



**Verified Carbon
Standard**

PARQUE EOLICO MALDONADO

Project title	Parque eolico Maldonado
Project ID	1308
Crediting period	10-APRIL-2024 to 09-APRIL-2034
Original date of issue	27-August-2025
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Version	1.2
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1 PROJECT DETAILS

1.1 Summary Description of the Project

The Project consists of a 50 MW wind farm, located in Maldonado, in the Southeast region of Uruguay. This wind farm consists of 25 turbines with a capacity of 2 MW each.

The Project generates renewable electricity by using wind resource and supply this energy to the Uruguayan national grid. The aim of the project is to displace energy generated by fossil fuels from the electricity system through renewable energy generation. The spatial extent of the Project boundary is the national grid and this energy generated by the project is supplied through the annexed substation “Estación Francisco Veira”.

Considering the main implementation dates, the purchase of main equipment¹ happened on 20-July-2012, when the wind turbines were bought. The wind farm got its environmental authorization² on 7-November-2012, and the construction³ started on 19-November-2012. The commissioning date⁴ was on 10-April-2014, and it has been in continued operation since its commercial operation date.

The following diagram describes the structure of the installations.

¹ 20120720 Contrato GAMESA aerogeneradores PE Maldonado

² 20130730 Resolución de unificación del Parque Eólico

³ 20121116 Nota DINAMA previo inicio obras

⁴ 20140414 Acta habilitación

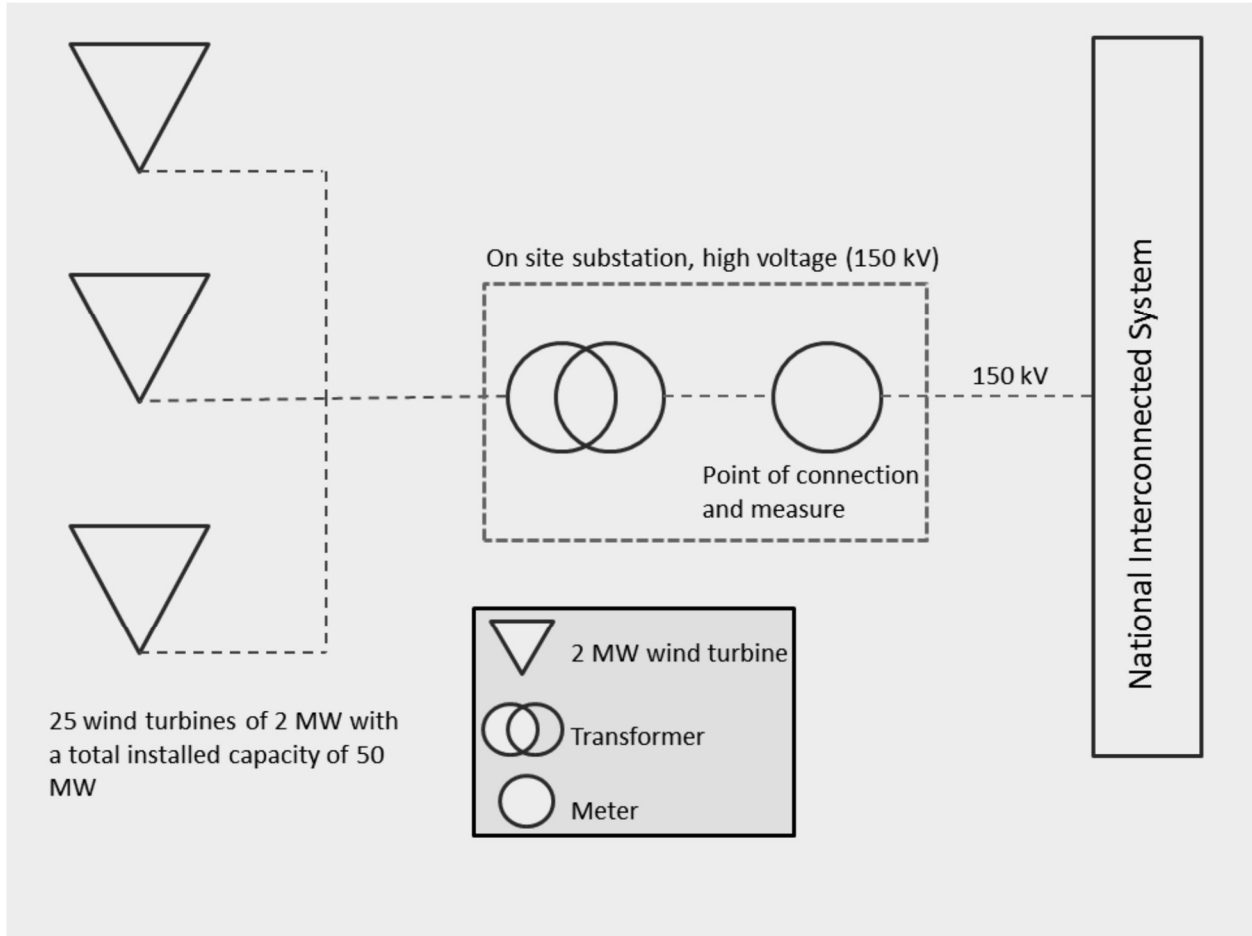


Figure 1 Diagram of the project activity.

The expected operating life of the project is 20 years (until 2034), with an estimated generation of 152,481 MWh/year⁵, with an expected annual emission reduction of 5,436 tCO₂ and a total emission reduction of 54,359tCO₂ for the second crediting period. The greenhouse gas (GHG) emissions of the Project activity are negligible, thus there is no need to monitor them, and this is not taken into account when calculating ERs.

The Maldonado Wind Farm project requests the renewal of the crediting period as of 10-April-2024 and the final design of the PD was completed on 15-July-2025. The opening meeting with the

⁵ The value of 152,481 MWh/year used for the second crediting period reflects an update based on the actual historical net electricity generation observed during the first crediting period. While the Project Design originally estimated a higher generation level (190,500 MWh/year), the operational data from the first crediting period shows a lower average net electricity generation. This reduction is mainly