




**Validation report form for renewal of crediting period for  
CDM project activities  
(Version 02.0)**

*Complete this form in accordance with the instructions attached at the end of this form.*

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the project activity</b>	Jepirachi Wind Power Project UNFCCC Ref. Number: 0194
<b>Number and duration of the next crediting period</b>	Crediting period: 3 31/01/2018 – 30/01/2025
<b>Version number of the validation report for RCP</b>	1.0
<b>Completion date of the validation report for RCP</b>	11/04/2019
<b>Version number of PDD to which this report applies</b>	12
<b>Project participants</b>	<p><u>Colombia:</u></p> <ul style="list-style-type: none"> <li>- Empresas Públicas de Medellín</li> </ul> <p><u>Finland:</u></p> <ul style="list-style-type: none"> <li>- Fortum Corporation</li> <li>- Government of Finland - Ministry of Foreign Affairs of Finland</li> </ul> <p><u>France:</u></p> <ul style="list-style-type: none"> <li>- GDF SUEZ</li> </ul> <p><u>Germany:</u></p> <ul style="list-style-type: none"> <li>- RWE Power AG</li> </ul> <p><u>Japan:</u></p> <ul style="list-style-type: none"> <li>- Chubu Electric Power Co., Inc</li> <li>- The Chugoku Electric Power Co., Inc</li> <li>- Kyushu Electric Power Co., Inc</li> <li>- Mitsubishi Corporation</li> <li>- Shikoku Electric Power Co., Inc</li> <li>- Tohoku Electric Power Co., Inc</li> <li>- The Tokyo Electric Power Co., Inc</li> <li>- Japan International Cooperation Agency (JICA)</li> <li>- Mitsui &amp; Co., Ltd</li> </ul> <p><u>Netherlands:</u></p> <ul style="list-style-type: none"> <li>- Electrabel N.V.</li> <li>- Netherlands' Ministry of Infrastructure and the Environment (IenM)</li> </ul>

	<p>- Netherlands' Ministry of Economic Affairs, Agriculture and Innovation (EL&amp;I)</p> <p><u>Norway:</u></p> <p>- Norsk Hydro ASA</p> <p>- Government of Norway - Ministry of Foreign Affairs</p> <p>- Statoil ASA</p> <p><u>United Kingdom of Great Britain and Northern Ireland:</u></p> <p>- BP Alternative Energy International Ltd</p> <p>- Deutsche Bank AG</p> <p><u>Sweden:</u></p> <p>- Government of Sweden – Swedish Energy Agency</p> <p><u>Bilateral and Multilateral Funds:</u></p> <p>- International Bank for Reconstruction and Development (IBRD) as Trustee of the Prototype Carbon Fund (PCF)</p>
<b>Host Party</b>	Colombia
<b>Applied methodologies and standardized baselines</b>	ACM0002: Grid-connected electricity generation from renewable sources – version 19.0
<b>Mandatory sectoral scopes linked to the applied methodologies</b>	1
<b>Conditional sectoral scopes linked to the applied methodologies</b>	-
<b>Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period</b>	35,018 tCO <sub>2</sub> e
<b>Name and UNFCCC reference number of the DOE</b>	<p>Earthood Services Private Limited</p> <p>UNFCCC Ref. Number: E-0066</p>
<b>Name, position and signature of the approver of the validation report for RCP</b>	 <p>Dr. Kaviraj Singh Managing Director</p>

## SECTION A. Executive summary

### Brief summary of the project activity

The project activity is an existing and operational wind farm located in Wayuu Indigenous Territory in the north-eastern region of the Atlantic Colombian coast, within the municipality of Uribia in the Department of Guajira, in Colombia (geographical coordinates – latitude: 12.2472 N and longitude: 71.9973 W).

Jepirachi Wind Power plant is connected to the Colombian National Interconnected System (SIN) under a preferential dispatching scheme.

#### Technical description and equipment:

- Number of wind turbines: 15;
- Capacity of each wind turbine: 1.3 MW;
- Manufacturer: Nordex;
- Model: N60/1300.
- Total installed capacity: 19.5 MW.

The lifetime of the main equipment is 20 years, according to manufacturer.

The estimated ERs of the project activity is 35,018 tCO<sub>2</sub>e/y and 245,125 tCO<sub>2</sub>e for the entire crediting period.

### Scope of validation

Empresas Públicas de Medellín has contracted ESPL to conduct the validation of the renewal of the crediting period of the project activity “Jepirachi Wind Power Project”.

The scope of the validation is to establish that:

- the PA is in accordance with all relevant CDM rules and requirements;
- the PA is in accordance with conditions of the latest version of applied methodology ACM0002: Grid-connected electricity generation from renewable sources – version 19.0;
- the validation of the renewal of crediting period is in accordance with requirements of CDM methodological tool “TOOL11 – Assessment of the validity of the original / current baseline and update of the baseline at the renewal of the crediting period” – version 03.0.1.

