



MANANTIALES BEHR WIND FARM



Document Prepared By KBS

Certification Services Pvt. Ltd.

Project Title	Manantiales Behr Wind Farm
Version	03
Report ID	VCS.21.VER.060

Report Title	Manantiales Behr Wind Farm
Client	YPF Energía Eléctrica S.A. (YPF LUZ)
Pages	44
Date of Issue	29-November-2022
Prepared By	KBS Certification Services Pvt. Ltd.
Contact	Registered Office: KBS Certification Services Pvt. Ltd. 414-424, Om Shubham Tower, Neelam Bata Road, N.I.T. Faridabad, Haryana-121001, India Tel: +91 129 4034513, 4054513

	Website: www.kbscertification.com
Approved By	Kaushal Goyal Managing Director
Work Carried Out By	Team Leader & Technical Expert (TA 1.2): Ms. Mariana Barrios Auditor: Raul G. Mitre. Technical Reviewer: Anjana Sharma Manager T & C: Mr. Tushar Eknath Chaudhari

Summary:

The “KBS Certification Services Pvt. Ltd.” has been commissioned by YPF Energia Electrica S.A. (YPF LUZ) to carry out the Verification of the project “Manantiales Behr Wind Farm” with regard to the requirements of VCS Version 4.3.

The project involves the emission reduction through renewable wind energy in the host country Argentina. Thus, GHG removals are achieved.

The project applies the CDM consolidated methodology ACM0002 – “Grid-connected electricity generation from renewable sources” (version 19.0).

In the course of the VCS Verification, 01 Correction Action Requests (CAR) were raised and successfully closed. No Forward Action Requests (FAR) and Clarification Requests (CL) have been raised.

The VCS Verification was based on the draft monitoring report, emission reduction calculation spreadsheet, the monitoring plan as set out in the registered PD and supporting documents made available to the KBS Certification Services Pvt. Ltd by the project participant.

Verification Period: From 01-January-2021 to 31-December-2021 (including both days)

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the registered VCS PD;
- the monitoring plan is in accordance with the applied approved CDM methodology, i.e., ACM0002 version 19.0.
- the equipment essential for measuring parameters required for calculating emission reductions are properly maintained;
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

In addition, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. KBS herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Year (vintage)	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2021	259,333	0	0	259,333
Total	259,333	0	0	259,333

CONTENTS

1 Introduction	5
1.1 Objective	5
1.2 Scope and Criteria	6
1.3 Level of Assurance	6
1.4 Summary Description of the Project	8
2 Verification Process.....	9
2.1 Method and Criteria	9
2.2 Document Review	10
2.3 Interviews	10
2.4 Site Inspections.....	11
2.5 Resolution of Findings.....	12
2.6 Eligibility for Validation Activities	13
3 Validation Findings.....	14
3.1 Participation under Other GHG Programs	14
3.2 Methodology Deviations.....	14
3.3 Project Description Deviations.....	14
3.4 Grouped Project	18
4 Verification Findings.....	19
4.1 Project Implementation Status	19
4.2 Safeguards.....	31
4.3 AFOLU-Specific Safeguards	32
4.4 Accuracy of GHG Emission Reduction and Removal Calculations	32
4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals	34
4.6 Non-Permanence Risk Analysis.....	34
5. Verification conclusion	35
APPENDIX I: References	37
APPENDIX II: FINDINGS	40

1 INTRODUCTION

YPF Energia Electrica S.A. (YPF LUZ) has commissioned the KBS Certification Services Pvt. Ltd. to carry out the 2nd Verification of the project: “Manantiales Behr Wind Farm” with regard to the relevant requirements of the Verified Carbon Standard Version 4.3. The verifier has reviewed the implementation of the monitoring plan (MP) in the VCS project for the monitoring period 01-January-2021 to 31-December-2021 (including both days).

The project applies the CDM approved methodology ACM0002 – “Grid-connected electricity generation from renewable sources” (version 19.0).

1.1 Objective

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the registered VCS PD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- The monitoring report and other supporting documents are complete;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- The actual monitoring systems & procedures and monitoring report conforms with the requirements of the approved monitoring plan and the approved monitoring methodology;
- To confirm that the monitoring system is implemented and fully functional to generate Voluntary Emission Reductions (VCUs) without any double counting;
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation, and
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of monitoring report, VCS project description (VCS PD), including the monitored data, and other relevant documents made available to verifier and information collected through performing interviews during Remote assessment (interviews) of the project activity.

The project is assessed against the requirements of VCS standard, version 4.3 and related rules and guidance. KBS has, based on the recommendations in the latest version of Verified Carbon standard, employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

The aspects to be covered under the purview of verification are:

- Ensure that the project activity has been implemented and operated as per the registered VCS PD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place as per the documents provided by the client and during remote audit;
- Ensure that the monitoring report and other supporting documents provided are complete;
- Ensure that the practiced monitoring system and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved CDM methodology, and
- Evaluate the data recorded and stored are as per the monitoring methodology.

1.3 Level of Assurance

The verification has been planned and organized to achieve a

- ☒ reasonable level of assurance
☐ limited level of assurance

The verification is based on the registered VCS PD, MR, proof of title, proof of right, additional documents related to baseline and monitoring methodology, the subsequent background investigation, monitoring plan, follow-up interviews and supporting documents made available to the verification team by project proponent. The information in these documents is reviewed against the requirements of VCS Standard, Version 4.3. KBS has employed a rule-based approach in the verification, focusing on the fulfillment of the rules determined by the VCS Standard.

The items covered in the verification are described below:

- Criteria of VCS Version 4 (VCS Program Guide Version 4.2 & VCS Standard, Version 4.3);
- Criteria of CDM approved methodology, ACM0002- Version 19.0;
- VCS Monitoring Report;
- Monitoring Plan;

- Background investigation and follow up interviews;
- Stakeholder feedback;
- Registered VCS PD and Validation Report;
- Previous verification documents; and
- Project's compliance with other relevant rules, including the project country (Argentina) legislation.

Furthermore, the verification team used additional documentation by third parties like host party legislation and technical reports referring to the project design. A desk review is carried out to assess the following:

- Compliance with relevant law and regulations;
- Stakeholder comments (If any);
- Proof of title;
- Single line diagram and site location map;
- Technical specifications of turbines, meters etc.;
- Authorization of Entry as a Generating Agent of the Electricity Market.
- Commissioning Letters;
- Remote auditing for verification;
- Electricity Economic Transactions Documents (DTEs);
- Electricity data records; and
- Calibration Certificates.

The Verification team has checked all the above-mentioned details and confirms that all the information provided is accurate.

Through the remote interviews, host country rules and regulations related to project activity, Project description, technological measures, Implementation, Operation, Management of project activity and Training of personnel, Baseline and Monitoring plan, Stakeholder consultation etc. has been checked and found appropriate.

KBS applies the rule-based approach aimed at focusing on the fulfillment of the rules determined by the VCS Standard, in order to assure not omitting any part of the mandatory processes. A few discrepancies were found during the verification and the findings were submitted to the project proponent, indicated under the titles corrective action requests (CARs). CARs require to be addressed by the PP.

Hence the above steps were followed for achieving the level of assurance in verification report. Based on the process and procedures conducted, KBS confirms that the information in the MR:

- is materially correct and is a fair representation of the actual project details, and
- is prepared in accordance with VCS requirements and the applied CDM methodology for information pertaining to GHG qualification, monitoring and reporting.

The verification work is carried out as per this requirement and the verification opinion is assured, provided the credibility of all above. Details are presented in the Verification statement in section 5 below.

1.4 Summary Description of the Project

The project owned by YPF Energia Electrica S.A. (YPF LUZ) is a Greenfield wind power plant located in the department of Escalante, Province of Chubut, in the south of Argentina. Its total installed capacity is 99 MW.

The Project consists of 30 aero-generators Vestas, model V-112 3.3 MW IEC IB Class, of 3.3 MW each, totalizing 99 MW of installed capacity, with a hub height of 84 meters and a sweep area of 112 meters.

The Project is connected to the Argentine Interconnection System (hereinafter referred to as the SADI, from the Spanish “Sistema Argentino de Interconexión”) and the energy generated is transmitted to a substation constructed and owned by YPFEE (SE Manantiales Behr) and where the billing meters are installed to measure the energy of the project (2 main meters and 2 back-up meters). This substation is connected to the SADI through a 21 km high tension transmission line that connects YPFEE’s substation to the substation SE Escalante.

The project activity measures reduce GHG emissions by the substitution of fossil fuel power plants connected to the Argentine national interconnection system.

The equipment lifetime is 20 years and it is a Greenfield project.

