEC, the Industries Department and the Department of Electricity.
- Meetings with concerned villages, Mbouky, Ngass, Tieumbeul, Tibo was held on April 10th, 2014
- Local stakeholder consultation was held on October 7th, 2016, at Hotel Residence Lat Dior, in the city of Thies at 10:00 am to present the social and environmental impacts of the project

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

Ten Mérina Ndakhar SA has commissioned the TÜV NORD JI/CDM Certification Program to validate the CDM project "**Grid-connected Solar PV project in Mérina Dakhar**", 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 24/02/2017;
- 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 **240,960 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, 09/06/2017




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)
GSCP	Global Stakeholder Consultation Process
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 TUV NORD JACCUM 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_381-VA005-F23_2016-02-09_rev7.doc 381-VA005-F23 rev3 / 2012-10-28



Statement of Competence
Appointment and authorization according to the procedures
of the TUV NORD JACCUM Certification Program

Mr. Rainer Winter


SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2019-07-01
J1	Senior Assessor Technical Reviewer	2019-07-01
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2019-07-01

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal Energy Generation
1.2	Renewables
4.1	Cement and lime production
4.2	Paper
5.1	Chemical Industry
5.2	Caprolactam, nitric and adipic acid
8.1	Mining/mineral production
9.1	Aluminium and magnesium production
9.2	Iron, steel and Ferro-alloy production
11.1	Emissions of fluorinated gases
11.2	Refrigerant gas production
12.1	Chemical industry
13.1	Solid waste and wastewater

003 - Rev. 10, Date: 2016-07-01

003_381-VA005-F23_2016-07-01_rev10.doc 381-VA005-F23 rev3 / 2012-10-28



Statement of Competence
Appointment and authorization according to the procedures
of the TUV NORD JACCUM 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_381-VA005-F23_2015-10-21_rev4.doc 381-VA005-F23 rev3 / 2012-10-28

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 17.0		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	/KP/	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/COPMOP/index.html	Other
6	UNFCCC	/PDD-T/	Project Design Document Form (CDM-PDD-FORM) - Version 8.0	https://cdm.unfccc.int/Reference/PDDs_Forms/index.html	Other
7	UNFCCC	/PS/	CDM Project Standard (Version 9.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
8	UNFCCC	/VVS/	CDM Validation and Verification Standard (Version 09.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
9	UNFCCC	/PCP/	CDM Project Cycle Procedure (Version 09.0)	https://cdm.unfccc.int/Reference/Procedures/index.html	Other
10	UNFCCC	/TL/	Tool to calculate the emission factor for an electricity system Version 05.0	http://cdm.unfccc.int/Reference/tools/index.html	Other
11	UNFCCC	/GT/	Glossary “CDM terms” (version 08.0)	https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150226124447549-glos_CDM.pdf?t=UmZ8bnFjQDI3fDCW9A3vJwR03kQQh4sbLiYu	Other
12	PP	/PDD/	Grid-connected Solar PV project in Mérina Dakhar, • Version 1.0, dated 31/10/2016 • Version 1.1, dated 21/02/2017	https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150226124447549-glos_CDM.pdf?t=UmZ8bnFjQDI3fDCW9A3vJwR03kQQh4sbLiYu	PP
13	Alban Pelletier	/MTP/	Private power production and integration opportunities. A case study for decentralized energy production in Senegal.		Others
ER spreadsheets					
1	PP	/ER/	ER calculation version 1.0 ER calculation version 1.1		PP
Equipment & Instrument					
1	JinkoSolar Manufacturer	/TEC/	• Conext Core XC 680 inverter, (Schneider	www.jinkosolar.com/ www.Solar.schneider-	Other