### Validation process

The validation process involved the following:

- contract with Empresas Públicas de Medellín for the scope of validation of the renewal of the crediting period of the project activity;
- desk review;
- physical on-site inspection;
- issuance of validation findings;
- reporting, calculation checks, QA/QC and resolution of findings;
- issuance of draft validation report;
- independent technical review of the project documentation;
- issuance of the final validation report;
- submission of the request for renewal, as appropriate.

### Conclusion

ESPL has performed the validation of the renewal of the crediting period of the CDM PA “Jepirachi Wind Power Project” (UNFCCC Ref. Number: 0194).

The validation team has confirmed that it is in accordance with all relevant CDM rules and requirements and conditions of the latest version of applied methodology ACM0002 – version 19.0. In addition, it was confirmed that the monitoring system is feasible and the estimated emission reductions are conservatively calculated.

The PA is expected to generate an annual average of 35,018 tCO<sub>2</sub>e in the third crediting period.

A site visit has not been performed for the validation of the renewal of the crediting period, in accordance with CDM validation and verification standard for project activities – version 02.0 – paragraph 31. All information has been fully assessed by pictures, videos, manual of equipment and video-conferences with PP representatives and plant operators. In addition, the PA is fully documented at UNFCCC website, as the project is being renewed to the 3<sup>rd</sup> crediting period and six verifications have already taken place.

Therefore, the request for renewal of the crediting period of the PA is being submitted in accordance with the CDM procedures.

## 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/document review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	OR	Cruz	Sergio	Verifit	Y	N	Y	Y
2.	Local Expert	OR	Lopes	Ricardo	Verifit	Y	N	N	Y
3.	Methodological Expert	OR	Cruz	Sergio	Verifit	Y	N	Y	Y
4.	Technical Expert	OR	Cruz	Sergio	Verifit	Y	N	Y	Y

### B.2. Technical reviewer and approver of the validation report for RCP

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	Gautam	Ashok	Central Office
2.	Technical Expert	IR	Gautam	Ashok	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

## SECTION C. Means of validation

### C.1. Desk/document review

A desk review was conducted by the validation team that included:

- a review of the data and information presented to assess its completeness;
- a review of the registered project activity, the applied methodology including applicable tool(s) and, where applicable, the applied standardized baseline;
- a review of supporting documents.

A complete list of documents/evidences reviewed is included as Appendix 3.

### C.2. On-site inspection

Duration of on-site inspection:				
No.	Activity performed on-site	Site location	Date	Team member
-	-	-	-	-

A site visit has not been performed for the validation of the renewal of the crediting period, in accordance with CDM validation and verification standard for project activities – version 02.0 – paragraph 31, as the estimated

annual average of ERs is below 100,000 tCO<sub>2</sub>e and as this is the validation of renewal of the third crediting period, there is no pre-project information that is relevant to the requirements for registration of the project activity and may not be traceable after the registration.

In addition, the PPs have provided evidences to show the facilities and equipment (e.g. pictures, equipment manuals) and PPs' representatives have been interviewed and operation personnel have provided all necessary information for a clear and precise understanding of the project activity, which has been considered sufficient by the validation team for the purpose of the present validation.

Moreover, FAR 09 has been raised in order to have all technical data thoroughly checked, to confirm their consistency with presented information, during the next verification of the project activity.

### C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Giraldo Ospina	Isabel	EPM	06/12/2018 10/12/2018	- General aspects - CDM aspects - EF calculation - ER calculation	Sergio Cruz
2.	Fernandez	Óscar	EPM	06/12/2018 10/12/2018	- General aspects - Historical view of PA - CDM aspects - EF calculation - ER calculation - Monitoring and operation	Sergio Cruz

As no site visit has been performed (refer to Section C.2 above), all interviews have been performed by video-conference between PPs' representatives in Medellín (PP's office – Colombia) and Cabo de la Vela and Puerto Bolívar (plant location – Colombia) and validation team in São Paulo (Brazil).

### C.4. Sampling approach

Not applicable as no sampling has been used during the validation.

### C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	1	1	-
Application and selection of methodologies and standardized baselines	1	1	-
Validity of original baseline or its update	-	-	-
Estimated emission reductions or net anthropogenic removals	-	3	-
Validity of monitoring plan	-	-	-
Crediting period	-	-	-
Project participants	1	-	-
Post-registration changes	-	-	-
Others (please specify): PA technical features	-	-	1
<b>Total</b>	<b>3</b>	<b>5</b>	<b>1</b>

## SECTION D. Validation findings

### D.1. Compliance with PDD form

<b>Means of validation</b>	The PDD was crosschecked with the CDM-PDD-FORM template available at the UNFCCC website and with the instructions for filling it out.
<b>Findings</b>	CL 01; CAR 04
<b>Conclusion</b>	The latest version of the PDD template (CDM-PDD-FORM – version 10.1) available at the UNFCCC website has been used. It has been filled out in accordance with the instructions.