attributable to unplanned equipment failures, corrective maintenance activities, and other operational events that cannot be fully foreseen at the design stage and that temporarily reduce electricity generation. In order to ensure a conservative and realistic representation of expected performance for the second crediting period, the Project Description has been updated to reflect the historical average of three years net electricity generation, resulting in a value of 152,481 MWh/year.

validation/verification body was held on 26-August-2025, and the validation deadline is on 09-April-2026⁶.

1.2 Audit History

Audit type	Period	Program	Validation/verification body name	Number of years
Validation	10-April-2014 -- 09-April-2024	VCS Program (VERRA)	AENOR	Ten years
Verification (1 st Monitoring Period)	10-April-2014 -- 30-September-2016	VCS Program (VERRA)	AENOR	Two years and five months
Verification (2 nd Monitoring Period)	01-October-2016 - 31-December-2021	VCS Program (VERRA)	APPLUS+	Five years and three months
Verification (3 rd Monitoring Period)	01-January-2022 - 09-April-2024	VCS Program (VERRA)	SustainCERT	Two years and three months
Validation (2 nd crediting period)	10-April-2024 -- 09-April-2034	VCS Program (VERRA)	SustainCERT	Ten years

1.3 Sectoral Scope and Project Type

Sectoral scope ⁷	1. Energy (renewable/non-renewable)
Project activity type	Wind Farm

1.4 Project Eligibility

1.4.1 General eligibility

The scope of the VCS Program includes:

⁶ In accordance with the VCS Standard version 4.7 Section 3.9.8 point 4) “...Such validation report shall be issued after the end of the (previous) project crediting period and within two years after the end of the (previous) project crediting period.”

⁷ *Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>*

1. The six Kyoto Protocol greenhouse gases: The emissions reduction of this project comes from: CO₂ emissions from the electricity generation by replacing fossil fuel fired power plants.
2. Ozone-depleting substances: This project does not include ozone depleting substances
3. Project activities supported by a methodology approved under the VCS Program through the methodology approval process: The methodology applied in this project is not approved under the VCS program through a methodology approval process
4. Project activities supported by a methodology approved under a VCS approved GHG program, unless explicitly excluded under the terms of Verra approval: The CDM baseline and monitoring methodology ACM0002 (version 22.0) applied by the project is under the CDM Program which is a VCS approved GHG program.
5. Jurisdictional REDD+ programs and nested REDD+ projects as set out in VCS document JNR Requirements: Not applicable.