Therefore:

Site	Name	Department and Province	WTG Number and type	Hub Hight (m)
1	Manantiales Behr Wind Farm	Escalante department, province of Chubut	Vestas V-112, 30 WTG, 3.3 MW each	84

The project activity is categorized under scope 1 – Energy (renewable/non-renewable). The project proponents is YPF Energia Electrica S.A. (YPF LUZ). and there are no other companies involved in the Project.

The milestones of the project activity as VCS project are as follow:

Milestone	Date
Construction starting date of Manantiales Behr Wind Farm Project	19 th -September-2016
Commercial operation date of Manantiales Behr Wind Farm Project-Phase 1	1 st -August-2018
Commercial operation date of Manantiales Behr Wind Farm Project-Phase 2	22 nd -December-2018
VCS registration date	17-April-2019
1 st Verification Period	From 01-August-2018 to 31-December-2020 (including both days)
2 nd Verification period (covered under this verification report)	From 01-January-2021 to 31-December-2021 (including both days)

During the remote audit inspection, location (as mentioned in section 1.7 of MR) and all the technical aspects of the project activity mentioned in the VCS PD have been verified. The same was also crosschecked during the desk review of supporting documents.

2 VERIFICATION PROCESS

Based on the desk review and remote site visit the team leader follows the verification protocol to identify and record the findings in the context of the project activity. The findings are communicated to the client in the findings document (Appendix II). The project documentation, including responses to the findings is reviewed by the team leader in consultation with team members, wherever appropriate. The team leader prepares the draft verification report subject to closure or non-closure of the findings.

2.1 Method and Criteria

The verification process was carried out in line with the requirements of VCS Standard, Version 4.3. In addition, the verification team followed standard auditing techniques and KBS's CDM Procedures were also applied during the verification. A rule-based approach was followed to carry out verification and

access all the factors and concerns that relate to the issuance of emission reductions from a project activity.

They include:

- Identification of all the sources contributing to the project emissions and emission reductions.
- Authenticity of the provided data is checked.
- A rule-based analysis is carried out to ensure a clear and transparent assessment. The findings identified in this process are mainly with the informational flows and data recording.

KBS follows a rule-based verification approach, wherein a desk review of the project documentation is undertaken, which is followed by a remote discussion/video inspection by the members of verification team. The verification protocol is filled by the verification team that is based on standard auditing practices and VCS requirements. The verification protocol provides transparent means to record the observations by the verification team members and the non-conformities, if any. The verification protocol is an internal document, and available on request.

Duration of Verification:

Verification Contract	20-December-2021
Remote audit	21-June-2022
Draft Verification Report	22-June-2022
Final Verification Report	29-November-2022

2.2 Document Review

A detailed review of all project documentation was done to ensure the accomplishment VCS program requirements, the methodology applied (ACM0002 version 19.0), and the registered VCS PD. A desk review is undertaken, involving but not limited to:

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section 'References'.

2.3 Interviews

Interviews were undertaken by members of verification team, involving:

- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the approved monitoring plan;

- An assessment of the implementation and operation of the proposed VCS project activity as per the registered VCS PD;
- A cross-check between information provided in the monitoring report and data from other sources such as electricity reports, Electricity Transaction Documents (DTEs) or similar data sources;
- A check of the monitoring equipment, including calibration performance and observations of monitoring practices against the requirements of the VCS PD and the selected methodology;
- An identification of quality control and quality assurance procedures in place, to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

The interviews for this verification assessment were undertaken by Mariana Barrios (Team Leader & Technical Expert for scope 1) and Raul G. Mitre (Auditor and Technical Expert for scope 1). The details are mentioned below;

No.	Name	Function	Organization
1.	Ezequiel Álvarez	Commercial Term Market Manager	YPF Energía Eléctrica
2.	Maximiliano Magariños	Commercial Term Market Chief	YPF Energía Eléctrica
3.	Dario Foscolo	Energy Dispatch Office Coordinator	YPF Energía Eléctrica
4.	Mariana Costa	Government, Community and Institutional Coordinator	YPF Energía Eléctrica
5.	Adriana Torchelo	Consultant on Climate Change and Sustainable Development.	Independent Consultant
6.	Rodrigo San Sebastian	Quality, Safety and Environmental Chief	YPF Energía Eléctrica

2.4 Site Inspections

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB, email clarification for VERRA guidance on site visits, notification of COVID-19 Travel Guidance for Projects <https://verra.org/covid-19-travel-guidance/> and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the VVB has skipped the on-site visit. Further Email from VERRA dated 24/03/2020 from “Andrew Beauchamp” has been referred as per which “*The VCS Program does not explicitly mandate site visits as part of the validation and verification process, only that VVBs must achieve a reasonable level of assurance on all validations and verifications (per Section 4.1.2 of the VCS Standard, v4.2). Therefore, where a VVB can achieve a reasonable level of assurance without conducting a site visit, or through a remote site visit, this is in conformance with the VCS rules, and no request for an exemption or pre-approval from VERRA is required. However, where a validation/verification has been conducted without a site visit, or through a remote site visit, please ensure that the applicable section*”

of the validation/verification report includes a discussion of how a reasonable level of assurance was achieved without an in-person site visit”.

Hence, the VVB has used other standard auditing techniques for validation or verification as referred to in VCS Rules/requirements, VCS Validation and Verification Manual version 3.2.

Verification team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification. Along with desk review, audit team has conducted remote audit interview as follows:

- A complete desk review of the MR, as well as all applicable country legal requirement and supportive evidences have been checked by the verification team.
- Verification team has performed Zoom Application interview with PP on June 21st 2022 in order to check implementation, project boundary, current situation, monitoring and metering equipment, monitoring procedures, calibration etc.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR and supporting documents.
- An assessment of the implementation and operation of the VCS project activity as per the registered VCS PD;
- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- A check of the monitoring equipment including performance and observations of monitoring practices against the requirements of the registered VCS DD and the selected methodology.
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

KBS applies the rule-based approach aimed at focusing on the fulfillment of the rules determined by the VCS Standard. A few discrepancies were found during the verification and the verification report was submitted to the project proponent, indicated under the titles corrective action requests (CARs). CARs are required to be addressed by PP. Criteria for judging items as CAR, CL or FAR are as follows:

Corrective action request (CAR):

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

Clarification request (CL):

Information is insufficient or not sufficiently clear to determine whether the applicable VCS requirements have been met.

Forward Action Request (FAR):

FARs is to be raised to highlight issues related to project implementation that require review during the first verification of the project activity. FARs does not relate to VCS requirements for registration.

CARs and CLs are to be resolved or closed out if the PP modifies the project description, rectifies the MR or provides adequate additional explanations or evidence that satisfies the concerns. If this is not completed, the project activity cannot be recommended for issuance under VCS registry.

The monitoring report was revised addressing the CARs by KBS. After reviewing the revised and resubmitted MR; resolving the CARs & CLs raised and outstanding concerns, KBS issues this final verification report and opinion.

The list of CARs/CLs raised and the response provided, the means of verification, reasons for their closure and references to correction in the MR are provided in appendix 2 of this report. The revised MR with changes incorporated as per the issues raised were rechecked with the documentary evidences and found to be inline.

A summary of all raised findings is provided below:

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	--	-	--
Compliance of the project implementation and operation with the registered PD	--	--	--
Deviations	--	--	--
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	--	01	--
Compliance of monitoring activities with the registered monitoring plan	--	--	--
Compliance with the calibration frequency requirements for measuring instruments	--	--	--
Assessment of data and calculation of emission reductions or net removals	--		--
No net harm and Local stakeholder consultation	--	--	--
AFOLU -Specific Safeguards	--	--	--
Total	0	01	0

2.5.1 Forward Action Requests

No FAR has been raised during validation stage and during the current verification.

2.6 Eligibility for Validation Activities

KBS Certification Services Private Limited is accredited for validation and verification for sectoral scope 1 under the VCS scheme.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

There is no evidence that the project activity is participating under other GHG Programs. The PP has declared that this project will not claim any carbon credit in any other mechanism.

3.2 Methodology Deviations

The verification team confirms that the registered VCS PD complies with the requirements in the applied monitoring methodology ACM0002 version 19.0. As a result of the documental review, it is concluded that there are no methodology deviations.