**D.2. Application and selection of methodologies and standardized baselines**

Means of validation	<p>The PA applies approved methodology ACM0002: Grid-connected electricity generation from renewable sources – version 19.0, which is latest one available at UNFCCC website.</p> <p>The PA also applies the methodological tools:</p> <ul style="list-style-type: none"><li>a. TOOL07 – Tool to calculate the emission factor for an electricity system – version 07.0;</li><li>b. TOOL 11 – Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period – version 03.0.1.</li></ul> <p>The methodology and tools are from UNFCCC CDM website.</p>	
Findings	CL 03; CAR 05	
Conclusion	All applicability conditions of the applied methodology are met:	
	<b>Applicability Criteria – ACM0002 – v. 19.0</b>	<b>Assessment</b>
	<ul style="list-style-type: none"><li>a) Install a Greenfield power plant;</li><li>b) Involve a capacity addition to (an) existing plant(s);</li><li>c) Involve a retrofit of (an) existing operating plants/units;</li><li>d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or</li><li>e) Involve a replacement of (an) existing plant(s)/unit(s).</li></ul>	The PA complies with the condition (a) as it was a greenfield power plant
	<p>The methodology is applicable under the following conditions:</p> <ul style="list-style-type: none"><li>a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</li><li>b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects) the existing plant/unit 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, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.</li></ul>	The PA complies with the condition (a) as it is a wind power plant/unit
	<p>In case of hydro power plants, one of the following conditions shall apply:</p> <ul style="list-style-type: none"><li>a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or</li><li>b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density, calculated using equation (3), is greater than 4 W/m<sup>2</sup>; or</li><li>c) The project activity results in new single or multiple reservoirs and the power density,</li></ul>	Not applicable, as the PA is not a hydro power plant

	<p>calculated using equation (3), is greater than 4 W/m<sup>2</sup>; or</p> <p>d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m<sup>2</sup>, all of the following conditions shall apply:</p> <ul style="list-style-type: none"> <li>i. The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m<sup>2</sup>;</li> <li>ii. Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;</li> <li>iii. Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m<sup>2</sup> shall be: <ul style="list-style-type: none"> <li>a. Lower than or equal to 15 MW; and</li> <li>b. Less than 10 per cent of the total installed capacity of integrated hydro power project.</li> </ul> </li> </ul>	
	<p>In the case of integrated hydro power projects, project proponent shall:</p> <ul style="list-style-type: none"> <li>a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or</li> <li>b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.</li> </ul>	Not applicable, as the PA is not a hydro power plant
	<p>The methodology is not applicable to:</p> <ul style="list-style-type: none"> <li>a) 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;</li> <li>b) Biomass fired power plants/units.</li> </ul>	The PA is not a project activity that involves switching from fossil fuels to renewable energy, neither a biomass fired power plant/unit
	<p>In the case of retrofits, rehabilitations, 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</p>	The PA is not a project with retrofit, rehabilitation, replacement, or capacity addition

	continuation of the current situation, that is 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".	
	The applicability conditions included in the tools referred to also apply.	All applicability conditions included in the tools are accomplished by the PA

### D.3. Validity of original baseline or its update

<b>Means of validation</b>	<p>The baseline scenario is given by applied methodology ACM0002 – version 19.0: “The baseline scenario is the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in “TOOL07: Tool to calculate the emission factor for an electricity system”.</p> <p>In addition, in accordance with the directives for the renewal of the crediting period of a registered CDM project activity, the validity of the current baseline shall be reassessed using the latest version of the “Tool to assess the validity of the original/ current baseline and to update the baseline at the renewal of a crediting period” (version 03.0.1).</p> <p><u>Step 1: Assess the validity of the current baseline for the next crediting period</u></p> <p><i>Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies:</i> the current baseline scenario complies with all relevant mandatory national/sectoral legislation.</p> <p><i>Step 1.2: Assess the impact of circumstances:</i> the current baseline emissions identified at the time of requesting renewal of crediting period are not impacted by any circumstances. The conditions used to determine the baseline emissions in the previous crediting period are still valid.</p> <p><i>Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested:</i> the baseline scenario identified at the validation of the project activity was the continuation of BAU, which is the electricity that would be supplied by the power grid in the absence of the project activity. Therefore, the power grid, as an electricity system, could maintain its technical possibility for a much longer time than the crediting period of the project activity.</p> <p><i>Step 1.4: Assessment of the validity of the data and parameters:</i> the fixed parameters were changed for the 3<sup>rd</sup> commitment period in accordance with new calculations and new version of applied methodology and tools.</p> <p>The application of Steps 1.1, 1.2, 1.3 and 1.4 above confirmed that the current baseline remains valid for the subsequent crediting period and that fixed parameters have been changed due to changes presented above.</p> <p>As there are parameters that were updated for the 3<sup>rd</sup> crediting period, Step 2 is assessed below:</p> <p><u>Step 2: Update the current baseline and the data and parameters</u></p> <p><i>Step 2.1: Update the current baseline:</i> although the current baseline is valid, the baseline emissions were updated in accordance with the stated above in Step 1.4.</p> <p><i>Step 2.2: Update the data and parameters:</i> all fixed parameters required by applied methodology and tools were updated with values of the new version of applied methodology and tools.</p>
<b>Findings</b>	-
<b>Conclusion</b>	The baseline scenario is the one given by the applied methodology ACM0002 – v. 19.0, which is valid for the new crediting period.