According to section 3.1 of VCS Standard (Version 4.7):

Establishing a consistent and standardized certification process is critical to ensuring the integrity of VCS projects. Accordingly, certain high-level requirements must be met by all projects, as set out below.

Reference to VCS Standard (Version 4.7)	Requirements	Justification
3.1.1	Projects shall meet all applicable rules and requirements set out under the VCS Program, including this document. Projects shall be guided by the principles set out in Section 2.2.1.	The project meets all applicable rules and requirements set out under the VCS Program, including this document.
3.1.2	Projects shall apply methodologies eligible under the VCS Program. Methodologies shall be applied in full, including the full application of any tools or modules referred to by a methodology, noting the exception set out in Section 3.14.1. The list of methodologies and their validity periods is available on the Verra website.	The project applies the CDM baseline and monitoring methodology ACM0002 (version 22.0) along with tools or modules as applicable developed under the United Nations' Clean Development Mechanism (CDM), which can be used for projects and programs registering with VCS as per requirements available on the Verra website.

3.1.3	Projects shall apply the latest version of the applicable methodology in all cases unless a grace period applies to the project as set out in 3.21 below. Projects must update to the latest version of the methodology when reassessing the baseline and renewing a crediting period.	The project applies the methodology ACM0002. to the latest version (version 22.0).
3.1.4	Projects and the implementation of project activities shall not lead to the violation of any applicable law, regardless of whether or not the law is enforced.	The project is under compliance with applicable law, regardless of whether or not the law is enforced. According to the environment impact assessment report (EIA), performed for the infrastructure proposed VCS project activity the project complies with all Uruguayan relevant laws and regulations.
3.1.5	Where projects apply methodologies that permit the project proponent its own choice of model (see the VCS Program document Program Definitions for definition of model), such model shall meet with the requirements set out in the VCS Program document VCS Methodology Requirements and it shall be demonstrated at validation that the model is appropriate to the project circumstances (i.e., use of the model will lead to an appropriate quantification of GHG emission reductions or removals).	Not applicable as there is no model that needs to be chosen by the project proponent as per the applied methodology ACM0002 (version 22.0).
3.1.6	Where projects apply methodologies that permit the project proponent its own choice of third-party default factor or standard to ascertain GHG emission data and any supporting data for establishing baseline scenarios and demonstrating additionality, such default factor or standard shall meet with the requirements set out in the VCS Methodology Requirements.	Not applicable as there are no third-party default factors or standard need to be chosen by the project proponent as per the applied methodology ACM0002 (version 22.0).
3.1.7	Where the rules and requirements under an approved GHG program conflict with the rules and requirements of the VCS Program, the rules	All rules and requirements from the VCS program will be used as a

	and requirements of the VCS Program shall take precedence.	preference than the CDM requirements.
3.1.8	Where projects apply methodologies from approved GHG programs, they shall comply with any specified capacity limits (see the VCS Program document Program Definitions for definition of capacity limit) and any other relevant requirements set out with respect to the application of the methodology and/or tools referenced by the methodology under those programs.	The methodology does not specify capacity limits.
3.1.9	Where Verra issues new VCS Program rules, the effective dates of these requirements are set out in Appendix 3 Document History and Effective Dates or equivalent for other program documents and are listed in a companion Summary of Effective Dates document which corresponds with each update.	For the presentation of this project, it was considered the last version of the “overview of substantive updates to program rules and requirements and effective dates”, released the 16-April-2024

In summary, while the sectoral scope 1 (Energy industries (renewable/non-renewable)) is listed as valid sectoral scope under VCS (by considering the measures and the technologies encompassed by the proposed VCS project activity), the applied CDM baseline and monitoring methodology ACM0002 version 22.0 is valid/applicable for project activities under such scopes.