3.3 Project Description Deviations

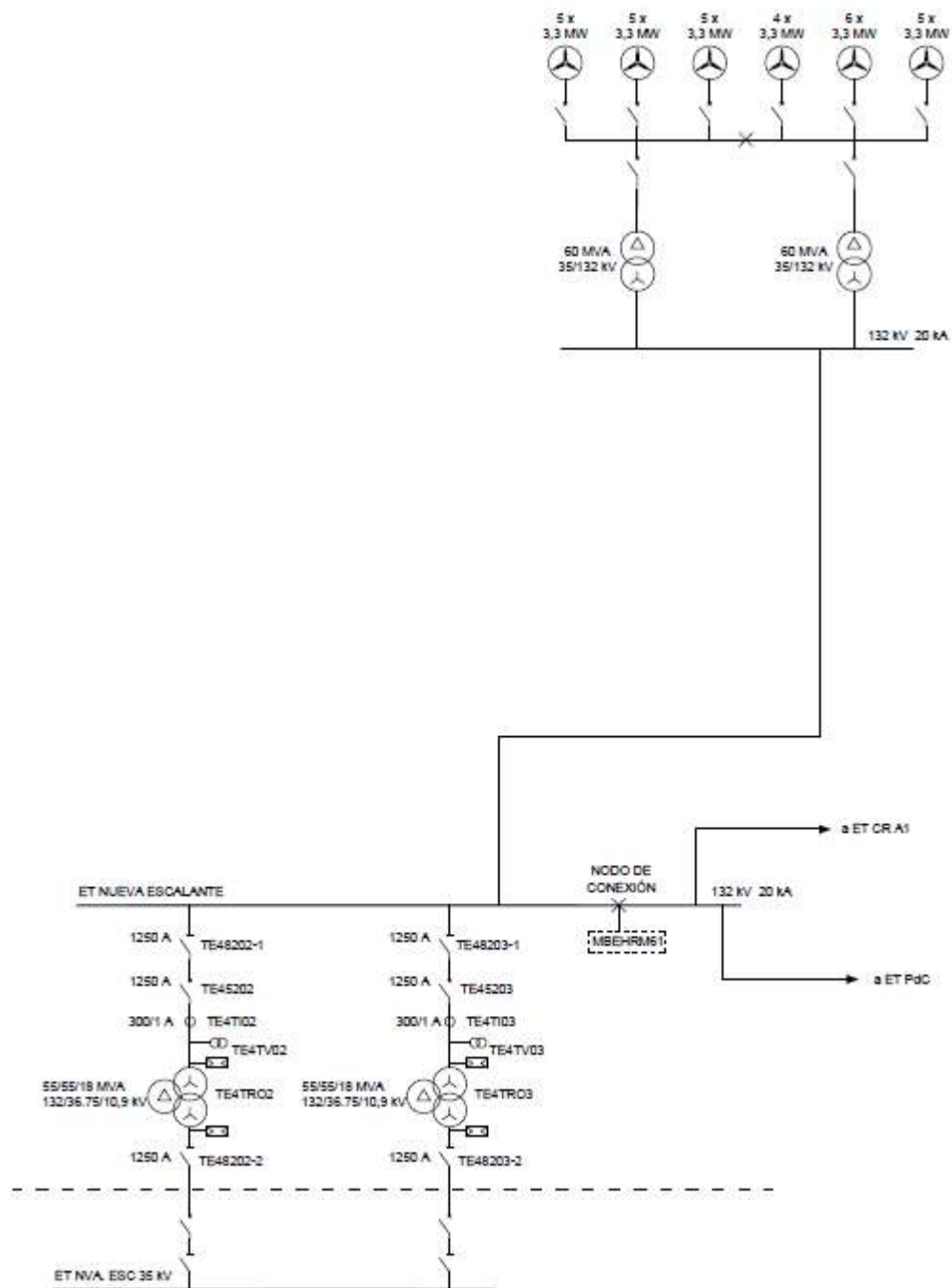
During this monitoring period a Project Description Deviation was done. According to the VCS Project Description: “The energy generated by the project is transmitted to a substation constructed and owned by YPFEE (SE Manantiales Behr) which is connected to the national interconnexión system through a 21 km high tension transmission line that connects YPFEE’s substation to the substation SE Escalante where the electricity billing meter (the main meter) is located.”

However, during the present monitoring period the Manantiales Behr Wind Farm (MBWF) commercial measurement point changed the location. As stated above the measurement point of the project was at substation Escalante, but on 27/03/2021 the natural gas thermal power Manantiales Behr II (CTMB II) started to operate upstream MBWF and this new power plant was connected to the SADI through MBWF. For this reason, prior to CTMB II operation start, CAMMESA resolved to establish two new nodes with SMEC electricity meters at each project’ substation separately to directly measure the electricity generated by each one once CTMB II started to operate. CAMMESA officially communicated this modification to the PP through a letter that included the new line diagram, with the names of the nodes and SMEC meters¹.

Due to the above, until 27/03/2021 the main (billing) and back-up SMEC meters (MBHERM61) that directly measured MBWF electricity generation were located at Escalante substation as stated in the registered PD and illustrated in the below line diagram that shows the location and connection to the national electrical grid system (SADI).

¹ CAMMESA letter to the PP has been provided to the VVB at verification.

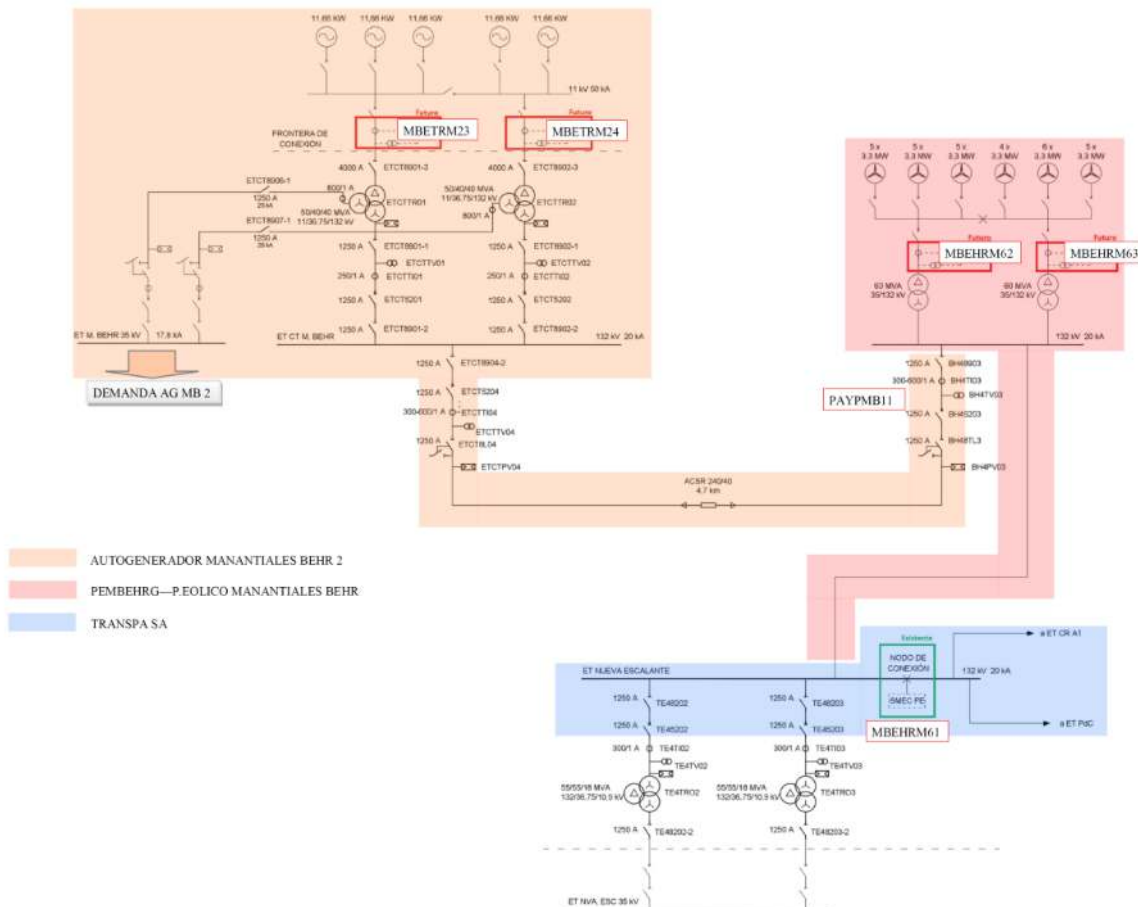
Line diagram as per the registered PD (until 27/03/2021):



From 27/03/2021 onwards as established by CAMMESA, Manantiales Behr substation meters (2 main (billing) meters and 2 back-up meters that measure the generation of 15 aerogenerators each one) started to operate as MBWF' SMEC meters (MBHERM62 and MBHERM63). These two sets of meters were audited and calibrated by CAMMESA on 15/04/2021.