**D.4. Estimated emission reductions or net anthropogenic removals**

<b>Means of validation</b>	<p>All equations, formulas and assumptions were correctly applied as per the applied methodology (ACM0002 – 19.0) and tools.</p> <p>The baseline emissions are calculated by the multiplication of the electricity supplied by the project activity to the grid by the combined margin of CO<sub>2</sub> emission factor.</p> <p>No project emissions or leakage are considered by the applied methodology for the type of project activity.</p> <p>The parameters used to calculate the emission reductions are conservative, traceable and from official, public and reliable sources.</p> <p>All fixed ex-ante parameters necessary for the project activity are listed at the Section B.6.2 of PDD, in accordance with the applied methodology and tools. They are:</p> <ul style="list-style-type: none"> <li>- <math>EG_{m,y}</math> and <math>EG_{k,y}</math>: Net electricity generated and delivered to the grid by power unit <math>m</math> or <math>k</math> in year <math>y</math>;</li> <li>- <math>EF_{CO_2,i,y}</math>, <math>EF_{EL,m,i,y}</math> and <math>EF_{EL,k,i,y}</math>: Emission factor of fossil fuel type <math>i</math> for power plant <math>m</math> or <math>k</math> in year <math>y</math>;</li> <li>- <math>\eta_{m,y}</math> and <math>\eta_{k,y}</math>: Average net energy conversion efficiency of power unit <math>m</math> of <math>k</math> in year <math>y</math>;</li> <li>- <math>EF_{grid,OM,y}</math>: Operation margin CO<sub>2</sub> emission factor for grid connected power generation in year <math>y</math> (the value is the average of years 2015-2017);</li> <li>- <math>EF_{grid,BM,y}</math>: Build margin CO<sub>2</sub> emission factor for grid connected power generation in year <math>y</math> (the value used is the same of the 2<sup>nd</sup> crediting period, i.e. from 2009);</li> <li>- <math>EF_{grid,CM,y}</math>: Combined margin CO<sub>2</sub> emission factor for grid connected power generation in year <math>y</math>;</li> <li>- <i>The percentage share of total installed capacity of the specific technology</i>;</li> <li>- <i>The total installed capacity of the technology</i>.</li> </ul>
<b>Findings</b>	CAR 06; CAR 07; CAR 08
<b>Conclusion</b>	The methodology and tools were correctly applied in order to calculate the estimates of emission reductions, with reliable and conservative parameters.

**D.5. Validity of monitoring plan**

<b>Means of validation</b>	<p>The PDD sets a monitoring plan, which is feasible and in accordance with the applied methodology and tools.</p> <p>The management structure and roles and responsibilities are established for data collection, calibration frequency of meters, data report and data archiving.</p> <p>Moreover, there are procedures set for crosschecking the monitored data.</p> <p>No sampling plan is set to monitor the parameter.</p> <p>The parameter to be monitored necessary for the project activity is listed at the PDD, in accordance with the applied methodology and tools.</p> <p>The parameter required for monitoring is contained in the monitoring plan:</p> <ul style="list-style-type: none"> <li>- <math>EG_{PJ,y} = EG_{facility,y}</math>: Quantity of net electricity supplied by the project plant/unit to the grid in year <math>y</math>.</li> </ul>
<b>Findings</b>	-
<b>Conclusion</b>	<p>The monitoring plan of the PA is in accordance with the approved monitoring methodology and the means of monitoring of the parameter contained in the monitoring plan are feasible.</p> <p>The management structure and roles and responsibilities are set for data collection, calibration frequency of monitoring equipment, data report and data archiving. In addition, procedures for quality assurance and quality control are be set, as well as specific training for involved personnel.</p> <p>There is no sampling plan set to monitor the parameter.</p>