This VCS project activity was registered under the VCS program on 05-April-2016 with the Validation Body “AENOR International S.A.U.”. The first crediting period was from 10-April-2014 to 09-April-2024, renewable twice (at the moment of registration), the second crediting period requested is from 10-April-2024 to 09-April-2034, and the validation deadline is on 09-April-2026⁸

1.4.2 AFOLU project eligibility

This project is a non-AFOLU project, therefore, this section is not applicable.

1.4.3 Transfer project eligibility

⁸ In accordance with the VCS Standard version 4.7 Section 3.9.8 point 4) “...Such validation report shall be issued after the end of the (previous) project crediting period and within two years after the end of the (previous) project crediting period.”

This is not a transfer project or CPA, therefore, this section is not applicable..

1.5 Project Design

- ☒ Single location or installation
- ☐ Multiple locations or project activity instances (but not a grouped project)
- ☐ Grouped project

1.5.1 Grouped project design

The project is not a grouped project; therefore, this section is not applicable.

1.6 Project Proponent

Organization name	R del Sur, S.A.
Contact person	Diego Bonacchi
Title	General Manager
Address	Gabriel Otero 6462 / 207 – Montevideo – Uruguay
Telephone	+598 2 6007201
Email	dbonacchi@rdelsur.com.uy

1.7 Other Entities Involved in the Project

Organization name	SMARTENER
Role in the project	The function of SMARTENER in Parque Eólico Maldonado Project is the responsibility of controlling, organizing, and monitoring the operation, maintenance, and performance results.
Contact person	Alberto Gandara

Title	Exploitation Responsible
Address	Paseo de la Castellana, 140, Planta 6C, Chamartín, 28046, Madrid
Telephone	+34 917 45 49 68
Email	agandarar@smartener.es

Organization name	Pike Carbosur SA
Role in the project	Carbon consultant
Contact person	Álvaro Pérez del Castillo
Title	Executive Director
Address	Costa Rica 1566, CP 11500, Montevideo, Uruguay
Telephone	+598 2605 6231
Email	alvaro.perez@carbosur.com.uy

1.8 Ownership

The document demonstrating the entity's right to all and any GHG emission reductions or removals generated by the project or program during the crediting period or verification period, as the case is provided in the attached document "20121023 Autorizacion para generar PE Maldonado corregida" issued by the Ministerio de Industria, Energía y Minería of Uruguay on the 23rd of October 2012, in which the ministry awards R. del Sur authorisation to generate electricity in the project premises. R. del Sur is the only owner of the park and the sole recipient of the emission reductions generated by it.

The authorization to generate electricity is a one-time authorization, is currently valid, and was issued by the Ministry of Industry.

This authorization is independent from and not related to the environmental authorizations issued by the Ministry of Environment.

Therefore, no renewal requirements apply to the electricity generation authorization after commissioning for this second crediting period.

All environmental permits and authorizations issued by the Ministry of Environment remain valid and are addressed separately.

The carbon credits generated by the project are the exclusive property of R del Sur S.A.

The land use contracts provided relate solely to the right to use the land for the construction and operation of the wind farm and do not transfer or assign any environmental attributes or benefits to the landowners.

Therefore, all environmental benefits arising from the project, including carbon credits, remain exclusively with the project proponent, R del Sur S.A.

1.9 Project Start Date

Project start date	10-April-2014
Justification	The start date of the project activity was the moment on which the project began generating GHG emission reductions supplying renewable energy to the national electricity grid (commissioning date).

1.10 Project Crediting Period

Crediting period	☐ Seven years, twice renewable ☐ Ten years, fixed ☒ Other (state the selected crediting period and justify how it conforms with the VCS Program requirements ⁹)
Start and end date of first or fixed crediting period	10-April-2014 to 09-April-2024

The crediting period is 10 years, twice renewable. By the moment it was registered, the VCS program allowed it to be extendable twice for another 10 years each time (a total duration of 30 years). Second crediting period start and end date: 10-April-2024 to 09-April-2034

1.11 Project Scale and Estimated GHG Emission Reductions or Removals

- ☒ < 300,000 tCO₂e/year (project)
☐ ≥ 300,000 tCO₂e/year (large project)