No.	Author	Reference	Title	References to the document	Provider
	Schneider-Electronic		make) • Technical Specification of Solar module by JinkoSolar Manufacturer, 320 W	electric.com	
2	Solar Schneider-Electronic	/SSE/	www.Solar.schneider-electric.com	JinkoSolar Manufacturer	Other
Regulatory & Approvals					
1	Senegal DNA	/LoA/	Host Country Letter of Approval	Senegal DNA	PP
2	Ministere de L'Environnement et du Developpement Durable	/ESIA/	Environmental and Social Impact Assessment approval Number 19834, dated 29/12/2016		PP
3	Senelec	/PPA/	Contract d'achat d'energie (PPA) Version 1 and 2, 2016 PPA extract with relevant info >>		PP
4	Senergy	/PCO/	Prior consideration of the CDM (published on the UNFCCC website 22 September 2016)		PP
5	Societe de Promotion et de Participation pour la Cooperation Economique (PROPARC O) S.A.	/PRS/	Contrat de Credits, dated 6 December 2016		PP
6	Ministre de L'Economie des Finances et de Plan	/OWN/	Attestation (confirmation of land ownership), dated 26 July 2016		PP
7	Region de Thies Departement de Tivaouane Prefecture	/FIN/	Rapport de la Commission Departementale d'Evaluation Financiere des Impenses Sur le Site du Projet de Construction d'une Centrale Solaire dans la Commune de Merina Ndakhar		PP
8	Tribunal Regional Hors Classe De Dakar	/REG/	Registry of Meridiam and SenergySuarl		PP
9	Republic du Senegal	/EIES/	Environmental Impact Study	Ministère de l'Environnement et du Développement Durable*	PP
10	Senelec	/AVT/	Senelec Activity Report 2016		PP
11	Republique du Senegal Departement de Tivaouane Commune	/ADC/	Authorisation de Construire, Nr 15/2016/SDUT		

No.	Author	Reference	Title	References to the document	Provider
	de Marina Dakhar				
12	Ministre de l'Energie et du Developpement des Energies Renouvelables	/ECC/	Concession/Operating license >> 51 - Arrêté portant attribution d'une licence de production et de vente TEN MERINA NDAKHAR SARL Approval of plant capacity >> 161024-ATTESTATION_CONFORMITE_TEN_MERINA (however note that the definitive 29.49 MWc capacity is as defined in PPA amendment n°2 [Ten Merina - CAE avenant 2 signé.pdf] p.23; in order to ensure 20 MW at delivery point).		PP
13	PP	/LSCR/	<ul style="list-style-type: none"> LSC Report (Local Stakeholder Consultation Report) LSC Attendance Sheet 		PP
14	Ministere de L'Environnement et du Developpement Durable	/EIAA/	Environmental and Social Impact Assessment approval Number 19834, dated 29/12/2016		PP
Websites					
1	Senegal DNA	/dna-HP/	http://www.denv.gouv.sn	Direction de l'Environnement et des Etablissements Classés 106, Rue Carnot Dakar BP 6557 Dakar Etoile (DNA)	Other
2	Schneider Electric	/se/	http://www.schneider-electric.com/ww/en/	-	Other
3	Senelec Senegal	/SEN/	http://www.senelec.sn	Senelec	Other
4	JinkoSolar Manufacturer	/JINK/	www.jinkosolar.com/	JinkoSolar Manufacturer	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	D.7.1	Section No.	A.3	Date: 20/01/2017
Description of CL				
During onsite visit an installation of supply low voltage power line for construction purpose was discussed. Clarification is requested in regards to installation, metering and fate of the line after the commissioning of power plant.				
Project participant response				Date: 15/02/2017
As confirmed at debriefing of on-site visit, a medium voltage power line may be erected for construction purposes besides generator, but it would be removed afterwards so that no parallel line would remain and all electricity production/consumption during operations would be net-metered on main line.				
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				Date: 15/03/2017
Clarification was provided. The construction line shall be disconnected after construction. FAR D.8.8.1 has been raised in this regard.				
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 2. CAR from this validation