**D.6. Crediting period**

<b>Means of validation</b>	The crediting period is 7 years renewable. This is the 3 <sup>rd</sup> crediting period and its start date is 31/01/2018, which is the first date after the end of the 2 <sup>nd</sup> crediting period.
<b>Findings</b>	-
<b>Conclusion</b>	<p>The 3<sup>rd</sup> crediting period is from 31/01/2018 to 30/01/2025 – the notification of the intention to request a renewal of the crediting period was sent by the PP on 27/07/2017.</p> <p>In addition, as per paragraph 32 (iv) of Meeting Report: CDM Executive Board one hundredth meeting, “the grace period for the submission of renewal request for the</p>

	existing registered project activities whose crediting period has expired but has not been renewed (i.e. overdue for renewal) is to be by 31 December 2019.” Therefore, the project activity is in accordance with CDM requirements and EB directives.
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**D.7. Project participants**

<b>Means of validation</b>	<p>The project participants are:</p> <p><u>Colombia:</u></p> <ul style="list-style-type: none"> <li>- Empresas Públicas de Medellín</li> </ul> <p><u>Finland:</u></p> <ul style="list-style-type: none"> <li>- Fortum Corporation</li> <li>- Government of Finland - Ministry of Foreign Affairs of Finland</li> </ul> <p><u>France:</u></p> <ul style="list-style-type: none"> <li>- GDF SUEZ</li> </ul> <p><u>Germany:</u></p> <ul style="list-style-type: none"> <li>- RWE Power AG</li> </ul> <p><u>Japan:</u></p> <ul style="list-style-type: none"> <li>- Chubu Electric Power Co., Inc</li> <li>- The Chugoku Electric Power Co., Inc</li> <li>- Kyushu Electric Power Co., Inc</li> <li>- Mitsubishi Corporation</li> <li>- Shikoku Electric Power Co., Inc</li> <li>- Tohoku Electric Power Co., Inc</li> <li>- The Tokyo Electric Power Co., Inc</li> <li>- Japan International Cooperation Agency (JICA)</li> <li>- Mitsui &amp; Co., Ltd</li> </ul> <p><u>Netherlands:</u></p> <ul style="list-style-type: none"> <li>- Electrabel N.V.</li> <li>- Netherlands' Ministry of Infrastructure and the Environment (IenM)</li> <li>- Netherlands' Ministry of Economic Affairs, Agriculture and Innovation (EL&amp;I)</li> </ul> <p><u>Norway:</u></p> <ul style="list-style-type: none"> <li>- Norsk Hydro ASA</li> <li>- Government of Norway - Ministry of Foreign Affairs</li> <li>- Statoil ASA</li> </ul> <p><u>United Kingdom of Great Britain and Northern Ireland:</u></p> <ul style="list-style-type: none"> <li>- BP Alternative Energy International Ltd</li> <li>- Deutsche Bank AG</li> </ul> <p><u>Sweden:</u></p> <ul style="list-style-type: none"> <li>- Government of Sweden – Swedish Energy Agency</li> </ul> <p><u>Bilateral and Multilateral Funds</u> – Prototype Carbon Fund (PCF):</p> <ul style="list-style-type: none"> <li>- International Bank for Reconstruction and Development (IBRD) as Trustee of the Prototype Carbon Fund (PCF)</li> </ul>
<b>Findings</b>	CL 02
<b>Conclusion</b>	<p>The names of the project participants included in the updated PDD were assessed in accordance with the applicable validation requirements related to the renewal of crediting period.</p> <p>All information is in accordance with UNFCCC website.</p>

**D.8. Post-registration changes**

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines	N	-	-
Corrections	N	-	-
Change to the start date of the crediting period of the project activity	N	-	-
Inclusion of a monitoring plan	N	-	-
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied	N	-	-

methodologies, standardized baselines, or other applied standards or tools			
Changes to the project design	N	-	-
Changes specific to afforestation and reforestation project activities	N	-	-

### SECTION E. Internal quality control

The draft validation report that is prepared by validation team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by ESPL were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable CDM rules/requirements.

The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope to which the project activity is related. All members of technical review team are independent of the validation team.

During the technical review process, additional findings may be identified or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for the renewal of the crediting period is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same, in such case, providing the comments/findings/issues that needs to be resolved by the validation team. The decision taken by the technical reviewer is final and is authorized on behalf of ESPL.

### SECTION F. Validation opinion

ESPL, contracted by Empresas Públicas de Medellín, has performed the independent validation of the renewal of crediting period of the project “Jepirachi Wind Power Project”, with UNFCCC Ref. Number: 0194.

ESPL commenced the validation based on the baseline and monitoring methodology ACM0002 – version 19.0, the registered PDD – version 9 (from previous crediting period) and draft PDD (for the 3<sup>rd</sup> crediting period).

ESPL’s validation approach is based on the understanding of the risks associated with reporting the project activity, estimates of GHG emission data and the controls to be implemented to mitigate these. ESPL planned and performed the validation by obtaining evidence, other information and explanations that ESPL considered necessary to give reasonable assurance that the estimated GHG emission reductions are fairly to be achieved.