⁹ It is justified below the table

Calendar year of crediting period	Estimated GHG emission reductions or removals (tCO ₂ e)
10-Apr-2024 to 31-Dec-2024	3,961
01-Jan-2025 to 31-Dec-2025	5,436
01-Jan-2026 to 31-Dec-2026	5,436
01-Jan-2027 to 31-Dec-2027	5,436
01-Jan-2028 to 31-Dec-2028	5,436
01-Jan-2029 to 31-Dec-2029	5,436
01-Jan-2031 to 31-Dec-2031	5,436
01-Jan-2030 to 31-Dec-2031	5,436
01-Jan-2032 to 31-Dec-2032	5,436
01-Jan-2033 to 31-Dec-2033	5,436
01-Jan-2034 to 09-Apr-2034	1,474
Total estimated ERRs during the first or fixed crediting period	54,359
Total number of years	10
Average annual ERRs	5,436

1.12 Description of the Project Activity

The project activity consists of the operation of a grid connected wind power project. Emission reductions will be achieved through the substitution of fossil fuel energy generation in order to meet the demands of the Uruguayan national grid. The wind farm has an installed capacity of 50 MW, consists of twenty-five (25) Gamesa wind turbines G97 2.0 MW rated power, as stated in the project's descriptive report, with the following characteristics.

Gamesa G97 – 2,0 MW IIIA

Rotor

Diameter (m): 97

Scanning area (m²): 7,390

Swing speed (rpm): from 9.6 to 17.8

Blades

Number of blades: 3

Length (m): 47.5

Profile: Gamesa

Material: Fibreglass epoxy resin preimpregnated carbon fibre reinforced.

Towers

Type of tower: modular

Height (m): 78.90

Gear Box

Type: 1 planetary stage / 2 parallel-axis stages

Ratio: 1:106,8 (50 Hz) / 1:127,1 (60 Hz)

Generator 2.0 MW

Type: doubly-fed

Nominal power (MW): 2.0

Voltage (V): 690 AC

Frequency (Hz): 50/60

Protection class: IP54

Power factor: ($\cos \phi$) 0.95 cap - 0.95 IND throughout all the power range

At the base of each turbine, the following items are installed:

- Medium-voltage switchgear at 30 KV
- Step-up power transformers of 2,350 kVA.

These 25 turbines spread over three different circuits, as follows:

- The first four (4) wind turbines (from number one to four, inclusive), are called "Circuit 1".
- The eleven (11) wind turbines (from number five to fifteen, inclusive), are called "Circuit 2".
- The remaining ten (10) (from number sixteen to twenty, inclusive), are called "Circuit 3".

Moreover, the three power evacuation circuits of wind turbines meet at a civil works building (substation), where the following items are installed:

- Medium-voltage panels at 30 KV (primary distribution)
- Auxiliary service transformers of 100 kVA.

- Low-voltage switchboards (Both auxiliary services to 400 Vac, as well as 125 Vdc)
- Batteries rectifying-charging equipment
- Communication boards
- Energy measurement boards
- 100 kVA generator

The "PE Maldonado" building is a 30/150 kV transformer substation, which serves exclusively to the wind farm. This substation evacuates the energy generated by the wind farm through an overhead power line connecting with the "Francisco Veira" station where the measurement and control position of UTE are located. From here a high voltage line 150 kV evacuates electricity to the "San Carlos" substation.