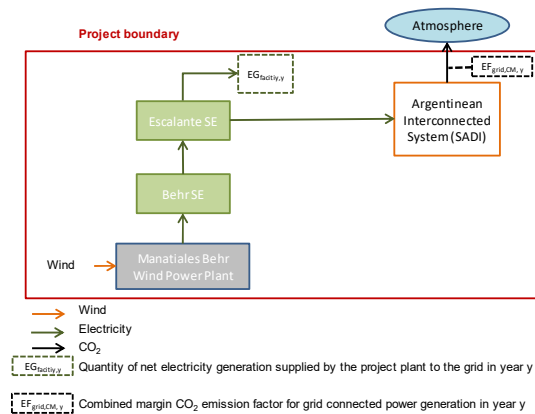
The below line diagram illustrates their location and connection to the SADI through a high-tension transmission line that connects MBWF substation to Escalante substation. The line diagram also illustrates the CTMB II location upstream MBWF, its billing meters (MBETRM23 and MBETRM24) and its connection to the SADI through MBWF (node PAYPMB 11)². Thus, it shows that once the CTMB II started to operate, the electricity measured at Escalante substation (MBHERM61) is the electricity generated by both projects and explains why CAMMESA established the two new nodes with SMEC electricity meters at each project' substation to directly measure the electricity generated by each one. In this regard, CAMMESA letter to PP also established that once MBWF new nodes started to operate, MBEHRM61 node would be removed.

Line diagram from 27/03/2021 onwards:

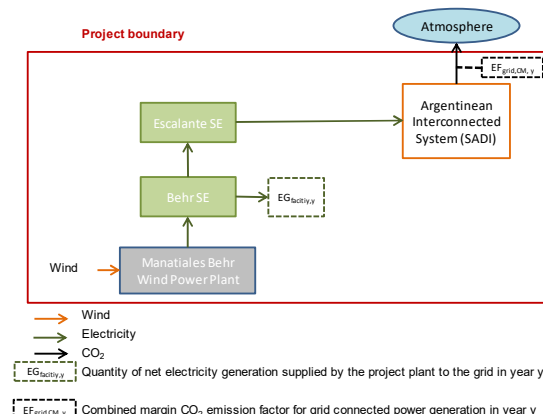


According to the above stated, the below flow diagrams summarize the equipment, systems and flows of mass and energy including the emissions sources and GHGs included in the project boundary as per the registered PD and from 27/03/2021 onwards.

Registered PD (until 27/03/2021):



From 27/03/2021 onwards:



All MBWF' SMEC electricity meters have been and are high accuracy measurement devices (bi-directional energy meter Class 0.2S) in compliance with CAMMESA' regulated requirements and as stated in the registered PD, and the procedures for maintenance, calibration and failures of the monitoring equipment have been conducted in accordance with national procedures and standards as stated in the registered PD and as required by the applicable methodology ACM0002 Version 19.0.

Thus, the present PD deviation only encompasses a change of the meters' equipment and their location. It does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology, as below demonstrated.

As per project additionality: The project additionality has been demonstrated in the registered PD through investment analysis and common practice analysis. The present PD deviation do not apply under the category of changes that may impact the validity of investment analysis, as per the *CDM Guidelines on assessment of different types of changes from the project activity as described in the registered PDD*, such as: changes in the effective output capacity due to increased installed capacity or number of units, addition of component or extension of technology, removal or addition of one (or more) site of a project activity registered with multiple-sites, or different values of those actual operational parameters relevant to determination of emission reduction which are within the control of project participant and which result in the IRR passing the benchmark as described in the registered PDD.

² Line diagram as per CAMMESA letter.

For all this explained above, this PD deviation does not affect the additionality of the project activity.

As per the baseline scenario: The present project activity, as stated in the registered PD it is a greenfield project, and according to the applicable methodology ACM0002 (version 19.0): “If the project activity is the installation of a Greenfield power plant, 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 the Tool to calculate the emission factor for an electricity system.”

The present PD deviation does not affect the project activity connection to the Argentinean national grid (SADI) which continues to be through a 21 km high-tension transmission line that connects MBWF substation to the Escalante substation.

For the reasons explained above, this PD deviation does not impact the appropriateness of the baseline scenario of the project. The present PD deviation does not impact the applicability/application of the baseline methodology since the change of meters equipment and their location does not affect or impact any of the ACM0002 (version 19.0) applicability criteria that were demonstrated in section 2.2 of the registered PD. Thus, the project remains in compliance with the applied methodology.

For instance, the above-described PD deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology. Thus, it has been described and justified in the present monitoring report as per item b) of section 3.19.2 of VCS Standard v4.3.

3.4 Grouped Project

The project activity is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is in operation stage as evidenced by the remote inspection of the site. All the physical components and project boundary are in conformity with the description in registered VCS PD. The capacity of project equipment's has been confirmed during the remote inspection, also through the technical specifications and found in-compliance with the registered VCS PD. All equipment of the project activity has been commissioned as commissioning certificates.

On the basis of the remote inspection and the reviewed project documentation like the technical specification, photographs of meters and equipment nameplates, single line diagram, energy reports, operational license and permits, commissioning certificates, calibration certificates of energy meters and DTEs, invoices, etc. the verification team confirms that the project was implemented and operated as described in the registered VCS PD. Further, the verification team confirms that:

- There is no any material discrepancy between project implementation and the project description in the registered VCS PD. As described on section 3.3, a Project Description Deviation was done without any implication on the application of the methodology.
- The monitoring plan is completely implemented and is suitable with actual monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters).
- There is no methodology deviation applied to this project.

The project activity consists of 30 aero generators Vestas, model V-112 of 3.3 MW each one IEC IB Class, for a total of 99 MW of installed capacity, which was verified during the remote audit.

Further it was noticed that during the monitoring period the project activity operated under normal conditions and no significant event that may have impact on monitoring of GHG emission reductions was observed. Same has been checked from the operational data during remote auditing.

Ownership and other programs:

The ownership of the project activity has been demonstrated through the following evidence:

- Commissioning letters;
- Node authorization letters;
- Authorization of Entry as a Generating Agent of the Electricity Market; and
- Environmental Licenses.

PP has declared that the project activity is not registered under other GHG programs such as CDM or Gold Standard. Thus, emission reductions generated by project will be solely claimed by PP and PP has the right of use, which is acceptable.

PP will not claim any other the environmental/carbon credits under any other GHG emission reduction scheme for the crediting period under VCS and PP has provided declaration on the same during the validation. Hence, there is no possibility of double counting.

Sustainable Development Contributions:

As confirmed during the remote audit, the project displaces electricity produced in fossil fuel-based power plants, by using clean renewable source to generate electricity and thereby contributes to sustainable development through reduction in greenhouse gas (GHG) emissions. It has also been confirmed that the project implementation has led in significant environmental and socio-economic benefits (as stated in the submitted MR) and contributes to the social, economic, technological and environmental well-being. The project supplies clean, affordable and renewable energy without reliance on fossil fuels for generation of electricity to meet the growing demands in the region. Also, the implementation of project is providing employment to locals with a decent and secure work environment by reducing emissions otherwise generated by the operation of fossil fuel-based power plants and would lead to promotion of wind based power generation and to encourage other entrepreneurs to participate in similar projects as well.

Furthermore, the PP decided to include the sustainable development contributions (SDGs) even considering that right now is not mandatory for this project activity.

The project activity addressed the following SDGs:

- Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
 - 4.3: By 2030 ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
 - 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix
- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
 - 8.8: Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
- Goal 12: Ensure sustainable consumption and production patterns
 - 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
- Goal 13: Take urgent action to combat climate change and its impacts
- Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

The sustainable Development contributions were evaluated through the evidence provided by the PP and it can be concluded that the project contributes to the selected SDGs.

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
1)	4.3	Number of participants in training, and divulgation and awareness activities	Implemented activities to increase	In 2021, 10 new MBWF's employees ³ participated in YPF Luz annual training program. Additionally, about 4,000 YouTube viewers visited YPF first, third and fourth sessions of the free online training course on Sustainability, Energy Transition and Renewable Energies, directed to students and professors of the last year of technical education careers on electric power, electromechanics and industrial maintenance, where YPF Luz experts participated as trainers in the first, third and fourth sessions.	Over the project lifetime: i) 30 MBWF's employees ⁴ have participated in YPF Luz annual training programs, and 2 MBWF young employees participated in the company's 9 months' new professionals training program. YPF Luz experts have participated in 2020 and 2021 as trainers in YPF Foundation' courses and webinars with more than 24,000 participants registered and about 44,000 views on YouTube in total. In 2019 more than 600 people participated in free renewable energy talks within the Framework of YPF Foundation' Renewable Energy Program, where YPF Luz staff made presentations about renewable energy and MBWF and 20 national and provincial journalists participated in a media visit to MBWF.