The validation team confirms, based on final version of revised PDD for the 3<sup>rd</sup> crediting period, that:

- the original baseline is still valid as it is given by the applied methodology;
- the project additionality is valid for the renewal of the crediting period. No regulatory surplus has been identified. The project is in accordance with all applicable regulations and legislations;
- the project description is in accordance with the characteristics identified on site;
- the monitoring plan is adequate to the project activity and it is in accordance with the applied methodology;
- at this 3<sup>rd</sup> crediting period, the project activity is likely to achieve the estimated of 35,018 tCO<sub>2</sub>e per year.

## Appendix 1. Abbreviations

Abbreviations	Full texts
ACM	Approved Consolidated Methodology
BE	Baseline Emission
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CM	Combined Margin
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
CP	Crediting Period
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact Assessment
ESPL	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Green House Gas
GSC/GSP	Global Stakeholder Consultation Process
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
kW	kilo Watt
kWh	kilo Watt hour
LoA	Letter of Approval/Authorization
MoC	Modalities of Communication
MP	Monitoring Plan
MW	Mega Watt
MWh	Mega Watt hour
OM	Operating Margin
PA	Project Activity
PCP	Project Cycle Procedure
PDD	Project Design Document
PE	Project Emission
PLF	Plant Load Factor
PP	Project Participant
PS	Project Standard
tCO <sub>2</sub> e	Tonnes of Carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VT	Validation Team
VVS	Validation and Verification Standard

## Appendix 2. Competence of team members and technical reviewers

Competence Statement			
Name	Sergio Bonanno Cruz		
Country	Brazil		
Education	Post Graduate Diploma in Environment		
Experience	25 Years		
Field	Environmental Law, CDM, Energy, Climate Change		
Approved Roles			
Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	Yes (ACM0001, ACM0002, AM0026, ACM0006, AMS ID)		
Local expert	Brazil, Chile		
Financial Expert	Yes		
Technical Reviewer	Yes		
TA Expert	Yes (TA 1.2, 13.1)		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Kumar Gautam	Date	01/03/2018

Competence Statement			
Name	Ricardo Lopes		
Country	Brazil		
Education	Technical Diploma in Data Processing		
Experience	12 years		
Field	CDM, Energy, Environment		
Approved Roles			
Team Leader	Yes		
Validator	Yes		
Verifier	Yes		
Methodology Expert	Yes (ACM0001, ACM0002, AM0026, AMS ID, AMS IIH)		
Local expert	Brazil, Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Honduras, Mexico, Nicaragua, Uruguay		
Financial Expert	Yes		
Technical Reviewer	Yes		
TA Expert	Yes (1.2, 13.1)		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Kumar Gautam	Date	01/03/2018

Competence Statement	
Name	Ashok Gautam
Country	India
Education	M. Sc. (Environmental Sciences) M. Tech. (Energy & Environmental Management)
Experience	16 Years +
Field	Energy, Climate Change & Environment
Approved Roles	
Team Leader	Yes
Validator	Yes
Verifier	Yes
Methodology Expert	AMS-I.D, AMS-I.A, AMS-I.C, AMS-I.E, AMS-II.D, AMS-II.G, AMS-III.E, AMS-III.H, AMS-III.Q, AMS-III.Z, AMS-III.AV, AM0029, AM0025, AM0056, ACM0001, ACM0002, ACM0004, ACM0012, ACM0006, AM0018, ACM0009, AM0034, AMS.I.B

Local expert	India		
Financial Expert	Yes		
Technical Reviewer	Yes		
TA Expert	1.1, 1.2, 3.1, 13.1		
Reviewed by	Shreya Garg	Date	25/01/2019
Approved by	Anshika Gupta	Date	25/01/2019

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	UNFCCC	Standard: CDM PS for PA	version 02.0	Other
2.	UNFCCC	Standard: CDM PCP for PA	version 02.0	Other
3.	UNFCCC	Standard: CDM VVS for PA	version 02.0	Other
4.	UNFCCC	Form: CDM-PDD-FORM	version 10.1	Other
5.	UNFCCC	Project design document (registered)	version 9 – 03/10/2013	PP
6.	PP	Project design document (draft)	version 10 – 26/07/2017	PP
7.		Project design document (revised)	version 11 – 18/01/2019	
8.	PP	Project design document (final)	version 12 – 11/04/2019	PP
9.	PP	ER Spreadsheet EF calculation Spreadsheet Jul 2017	version 1 version 1	PP
10.	PP	ER Spreadsheet and EF calculation Spreadsheet	version 2	PP
11.	UNFCCC	<u>Methodology</u> : ACM0002 – Grid-connected electricity generation from renewable sources	version 19.0	Other
12.	UNFCCC	<u>Methodological tools</u> : - TOOL07 – Tool to calculate the emission factor for an electricity system	version 07.0	Other
		- TOOL 11 – Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period	version 03.0.1	
13.	PP  UNFCCC	<u>Notification about the intention to renew the crediting period</u> : - E-mail of notification about the intention to renew the crediting period of the project activity - E-mail from UNFCCC confirming the receipt of the e-mail with the intention of renewing the crediting period	27/07/2017  28/07/2017	PP
14.	Corporación Autónoma Regional de La Guajira	<u>Environmental license</u> : - Resolution 03499/2002: authorization to use and operations	26/12/2002	PP
15.	PP PP	<u>Technical description</u> : - Pictures of plant	Dec/2018 Dec/2018	PP