CAR ID	D.2	Section No.	D.2	Date: 20/01/2017
Description of CAR				
Provide update on issuance of EIA approval.				
Project participant response				Date: 15/02/2017
The ESIA approval has been granted by ministerial decree dated December 29 th , 2016				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): D.2	New version No.: 1.1	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input checked="" type="checkbox"/>	Other: 52 - Ten Merina - Arrêté ministériel validant l'étude d'impact.pdf			
DOE assessment				Date: 15/03/2017
The ESIA was approved. Evidence was provided.				
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.3	Section No.	F	Date: 20/01/2017
Description of CAR				
1. A host country letter of approval from the host country DNA is pending validation 2. Modalities of communication (MoC) between the project proponent and the UNFCCC EB is required for validation				
Project participant response				Date: 15/02/2017
1. Host country LoA has been delivered on February 24 th 2017 2. MoC have been signed and dated 15/02/2017				
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	Date: 15/03/2017
1. The LoA dated 24/02/2017 has been availed by the project participant for validation. 2. The MoC dated 15/02/2017 has also been provided together with LoA.	
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.6.1	Section No.	Page 1 & A.1, A.4	Date: 20/01/2017
Description of CAR				
1. Section A.1 has not been completed as per PDD version 6.0 template requirements (see point 5, total ER). 2. Section A.3, it is not clear which technology will be/was selected. 3. Section A.3, the technical description is not consistent with Section A.1. 4. Section A.3, the included single line diagrams are not readable. 5. Section A.4, it is not clear if PP is private or public entity.				
Project participant response				Date: 15/02/2017
1. the total CO ₂ eq ER over 7 years has been added 2. JinkoSolar manufacturer has been confirmed regarding technology 3. A1 "average of more than 2,130 kWh / m ² per day" has been corrected to "up to 2,250 kWh/m ² ", as A3 "2,136 kWh / m ² ," is indeed the estimated average (yearly, not daily) based on feasibility study / simulations (RMT). 4. Single line diagrams resolution has been improved 5. Private' has been clarified				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): A	New version No.: 1.1	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment				Date: 15/03/2017
1. Section A.1, the total ER over the 1 st crediting period was added. 2. Section A.3, it was clarified that modules JKM320PP-72 of poly silver frame solar panel from JinkoSolar will be provided. 3. Section A.3, the section A.1 and A.3 were corrected. The area receives up to 2,250 KWh of radiation per m ² . In the section A.3 PP uses annual average yearly radiation. 4. PP revised/ enhanced the drawing of the single line diagram. 5. It is clarified that Ten Merina Ndakhar SA is a private' entity.				
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.7.1	Section No.	B.3	Date: 20/01/2017
Description of CAR				
1. The provided diagram B.4 is not readable. 2. The location of meter(s) is not clear.				
Project participant response				Date: 15/02/2017
1. B.3 diagram resolution has been improved 2. The two generation meters measuring the energy produced by the plant are located in the on-site plant substation. Meters location has been clarified based on single line diagram				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.3	New version No.: 1.1	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			

DOE assessment		Date: 15/03/2017
1. The diagram in section B.3 was enhanced and is readable. 2. The location of the meter was clearly provided.		
Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed	

CAR ID	D.7.2	Section No.	B.6.1	Date: 20/01/2017
Description of CAR				
Calculation of the GEF				
1. During the onsite visit an addition and removal of power plants was confirmed. Please clarify the availability of data. 2. Please provide the excel GEF calculation.				
Project participant response				Date: 15/02/2017
1. In 2016, 2 fossil-fuel IPPs, 2 coal-based auto-consumption exporters and 2 solar PV plants has been added to SENELEC grid, however as of on-site validation date SENELEC acknowledged that updated 2016 data was not released yet and would not be publicly approved before months. 2. The GEF excel calculation based on 2013-2015 data vintage has been provided to the DOE				
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment				Date: 15/03/2017
1. PP clarified that during the onsite visit no generation and fuel consumption data for 2016 was available. The DOE confirmed this non-availability of data from SENELEC, hence the use of 2015 data is correct. 2. The GEF calculation was provided and found assessed as correct.				
Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

CAR ID	D.7.3	Section No.	C.1.1	Date: 20/01/2017
Description of CAR				
The starting date of the proposed PA has been evidenced, in accordance with the CDM glossary of terms (VVS §120). The start of the project activity is in the past. Revision is requested.				
Project participant response				Date: 15/02/2017
The start date of the proposed project activity has been revised and defined as 06/12/2016 as per the signature of a loan agreement between Ten Mérida Ndakhar and the financing institutions PROPARCO and BIO				
Documentation provided by project participant				
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): C.1.1	New version No.: 1.1	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input checked="" type="checkbox"/>	Other: Page couverture contrat de crédit.pdf			
DOE assessment				Date: 15/03/2017
The project start date is 06/12/2016, the date of signing loan agreement (Contrat de Credit) between PP and PROPARCO and BIO and therefore, real action as per CDM Glossary of Terms. The project starting date was revised in line with provided evidences.				
Conclusion Tick the appropriate checkbox	<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.6.2	Date: 20/01/2017
Description of CL				
Parameters EF,				