³ The 10 new employees participated in the 2021 annual training program together with other 20 MBWF' employees that started to work in MBWF before 2021 and had already participated in previous annual training programs (2018 – 2020).

⁴ Is the total amount of MBWF employees as per MBWF employees' registry from 31/12/2021. As per the SDG Report for the period 01/08/2018 – 31/12/2020, in 31/12/2020 the total amount of MBWF employees were 25 that have participated in the 2018, 2019 and 2020 annual training programs. During 2021, 3 MBWF employees left the YPF Luz, 2 employees started to work in another YPF Luz projects, and 10 new employees started to work in MBWF. Records provided to the VVB.

2)	7.2	7.2.1 Renewable energy share in the total final energy consumption	Implemented activities increase to	The project has generated 509,495 MWh of renewable energy for final energy consumption during the present monitoring period.	The project has generated 1,691,613 MWh of renewable energy for final energy consumption during its lifetime.
3)	7.b	7.b.1 Installed renewable energy-generating capacity in developing countries (in watts per capita)	Implemented activities increase to	No further changes this monitoring period.	The project has installed a renewable energy-generating capacity of 99 MW in Argentina.
4)	8.8	8.8.1 Fatal and non-fatal occupational injuries per 100,000 workers, by sex and migrant status	Implemented activities decrease to	The number of fatal and non-fatal occupational injuries at MBWF during the present monitoring period was zero.	The number of fatal and non-fatal occupational injuries at MBWF during the project lifetime was zero.
5)	12.6	12.6.1 Number of companies publishing sustainability reports	Implemented activities increase to	YFP Luz is elaborating the 2021 sustainability report, which corresponds to the present monitoring period.	YFP Luz has published three annual sustainability reports (2018, 2019 and 2020) and is elaborating its 2021 sustainability report.
6)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities increase to	By generating electricity from wind power and dispatching it to the Argentinean national grid, the project has reduced 259,333 tonnes of CO ₂ e during the present monitoring period.	By generating electricity from wind power and dispatching it to the Argentinean national grid, the project has reduced 861,031 tonnes of CO ₂ e during its lifetime.
7)	17.6	Number of companies reporting progress in multi-stakeholder partnerships that support	Implemented activities increase to	In 2021 YPF Luz joined the UN Global Compact committing to produce an annual Communication on Progress (COP) that details its	YPF Luz joined the UN Global Compact.

		the achievement of the sustainable development goals		work to embed the Ten Principles of the UNF Global Compact which strategy is to drive business awareness and action in support of achieving the SDG by 2030.	
7)	17.6	Number of companies reporting progress in multi-stakeholder partnerships that support the achievement of the sustainable development goals	Implemented activities to increase	In 2021 YPF Luz joined the UN Global Compact committing to produce an annual Communication on Progress (COP) that details its work to embed the Ten Principles of the UNF Global Compact which strategy is to drive business awareness and action in support of achieving the SDG by 2030.	YPF Luz joined the UN Global Compact.

The Monitoring Report has been updated to clarify that the total amount MBWF new employees that participated in the 2021 training program is 10 as stated in column “Current project contributions” of MR’ Table 1: Sustainable Development Contributions.

These 10 new employees participated in the 2021 annual training program together with other 20 MBWF’ employees that started to work in MBWF before 2021 and had already participated in previous annual training programs.

Thus, the contributions over project lifetime are that 30 MBWF employees, as per MBWF’ employees registry from 31/12/2021, participated in annual training programs. In this regard, it is important to clarify that, as per the SDG Report for the period 01/08/2018 – 31/12/2020, in 31/12/2020 the total amount of MBWF employees were 25 and they have participated in the previous annual training programs. During 2021, 3 MBWF employees left the company, 2 employees started to work in other YPF Luz projects, and 10 new employees started to work in MBWF. MBWF’ employees records from 2020 and 2021, including their names (confidential information), provided to the VVB to prove the above stated.

Management and operational system:

Verification team was able to verify that authorities and responsibilities for monitoring and reporting of all data related to the emission reductions were clearly defined for the related monitoring period.

The allocation of the responsibilities is documented in a written form and is followed as described in the registered VCS PD.

The monitoring plan described in section 4.3 of the MR is confirmed to be correct. All the parameters of the monitoring plan are monitored using appropriate metering system.

The verification team has interviewed the plant personnel who is involved in the monitoring of the parameters that are used to determine the emission reductions of the project. It is confirmed based on the interviews that the plant's team is competent enough to monitor the parameters as described in the monitoring plan.

As discussed above, the verification team concludes that management and operational system of the project is implemented and operated well. Thus, it ensures the quality of data which is required in calculating the emission reductions.

Implementation status of the monitoring plan:

Verification team confirms through remote inspection and from the document review (See Appendix I) the actual monitoring system complies with the monitoring plan mentioned in the registered VCS PD and there is no deviation in monitoring plan and procedures.

During the verification, all relevant monitoring parameters of the registered monitoring plan have been verified with regard to the appropriateness of the verification method; the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures. All monitoring parameters have been measured / determined without material misstatements and are in line with all applicable standards and relevant requirements. It is confirmed that the monitoring mechanism is effective and reliable.

Therefore, from the document review and remote inspection, it is confirmed that all the parameters were monitored in accordance with the registered monitoring plan during the monitoring period. Following are the details of monitoring in accordance with the monitoring plan of the registered VCS PD:

Data – Parameter	EG _{facility,y} (or EG _{PJ,y})
Data unit	MWh/yr
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
Source of data	Electricity meter
Description of measurement methods and procedures to be applied	According to the registered VCS PD, “CAMMESA’s Electric-Commercial Metering System (Sistema de Medición Eléctrico Comercial – SMEC) includes all the equipment required for the measurement and recording of energy dispatched at each node. In line with these requirements, MBWF SMEC comprises: i) a main meter (the billing meter) and a “control” (back-up) meter located at Escalante Substation”. This measurement method changed and was applied until 27/03/2021.

	During the present monitoring period the Manantiales Behr Wind Farm (MBWF) commercial measurement point changed the location. As stated above the measurement point of the project was at substation Escalante, but on 27/03/2021 the natural gas thermal power Manantiales Behr II (CTMB II) started to operate upstream MBWF and this new power plant was connected to the SADI through MBWF. For this reason, prior to CTMB II operation start, CAMMESA resolved to establish two new nodes with SMEC electricity meters at each project' substation separately to directly measure the electricity generated by each one once CTMB II started to operate. From 27/03/2021 onwards the MBWF substation meters, that where already operating there long before, became to be the commercial measurement point of MBWF. This new commercial point consists of 2 main meters and 2 back-up meters. They started to operate as official MBWF' SMEC meters on 27/03/2021. These two sets of meters were calibrated by CAMMESA on 15/04/2021. They are sealed and controlled by CAMMESA. YPF Luz, as well as any other MEM Agent, are prohibited from unsealing the SMEC meters. The SMEC deliver measurements of generated energy every 15 minutes. Daily CAMMESA remotely downloads the records and elaborates the "Post-Operative Reports". During remote site visit it has been verified that there are two main meters and two back-up meters at the project site. The electricity data from the main meters is used as the official data for invoicing purposes and the backup data is available in case a failure is identified in the main meter.						
Frequency of monitoring-recording	According to the registered VCS PD: "Continuous measurements and monthly recorded". During remote assessment, it has been verified that the energy is recorded continuously and reported on a monthly basis.						
Value monitored	509,495 MWh						
Monitoring equipment	According to the registered VCS PD the monitoring equipment is a: "energy meter Class 0.2S". It was used until 27/03/2021: <table><tr><th>Description</th><th>Main Meter</th><th>Back-Up Meter</th></tr><tr><td colspan="3">Until 27/03/2021</td></tr></table>	Description	Main Meter	Back-Up Meter	Until 27/03/2021		
Description	Main Meter	Back-Up Meter					
Until 27/03/2021							