	Vatech PP PP  Nordex	- Video of management/control room - Diagram - Pictures of energy meters - Calibration certificates of meters  <u>Manual:</u> Nordex N-60 – Technical Description	- Dec/2018 19/12/2017  22/05/2002	
16.	XM	<u>Lamba Calculation:</u> - Operations reports - Generation reports	- 2015 / 2016 / 2017	PP
17.	-	XM Compañía de Expertos en Mercados S.A. E.S.P	<a href="https://www.xm.com.co/Paginas/Home.aspx#">https://www.xm.com.co/Paginas/Home.aspx#</a>	Other
18.	-	DNA of Colombia	<a href="http://www.minambiente.gov.co/">http://www.minambiente.gov.co/</a>	Other
19.	-	IPCC publications	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	Other
20.	-	UNFCCC	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	Other

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

Table 1. CLs from this validation

CL ID	01	Section no.	D.1	Date: 13/12/2018
<b>Description of CL</b>				
According to the instructions to filled up the PDD, the following sections are not correctly filled up:				
a. Section B.3: it is missing a flow diagram of project boundary;				
b. Section C.1.2;				
c. Section C.2.3;				
d. Section F;				
e. Appendix 6.				
<b>Project participant response</b>				Date: 18/01/2018
The listed sections have been filled up in the new version of PDD.				
<b>Documentation provided by project participant</b>				
Jepirachi Wind Power Project PDD, version 11.				
<b>DOE assessment</b>				Date: 23/01/2018
The above sections have been revised and filled up in accordance with the instructions for filling up the PDD:				
a. Section B.3: a flow diagram has been included;				
b. Section C.1.2: new Section C.2 has been correctly filled up;				
c. Section C.2.3: new Section C.3.3 has been correctly filled up;				
d. Section F: correctly filled up;				
e. Appendix 6: new Appendix 7 has been correctly filled up.				

CL ID	02	Section no.	D.7	Date: 13/12/2018
<b>Description of CL</b>				
The lists of PPs at the front page and Section A.4 are not in accordance with latest version of MoC presented at UNFCCC website.				
<b>Project participant response</b>				Date: 18/01/2018

The list of PPs has been checked and corrected in the according sections of the new version of PDD, according to the DOE observations. The list of PPs is in accordance with latest version of MoC presented at UNFCCC website.

**Documentation provided by project participant**

Jepirachi Wind Power Project PDD, version 11.

**DOE assessment**

**Date:** 23/01/2018

The lists of PPs at the front page and Section A.4 have been revised and are now in accordance with latest version of MoC presented at UNFCCC website.

<b>CL ID</b>	03	<b>Section no.</b>	D.2	<b>Date:</b> 13/12/2018
<b>Description of CL</b>				
<i>The list of tools presented at Section B.1 is not in accordance with tools effectively used during the validation of the renewal of the crediting period.</i>				
<b>Project participant response</b>				<b>Date:</b> 18/01/2018
Latest versions of methodology ACM0002 and TOOL07 were included in the new version of PDD. The reference to the tool for the demonstration and assessment of additionality has been removed. TOOL11 "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" (version 03.0.1), has been added.				
<b>Documentation provided by project participant</b>				
Jepirachi Wind Power Project PDD, version 11.				
<b>DOE assessment</b>				<b>Date:</b> 23/01/2018
The list of methodology and tools is now in accordance with the ones effectively used at this validation. Their versions are the latest ones available at the UNFCCC website.				

**Table 2. CAR from this validation**

<b>CAR ID</b>	04	<b>Section no.</b>	D.1	<b>Date:</b> 13/12/2018
<b>Description of CAR</b>				
<i>The used PDD template is not the latest one available at UNFCCC website.</i>				
<b>Project participant response</b>				<b>Date:</b> 18/01/2018
All the content of PDD version 10 has been brought to the current PDD template version 10.1.				
<b>Documentation provided by project participant</b>				
Jepirachi Wind Power Project PDD, version 11.				
<b>DOE assessment</b>				<b>Date:</b> 23/01/2018
The latest version of CDM-PDD-FORM available at UNFCCC website has been used and correctly filled up.				