Please clarify which methodology stipulates the revision of the parameters at the renewal of each crediting period.			
Project participant response			Date: 15/02/2017
The Tool to calculate the emission factor for an electricity system v5 Step 5 option 1 specifies that "For the second crediting period, the build margin emission factor should be updated", therefore same has been amended for parameter EF.			
Documentation provided by project participant			
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.6.1 & 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			Date: 15/03/2017
The reference was provided the revised PDD.			
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.6.3	Date: 20/01/2017
Description of CL				
The units/equation in the calculation "Value/Result" are not clear.				
Project participant response				Date: 15/02/2017
Units/equation in the calculation "Value/Result have been clarified				
Documentation provided by project participant				
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.6.3	New version No.: 1.1		
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/> Other:				
DOE assessment				Date: 15/03/2017
Correct units for the ex-ante calculation were provided in revised PDD.				
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.8.3	Section No.	B.6.1	Date: 20/01/20176
Description of CL				
Parameter EG _{facility,y} ,				
<ol style="list-style-type: none"> 1. The location of the meter "electricity meter(s) at project site" and/or "Electricity meters at Senelec substation" provided in the PDD is not clear. 2. Please clarify which "international calibration standard" will be applied to define meter accuracy class. 				
Project participant response				Date: 15/02/2017
<ol style="list-style-type: none"> 1. Location of meters has been clarified as at project site's substation (i.e. at Senelec delivery substation located near the site entrance) 2. Accuracy class has been corrected "as per PPA metering provisions" (§10.2 – 10.4.1) 				
Documentation provided by project participant				
<input checked="" type="checkbox"/> Changes in the PDD	Section(s): B.7.1	New version No.: 1.1		
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:		
<input type="checkbox"/> Other:				
DOE assessment				Date: 15/03/2017
<ol style="list-style-type: none"> 1. The location of the meter was provided. 2. The Accuracy class and the calibration regime was provided. 				
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	Section No.	Excel	Date: 20/01/2017
Description of CAR				
Provide ER excel calculation.				
Project participant response				Date: 15/02/2017
<i>ER excel calculation have been provided</i>				
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PDD	Section(s):	New version No.:	
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/>	Other:			
DOE assessment				Date: 15/03/2017
Excel calculation with GEF and ER calculation was provided.				
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: 20/01/2017
Description of FAR				
In line with §32 of the applied methodology ACM0002, version 17.0, 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		

FAR ID	D.8.8.1	Section No.		Date: 20/01/2017
Description of FAR				
A construction of low voltage power supply line for the time of construction of PV plant was discussed during onsite visit. The connection of line(s) evacuating and supplying electricity shall be checked and evidenced during 1st periodic verification.				
Project participant response				Date: 15/02/2017
<i>Noted; no parallel power supply line is expected to remain during operations.</i>				
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				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. $EG_{facility,y}$	<u>Parameter:</u> Quantity of net electricity generation supplied by the project plant/unit to the grid in year y						
<i>Indicate whether the provided information for the monitoring parameter complies with the approved methodology including applicable tool(s) in the aspects listed.</i> <i>For checking the use of international standards in the nomenclature, consider:</i> <i>Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).</i> <i>Values shall be directly given in SI units – or additionally to original units transferred to SI.</i> <i>Short scale naming system: (Only) million = 10⁶ and billion 10⁹ shall be used.</i>	/MR/ /AM109/	Requirement	OK	Not OK	N/A	CL	OK
		Label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D.8.1	
		Data Unit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CAR	
		Description	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D.8.2	
		Source of data	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CAR	
		Measurement equipment / measure method	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D.8.3	
		Monitoring frequency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CAR	
		QA/QC procedures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D.7.3	
		Purpose of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FAR	
		Standard format	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D.8.8.1	
		SI units	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
		Short scale naming	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
		<i>In the context of this parameter the following finding was raised:</i> CL D.7.3, D.8.1, D.8.2, D.8.3, & D.8.8.1					

Appendix 7. Assessment of Applicability Criteria of Methodology

Table A-7: Assessment of Applicability Criteria

Applicability Criteria	Evidence	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 /TEC/ /PPA/	<input checked="" type="checkbox"/>	<input type="checkbox"/>	During the site visit no installation existing on the proposed project site were observed. The construction had not commenced. 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/ /TEC/ 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/ /TEC/ /PPA/ 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	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. 	<p>/PDD/ /ACM2/</p> <p>/TEC/ onsite inspection</p>	<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.</p> <p>Requirement is fulfilled.</p>
<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.</p>	<p>/PDD/</p> <p>/TEC/ onsite inspection</p>	<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>
<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).</p>	<p>/PDD/</p> <p>/TL/ /ER1/ onsite inspection</p>	<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>
<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.</p>	<p>/PDD/ /ER1/ /MTP/ onsite inspection</p>	<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>
<p>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.</p>	<p>PDD/ /ER1/ /MTP/ onsite inspection</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>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</p> <p>Requirement is fulfilled.</p>
<p>Under this tool, the value applied to the CO₂ emission factor of biofuels is zero.</p>	<p>PDD/ /ER1/ /MTP/ /TL/ onsite inspection</p>			<p>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.</p>

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