	ID	MBEHM61P	MBEHM61C																																
	Brand and Model	CIRCUTOR/ CIRWATT 402-MT1A	CIRCUTOR/ CIRWATT 402-MT1A																																
	Serial Num.	351608472	351608473																																
	Accuracy Class	0.2S	0.2S																																
	Type	Bidirectional	Bidirectional																																
	From 27/03/2021 onwards the following measurement equipment was used:																																		
	<table><tr><th>Description</th><th>Main meter</th><th>Backup meter</th><th>Main meter</th><th>Backup meter</th></tr><tr><td>ID</td><td>MBEHM62P</td><td>MBEHM62C</td><td>MBEHM63P</td><td>MBEHM63C</td></tr><tr><td>Brand and Model</td><td>CIRCUTOR/ CIRWATT 402-MT1A-26D</td><td>CIRCUTOR/ CIRWATT 402-MT1A-26D</td><td>CIRCUTOR/ CIRWATT 402-MT1A-26D</td><td>CIRCUTOR/ CIRWATT 402-MT1A-26D</td></tr><tr><td>Serial Number</td><td>351608495</td><td>351608501</td><td>351600248</td><td>351604423</td></tr><tr><td>Accuracy Class</td><td>0.2S</td><td>0.2S</td><td>0.2S</td><td>0.2S</td></tr><tr><td>Type</td><td>Bidirectional</td><td>Bidirectional</td><td>Bidirectional</td><td>Bidirectional</td></tr></table>					Description	Main meter	Backup meter	Main meter	Backup meter	ID	MBEHM62P	MBEHM62C	MBEHM63P	MBEHM63C	Brand and Model	CIRCUTOR/ CIRWATT 402-MT1A-26D	CIRCUTOR/ CIRWATT 402-MT1A-26D	CIRCUTOR/ CIRWATT 402-MT1A-26D	CIRCUTOR/ CIRWATT 402-MT1A-26D	Serial Number	351608495	351608501	351600248	351604423	Accuracy Class	0.2S	0.2S	0.2S	0.2S	Type	Bidirectional	Bidirectional	Bidirectional	Bidirectional
	Description	Main meter	Backup meter	Main meter	Backup meter																														
	ID	MBEHM62P	MBEHM62C	MBEHM63P	MBEHM63C																														
	Brand and Model	CIRCUTOR/ CIRWATT 402-MT1A-26D	CIRCUTOR/ CIRWATT 402-MT1A-26D	CIRCUTOR/ CIRWATT 402-MT1A-26D	CIRCUTOR/ CIRWATT 402-MT1A-26D																														
Serial Number	351608495	351608501	351600248	351604423																															
Accuracy Class	0.2S	0.2S	0.2S	0.2S																															
Type	Bidirectional	Bidirectional	Bidirectional	Bidirectional																															
During the remote inspection and through document review, it has been confirmed that the data has been monitored continuously by the bidirectional meters described above.																																			
The approved monthly report is the base for the ER calculation.																																			
QA-QC procedures to be applied	Meters were audited and calibrated according to CAMMESA procedures. In this regard, CAMMESA’s Technical Procedure XVIII (SMEC External Audits) states that CAMMESA, as responsible for the certainty of the data used in transactions between MEM Agents and the supervision of the accuracy of the data generated in the SMEC, must carry out the tests and verifications of equipment and facilities affected to it, by itself or through the total or partial contracting of the service to third parties. Verifications are conducted according to CAMMESA’s Action Plan, which is a set of annual verification tasks on a sample of SMECs determined by CAMMESA. According to CAMMESA webpage (https://cammesaweb.cammesa.com/auditoria/#acalidad) the purpose of the verifications or audits and the sample of SMECs are as follows: “The Measurement Quality Audits are intended to verify that the SMEC nodes that are already commercially authorized continue to meet the quality standards with which they were originally audited and are in line with current regulatory																																		

requirements. Within this framework, 240 measurement points are audited per year, divided equally between the North and South zones. The selection of the nodes to be audited is random, following a sampling grid that allows a global panorama of the entire SMEC node park. In this way, the audits to be carried out are proportionally distributed among the different types of MEM Agents to obtain a balanced sample. In addition to the annual audit plan, the regulations provide that CAMMESA may require a specific audit to be carried out on a SMEC node in the event of alleged deviations in its quality.” As a result, MBWF SMEC meters were verified (calibrated) according to CAMMESA scheduling and as per its procedures. The MBWF SMEC electricity meters located at Escalante Substation were verified on one occasion, on 13/08/2018.

Calibration dates of the energy meters are as follow:

Meters used until 27/03/2021		
Description	Main Meter	Back-Up Meter
Serial Num.	351608472	351608473
Calibration date	13/08/2018	13/08/2018
Validity	N/A	N/A

Meters used from 27/03/2021 onwards				
Description	Main meter	Backup meter	Main meter	Backup meter
ID	MBEHM62P	MBEHM62C	MBEHM63P	MBEHM63C
Serial Number	351608495	351608501	351600248	351604423
Calibration date	15/04/2021	15/04/2021	15/04/2021	15/04/2021
Validity	N/A	N/A	N/A	N/A

The meters are MBWF property but are verify by CAMMESA as explained above.

Calibration certificates were checked, and it is found to be in line with Argentinian norms as established by CAMMESA. The meters are in compliance with the host country calibration regulations and had valid calibrations during the entire monitoring period.

The calibration certificates of the meters do not have a validity date, as CAMMESSA normative do not established expiration dates for the meter’s verifications. As stated above, CAMMESA randomly determines the SMEC meters

	to be audited each year. For instance, the calibration of Manantiales Behr SMEC meters is out of the control of the project participant and it depends on which electrical agent CAMESSA choose each year to be audited. It means that not every year the meters of Manantiales Behr project will be audited by CAMESSA. In case of any failure in the metering system, each electrical agent can request an audit and calibration to CAMESSA. In case of meters failures CAMMESA procedure of data collection emergency is followed. The net electricity generation data from MBWF SMEC, contained in CAMMESA monthly reports publicly available, has been crosschecked with MBWF electricity sales records contained in CAMMESA monthly Electricity Economic Transactions Documents (DTE, due to its name in Spanish) available to the MEM Agents. The monthly net electricity generation used in the ER calculation has also been crosschecked with the data generation from MBWF SMEC available in CAMMESA web site. The audit team could verified that this data is line and correct for each month of this monitoring period. All data collected during the monitoring period has been archived electronically and will be kept at least for 2 years after the end of the last crediting period. During the interviews of this verification, the verification team could check all the DTEs for all the monitoring period and found to be in line with the DTEs data shown in the ER Calculation spreadsheet.
Purpose of the data	Calculation of Baseline emissions
Calculation method	During the remote inspection and through document review, it has been confirmed that the readings of net electricity supplied can be taken from the main and back-up meters installed at the project activity substation. The metering readings are used for emission reduction calculation purpose. The net electricity can also be downloaded from CAMMESA web site in monthly reports.
Comments	As confirmed during the remote inspection, all data collected as part of the monitoring process is archived electronically and kept at least for two years after the end of the last crediting period, which is in line with the registered VCS PD.

Ex-ante parameters

The following are the ex-ante parameters used in the ER calculation which are in compliance with registered VCS PD:

Parameter	Description	Source/Justification
EF _{grid,CM,y} tCO ₂ /MWh	Combined margin CO ₂ emission factor for grid connected power generation in year y (last three years with available data were used).	The combined margin emission factor has been calculated in accordance with “Tool to calculate the emission factor for an electricity system”, version 7.0. The value 0.509 tCO₂e/MWh is used for the calculation of the Baseline Emission and is found to be consistent with the registered VCS PD.
EF _{grid,OM,y} tCO ₂ /MWh	Operating Margin emission factor in year y (last three years with available data were used).	Simple OM ex ante (2013, 2014, 2015), Argentinean Grid CO₂ EF calculation 2015; Ministry of Energy and Mining; Argentinean National Government; http://datos.energia.gob.ar/dataset/7d47693a-c533-4e76-ae24-374c3205715a/archivo/5ffc9b13-4b70-4d3d-81cd-b64ed93deaf4 The operating margin emission factor has been calculated in accordance with “Tool to calculate the emission factor for an electricity system”, version 7.0. The value 0.532 tCO₂e/MWh is used for the calculation of the Baseline Emission and is found to be consistent with the registered VCS PD.
EF _{grid,BM,y} tCO ₂ /MWh	Build Margin emission factor in year y (last three years with available data were used).	Ex ante BM 2015; Argentinean Grid CO₂ EF calculation 2015; Ministry of Energy and Mining; Argentinean National Government; http://datos.energia.gob.ar/dataset/7d47693a-c533-4e76-ae24-374c3205715a/archivo/5ffc9b13-4b70-4d3d-81cd-b64ed93deaf4 The build margin emission factor has been calculated in accordance with “Tool to calculate the emission factor for an electricity system”, version 7.0. The value 0.440 tCO₂e/MWh is used for the calculation of the Baseline Emission and is found to be consistent with the registered VCS PD.

Findings: Please refer to CAR 01 and its closure for details.