<b>CAR ID</b>	05	<b>Section no.</b>	D.2	<b>Date:</b> 13/12/2018
<b>Description of CAR</b>				
<i>The applied version of methodology ACM0002 and TOOL07 are not the latest ones available at UNFCCC website.</i>				
<b>Project participant response</b>				<b>Date:</b> 18/01/2018
Latest versions of methodology ACM0002 and TOOL07 were included in the new version of PDD.				
<b>Documentation provided by project participant</b>				
Jepirachi Wind Power Project PDD, version 11.				
<b>DOE assessment</b>				<b>Date:</b> 23/01/2018
The version of ACM0002 and TOOL07 are the latest ones available at the UNFCCC website.				

<b>CAR ID</b>	06	<b>Section no.</b>	D.4	<b>Date:</b> 13/12/2018
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Description of CAR	
<i>In Section B.6.2, the list of parameters fixed ex-ante is not in accordance with applied methodology and tool.</i>	
<b>Project participant response</b>	<b>Date:</b> 18/01/2018
Parameters such as the percentage share of total installed capacity of the specific technology and the total installed capacity of the technology, has been already included in the new version of PDD.	
Documentation provided by project participant	
Jepirachi Wind Power Project PDD, version 11.	
<b>DOE assessment</b>	<b>Date:</b> 23/01/2018
The list of parameters fixed ex-ante is now in accordance with applied methodology and tool.	

<b>CAR ID</b>	07	<b>Section no.</b>	D.4	<b>Date:</b> 13/12/2018
Description of CAR				
<i>The calculation of <math>EF_{grid,OM,y}</math> has not been done in accordance with the applied tool.</i>				
<b>Project participant response</b>				<b>Date:</b> 18/01/2018
Calculation of $EF_{OM}$ has been done in accordance with the applied tool. The emission factor for the operating margin was adjusted having 2015-2017 data available.				
Documentation provided by project participant				
Jepirachi Wind Power Project PDD, version 11; Combined_OM_BM_EF_Lambda_method_2017.				
<b>DOE assessment</b>				<b>Date:</b> 23/01/2018
The calculation of $EF_{grid,OM,y}$ has now been done in accordance with the applied tool and correct vintage has been used.				
<b>Project participant response #2</b>				<b>Date:</b> 11/04/2019
The aspects questioned by the DOE have been clarified or revised in the following way. All of them refer to the file named "Jepirachi_OM_BM_EF_Lambda_method_2017 v2":				
Documentation provided by project participant				
"Jepirachi combined_OM_BM_EF_Lambda_method_2017 v2" "2017 SIN hourly generation" "2016 SIN hourly generation" "2015 SIN hourly generation" "Informe_Operacion_SIN_2016" "Jepirachi_PDD version 12" "Jepirachi_PDD version 12 clean" "2017 Colombian emission factor"				
<b>DOE assessment #2</b>				<b>Date:</b> 11/04/2019
The Lambda calculation has totally been revised and all points are closed and in accordance with presented evidences from official sources.				

<b>CAR ID</b>	08	<b>Section no.</b>	D.4	<b>Date:</b> 13/12/2018
Description of CAR				
<i>The values presented at file "Jepirachi estimated ER" are not consistent with the ER calculations presented at tab "ER" of file Combined_OM_BM_EF_Lambda_method_Jul_2017" and ER values presented at the PDD.</i>				
<b>Project participant response</b>				<b>Date:</b> 18/01/2018
The values presented at sheet "ER Jepirachi" in file "Combined_OM_BM_EF_Lambda_method_2017" were checked, as well as the ER values presented at the PDD. The data corresponding to the estimated amount of annual average GHG emission reductions and the summary of ex ante estimates of emission reductions (section B.6.4 at the PDD), were corrected at the new version of the PDD.				
Documentation provided by project participant				

Jepirachi Wind Power Project PDD, version 11; Combined_OM_BM_EF_Lambda_method_2017.	
<b>DOE assessment</b>	<b>Date:</b> 23/01/2018
All values used for the ER calculations are now consistent with the values resulted from the emission factor calculations.	

**Table 3. FAR from this validation**

<b>FAR ID</b>	09	<b>Section No.</b>	C.2	<b>Date:</b> 13/12/2018
<b>Description of FAR</b>				
<i>As no site visit has been performed during the validation of the renewal of the 3<sup>rd</sup> crediting period and all validation of technical data of equipment has been done based on documents, pictures and interviews, the verifier shall reconfirm the technical data.</i>				
<b>Project participant response</b>				<b>Date:</b> 18/01/2019
During the site visit of the next verification, all equipment and manuals will be presented to the verifier.				
<b>Documentation provided by project participant</b>				
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<b>DOE assessment</b>				<b>Date:</b> 23/01/2018
As everything will be presented to the verifier, all data will be thoroughly checked to confirm their consistency with presented information.				

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory		
Document Type: Form		
Business Function: Renewal of crediting period		
Keywords: crediting period, project activities, validation report		