Final Assessment

The verification team confirms that:

- The project activity has been implemented and operated as per the registered VCS PD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place, as per the documents provided by the PP and remote audit;
- The project activity is operational, and no major breakdowns have happened since start up;
- The proof of title of the project activity was checked through evidence provided such as the commissioning letters from CAMMESA, node authorization letters from CAMMESA, Power Purchase Agreements (PPA) and Environmental Licenses.
- The monitoring complies with the requirement of the applied methodology;
- The information inflow (from data generation, to recording, calculation and reporting) is included above under each parameter and confirms to the requirement of the registered VCS PD;
- The values included in the monitoring report and corresponding emission reduction sheets are verified and included under each monitoring parameter.
- As per MR, the baseline emission is given through the quantity of net electricity generation supplied by the project plant/unit to the grid in year y. The project emission and leakage is considered zero '0' according to the applied methodology.
- There is no evidence of double counting as the project is not registered in other carbon program. Furthermore, the project has not participated or being rejected under other Carbon program. This has been declared by the PP in the MR.
- The implementation of the project is in accordance with the VCS PD and is confirmed by the verification team.
- Furthermore, the project activity has demonstrated to contribute to the SDGs number 4,7, 8, 12, 13 and 17.

4.2 Safeguards

4.2.1 No Net Harm

No potential negative environmental and socio-economic impacts have been identified by the project proponent. The project activity fulfils all legal requirements with respect to operational and environmental perspective.

The MBWF project potential environmental and socio-economic impacts and the steps to mitigate them have been identified in the Environmental Impact Assessment (EIA) approved by the Ministry of Environment and Sustainable Development Control of Chubut on 22/07/2016 (Disposición N° 137/16-SGAYDS). The conclusion of the EIA is that the project activity does not generate significant negative impacts.

Additionally, according to the analysis of factors most affected by the projects, the most and less affected factors are the economic activity and the workers, respectively, and both are affected positively. Regarding the wind farm operational stage, as shown in the environmental impact's identification matrix contained in the EIA, all socio-economic impacts identified are positive. The only negative aspects are the impacts on birds' life, the generation of noise and visual impact, although the latter are low impacts given that the project is in an area of hydrocarbon exploitation, not an urban settlement. To prevent, mitigate and or revert the project negative impacts, an Environmental Management Plan (PGA due to its name in Spanish "Plan de Gestión Ambiental") has been designed as part of the EIA and has been implemented.

All permits and environmental licenses were checked and are valid and on place.

Final Assessment

During verification process any potential negative environmental and socio-economic impacts to the project location were identify.

4.2.2 Local Stakeholder Consultation

To maintain a continuous and constructive relationship, the company have developed various communication and dialogue channels. The project has a Queries and claims 2021 data file and a procedure called "Procedures for internal and external communications", in order to follow up any communication with the community.

The issues that arise are followed up through the relevant areas of the company. The Institutional Relations Department coordinates relations among the areas and different stakeholders and oversees internal and external communications, marketing, public affairs, and social investment.

The project participant has permanent communication with community in the direct influence area. The main stakeholders are employees and inhabitants of the communities.

No negative comment or complain has been received during the MP.

Final Assessment

No relevant comments were identified. Interviews with employees confirmed the same.

4.3 AFOLU-Specific Safeguards

Not applicable as the project activity is not an AFOLU project.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The verification team has reviewed the emission reduction (ER) spread sheet and checked all the formulae and verified them to be correct and in line with the monitoring plan of the registered VCS PD and the applied monitoring methodology.

All the monitored parameters are described above in section 4.1. All the ex-ante parameters which are used in the calculation of emission reduction are presented in section 4.1 of the MR transparently. It is confirmed that all the ex-ante parameters have been correctly used in the emission reduction calculation.

Baseline emissions:

According to ACM0002 Version 19.0 baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants.

The baseline emissions are to be calculated as follows:

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr)

$EF_{grid,CM,y}$ = 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" (tCO₂/MWh)

The calculation of the actual net GHG removals by sinks is calculated as follow:

According to ACM0002, Version 19.0 the quantification of net GHG emission reductions is as follow:

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions in year y (tCO₂e/yr)

BE_y = Baseline emissions in year y (tCO₂e/yr)

PE_y = Project emissions in year y (tCO₂e/yr).

As no project emissions (PE_y) were identified for Manantiales Behr Wind Farm project, $ER_y = BE_y$.

Therefore,

$$ER_y = EG_{\text{facility},y} \times EF_{\text{grid,CM},y}$$

For the Combined margin CO₂ emission factor ($EF_{\text{grid,CM},y}$), it is calculated ex-ante according to the Tool to calculate the emission factor for an electricity system" (version 7.0.). The value applied for the entire Monitoring Period is 0.509 tCO₂e/MWh.

Project Emissions:

No project emissions are considered for the project activity as the project activity has no fossil fuels consumption for electricity generation. The same has been checked and according to the applied methodology and compliance with the registered VCS PD.

Leakage:

As per the methodology ACM0002, version 19.0. and as defined in the registered VCS PD, no leakage is considered in the project activity and the same is followed in this monitoring period also. Thus, it is in compliance with the registered VCS PD.

All arrangements described in the Monitoring Plan have been checked. No deviations have been identified.

Final Assessment

The verification team confirms that:

- According to the applied methodology, the conservativeness of the achieved emission reduction was checked, and the detailed emission reduction calculation has been transparently provided in the ER sheet.
- All the formulae and the calculation procedure were checked by the verification team.
- In the opinion of verification team, the assumptions, emission factors and default values that were applied in the calculations have been justified. Also, the verification team confirms that there were no manual transposition errors between the data sets in the ER Sheet during the current monitoring period.

- It is confirmed that the data has been measured directly from meters and it was cross checked from the official monthly records downloaded from CAMMESA web site and the DTEs.
- All the formulae have been found to be correctly applied in the GHG emission removals calculations.
- The excel sheets were cross checked with the archived monitored data and no discrepancies were found
- After revision of the MR and calculation spreadsheets, it is concluded that the GHG emission removals and reductions spreadsheets are transparent and clearly referenced.
- Thus, the verification team is confident that the GHG calculation is correct, accurate, traceable and conservative.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

For the evidence assessment the following activities have been performed:

- Assessment of all calibration certificates of the main and backup meters;
- Assessment of all installed meters to confirm that they are state of the art and bidirectional.
- Review of the energy generation directly from the web site of CAMMESA to cross check the information;
- Review of all energy generation data;
- Cross check the sales DTEs.

Calibration frequency is determined according to CAMMESA's Action Plan, which is a set of annual verification tasks on a sample of SMECs determined by CAMMESA. Calibration details are shown in section 4.1.

All relevant documents were checked to assess the correctness and quality of data submitted by the project participants, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant lack of evidence and missing data were detected during remote audit discussion and video inspection. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures. The monitoring parameters have been measured / determined without material misstatements and is in line with all applicable standards and relevant requirements. The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included in section 4.1 under each parameter and confirms to the requirement of the registered VCS PD. The electricity data is measured by the electricity meters, recorded continuously and the invoices are generated monthly.

It was also verified through remote audit inspection that the plant's team involved in the monitoring of project activity is well experienced. Hence, the verification team concludes that competent staff is employed by the project proponent to carry out the relevant tasks with sufficient accuracy.

All documents were verified through remote visit interviews and cross check of the information between the different data sources. The verification team finds to be sufficiency of quantity, and appropriateness of quality, of the evidence used to determine the GHG reductions and removals. The verification team finds the quality to be of adequate level to assure confidence in the accurate quantification of the emission removals and reductions.

Final Assessment

Documents used as evidences for input values of GHG calculation were assessed and found to be reliable and authentic. The verification team concludes that there is sufficient evidence available, and that the evidence and the data have an acceptable level of quality. All input parameters and monitoring methods can be confirmed as per best project praxis.

4.6. Non-Permanence Risk Analysis

Not applicable for this project.

5 VERIFICATION CONCLUSION

KBS Certification Services Pvt. Ltd. was commissioned by YPF Energia Electrica S.A. (YPF LUZ) to carry out the Verification of the project “Manantiales Behr Wind Farm” with regard to the requirements of VCS standard, Version 4.3.

The project involves the emission reduction through renewable hydraulic energy in the host country Argentina.

The project applies the CDM consolidated methodology ACM0002 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources, version 19.0.

In the course of the VCS Verification, 01 Correction Action Requests (CAR) was raised and successfully closed. No Forward Action Requests (FAR) nor Clarification Requests (CL) have been raised.

The VCS Verification was based on the monitoring report, emission reduction calculation spread sheet, the monitoring plan as set out in the registered VCS PD and supporting documents made available to the KBS Certification Services Pvt. Ltd. By the project participant.

Verification Period: 01-January-2021 to 31-December-2021 (including both days)

As a result of this verification, the verifier confirms that:

- All operations of the project are implemented and installed as planned and described in the registered VCS PD;
- The monitoring plan is in accordance with the applied approved CDM methodology, i.e., ACM0002, version 19.0.
- The equipment essential for measuring parameters required for calculating emission reductions are properly maintained;

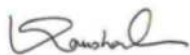
- The monitoring system is in place and functional. The project has generated GHG emission reductions.

In addition, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. KBS herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2021	259,333	0	0	259,333
Total	259,333	0	0	259,333

Location: Faridabad

Date: 29-November-2022



Authorized Signatory: Kaushal Goyal

Designation: Managing Director

KBS Certification Services Pvt. Ltd.

APPENDIX I: REFERENCES

PP Documents

Reference	Document
1.	Monitoring Report of the current Monitoring Period: - Version 01, 24-May-2022 - Version 02, 05-July-2022 - Version 03, 31-October-2022
2.	Emission reduction spreadsheet: - ER Calculation Verification (version 01): "MBWF ER calculator 2021_v1". - ER Calculation Verification (final versión of MR): "MBWF ER calculator 2021_v2"
3.	Commissioning: - Commissioning Letter Authorization: "Commercial authorization to increase the power of the Manantiales Behr Wind Farm of the Generating Agent YPF Energia Electrica S.A.". Nota No B-129562-1. Emitido por Compañía Administradora del Mercado Mayorista Eléctrico Sociedad Anonima (CAMMESA). 31 de Julio del 2018. Buenos Aires, Argentina. - Commissioning Letter Authorization: "Commercial authorization to increase the power of the Manantiales Behr Wind Farm of the Generating Agent YPF Energia Electrica S.A.". Note No B-133922-1. Issued by Compañía Administradora del Mercado Mayorista Eléctrico Sociedad Anonima (CAMMESA). 31 of July 2018. Buenos Aires, Argentina. - Authorization of Entry as a Generating Agent of the Electricity Market. Resolution E 468/2016 SECRETARIA DE ENERGIA ELECTRICA (15-dic-2016).
4.	Engineering, technical specification of the WTG: - Document no: 0053-3707 V03. "General Description 3MW Platform". 2016/05/06. - Descriptive Memory of the project - Parque Eólico Manantiales Behr - YPFEE S.A.
5.	Monitoring Plan: - Jobs descriptions - Monitoring of non-conformities and opportunities for improvement in Operation. - ISO Certificates of the Integrated Quality Management System issued on 2021.
6.	Environmental and Social Information: - Environmental License: Disposición N° 137/16-SGAyDS - Environmental Impact Study Manantiales Behr Wind Farm. Province of Chubut. May 2016.

Reference	Document
	- Manantiales Behr Wind Farm Biodiversity Management Plan. Version 05. 26-12-21. - Social and Environment. Information for the Community. - Web site: https://www.ypfluz.com/sustainability
7.	Electricity data: - Raw electricity data, from Compañía Administradora del Mercado Mayorista Eléctrico Sociedad Anónima (CAMMESA), covering the MP: www.cammesaweb.cammesa.com - Electricity Economic Transactions Documents (DTEs) covering the MP.
8.	Local Stakeholders: - Queries and claims 2021 data file. - Procedures for internal and external communications. PG 06, V02
9.	Technical documents of the project activity: - Technical Data sheet WTG 3MW (Vestas) - Technical Data sheet Meters - Photos of the monitoring equipment - General single line diagram YPF Manantiales Behr
10.	Metering System: - Calibration certificates covering the monitoring period - Document “Los procedimientos version XVIII”. CAMMESA. 31/05/2020. - Videos and pictures of the meters.
11.	SDG Evidence: - Detailed list of trainings for the personal; - Social and Environmental Report: Impacto Social y Ambiental. Información para la comunidad. - Sustainability Report YPF LUZ 2021. - Sustainability Report YPF LUZ 2020. YPF Luz training program is stated in page 93 of YPF Luz 2020 Sustainability report (https://www.ypfluz.com/Sustainability; - YPF Foundation’ free training course on Sustainability, Energy Transition and Renewable Energies From 15th until 29th of November 2021 - <i>Course presentation available at:</i> https://www.youtube.com/watch?v=jMSJtIPjWfg and many others listed in appendix 1 of the MR. Target 7.2 :Page 61 and 62 of the report in Spanish is illustrated below. The complete report in Spanish is available at: https://fundacionypf.org/Documents/Publicaciones/Comodoro_Sostenible.pdf;

Reference	Document
	- Letter to accession to UN dated 25/08/2021 in support supports the ten principles of Global Pact in regarding Human Rights, Labor Rights, the Environment and the fight against corruption. - Accident frequency rate data - ISO Certificate: IRAM ISO 45001:2018. Emission date 15/09/21 and valid to 02/29/24. - ISO Certificate: IRAM ISO 14001:2015. Emission date 15/09/21 and valid to 02/29/24. - Queries and claims 2021 data file. - Procedures for internal and external communications. PG 06, V02.

Regulatory Documents searched and referred by VVB

Reference	Document
1.	ACM0002, Version 19.0. "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"
2.	• Tool for the demonstration and assessment of additionality, version 07.0.0. • Tool to calculate the emission factor for an electricity system, version 07.0. • Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0. • Methodological Tool: Investment Analysis (version 09.0).
3.	• Verified Carbon Standard v4.3 • VCS Program Guide, v4.2 • VCS Methodology Requirements, v4.2 • Program Definitions, v4.2. • Registration and Issuance Process, v4.2 • Monitoring Report Form, v4.1 • Verification Report Form v4.1
4.	- Validation Report for the Manantiales Behr Wind Farm. AENOR International S.A.U. 01/02/2019. - Verification Report Manantiales Behr Wind Farm by AENOR. 04-May-2021.
5.	IPCC publications www.ipcc-nggip.iges.or.jp
6.	UNFCCC http://cdm.unfccc.int

Reference	Document
7.	VERRA https://www.vcsprojectdatabase.org/#/home

APPENDIX II: FINDINGS

CAR ID	01	Section no.	4.1	Date: 21/06/2022
Description of CAR				
Section 4.1: The version of the tool to calculate the emission factor for an electricity system is missing. PP shall write the version of the tool for each one of the parameters. Section 4.1: In section Monitoring Equipment serial number has to be corrected for one set of the meters.				
Project participant response				Date: 05/07/2022
The version of the Tool to calculate the emission factor for an electricity system has been included in the tables of each parameter in the Monitoring Report section 4.1. The serial number of the monitoring equipment has been corrected in section 4.1.				
Documentation provided by project participant				
VCS-Monitoring Report-MBWF 2021_v2				
VVB assessment				Date: 06/07/2022
Changes have been included and it has been verified in the monitoring report. This CAR is closed.				

APPENDIX III: ABBREVIATIONS

BAU	Business as usual
CL	Clarification request
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
CP	Certification Program
CL	Clarification Request
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
PP	Project Proponent
PPA	Power Purchase Agreement
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCS – PD	VCS – Project Description
VCU	Verified Carbon Unit
VT	Verification team
VVB	Validation/Verification Body
WTG	Wind Turbine Generator
XLS	Emission Reduction Calculation Spread Sheet

APPENDIX IV: COMPETENCE OF TEAM MEMBERS

Personnel Name:		Mariana Barrios Jackman	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert (Nicaragua)	☒
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
SS: 01: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Approved by (Manager C & T)	Shikha Sharma		
Approval date:	22/12/2021		

Personnel Name:		Raúl González Mitre	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (Latin America)	☒
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
SS: 01: Energy industries	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		

(renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 3: Energy demand	TA 3.1: Energy Demand
SS 4: Manufacturing Industries	TA 4.1: Cement and lime production
SS 7: Transport	TA: 7.1: Transport
SS 13: Waste handling and disposal	TA 13.1: Waste Handling and Disposal
	TA 13.2: Manure
SS 14: Afforestation and reforestation	TA 14.1: Afforestation and reforestation
Approved by (Manager C & T)	Shikha Sharma
Approval date:	06/12/2021

Personnel Name:		Anjana Sharma	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
SS: 01: Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2: Energy generation from renewable energy sources		
SS 3: Energy demand	TA 3.1. Energy Demand		
SS 5: Chemical industry	TA 5.1 Chemical industry		
SS 12: Solvents use	TA 12.1 Chemical industry		
	TA 13.1 Waste Handling and Disposal		

SS 13: Waste handling and disposal	TA 13.2 Manure
Approved by (Manager C & T)	Shikha Sharma
Approval date:	05/08/2021