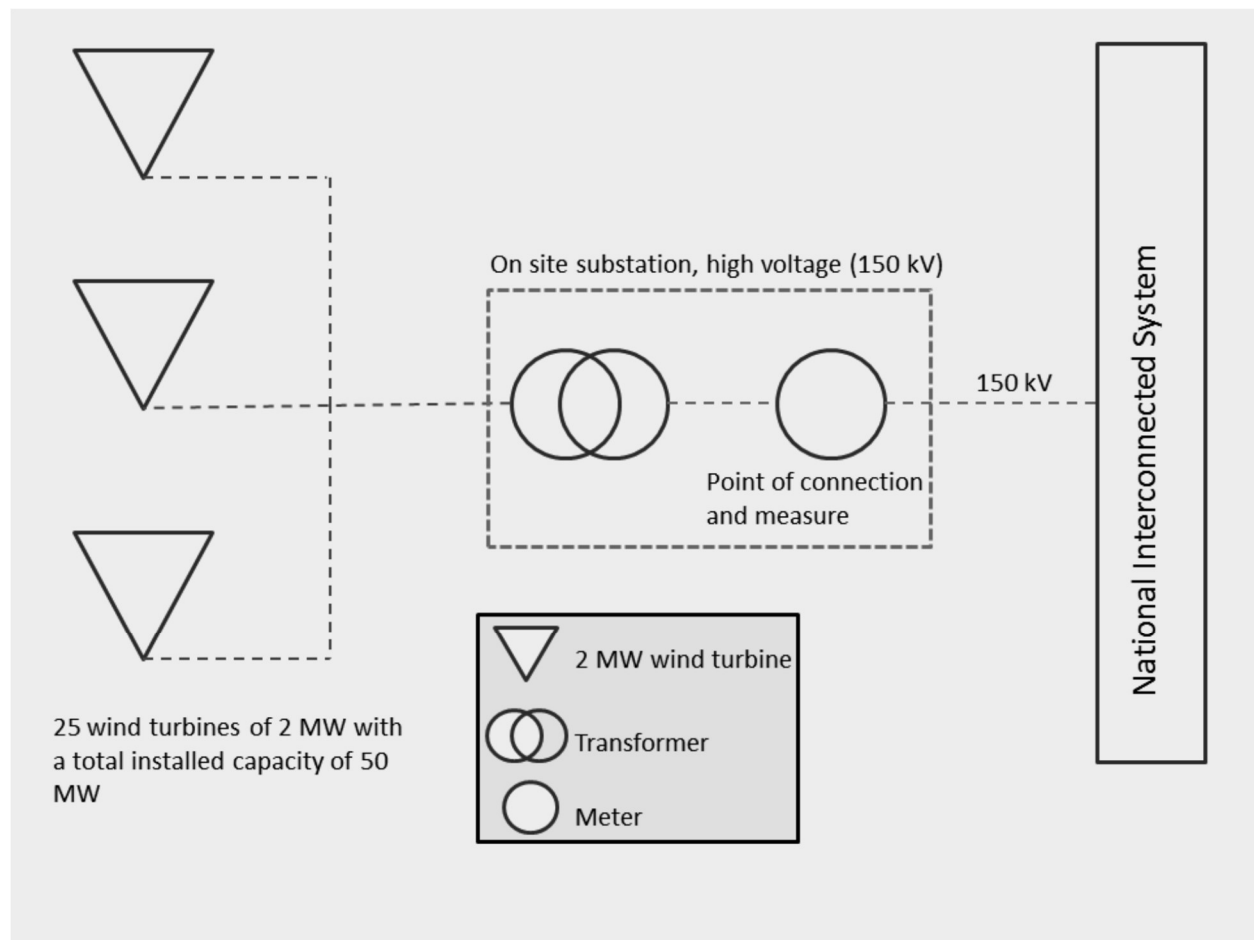


Figure 2 Diagram of the project activity.

The Maldonado Wind Farm project requests the renewal of the credit period as of 10-April-2024 and the final design of the PD was completed on 15-July-2025. At the time of the renewal request, there is no law, regulation or mandatory policy in force in Uruguay, national or departmental, that would require the construction or operation of wind plants.

The existing regulations (Decree 354/009 and 403/009, among others) established by MIEM have a promotional or facilitation nature, allowing incentives such as dispatch priority, access to competitive auctions and tax benefits, but do not impose an obligation to execute a wind farm.

The project's participation in contests or PPA was carried out voluntarily, without any requirement from the State, and responds to the main objective of generating GHG reductions.

Therefore, the project meets the regulatory surplus requirement according to the VCS Standard since it was not subject to a regulatory mandate.

1.13 Project Location

The 25 wind turbines that make up the wind farm are distributed along the Sierra de los Caracoles in the municipality of San Carlos in the department of Maldonado, fitting in pages F26, F-27 and F-28 MTN 1: 50,000.

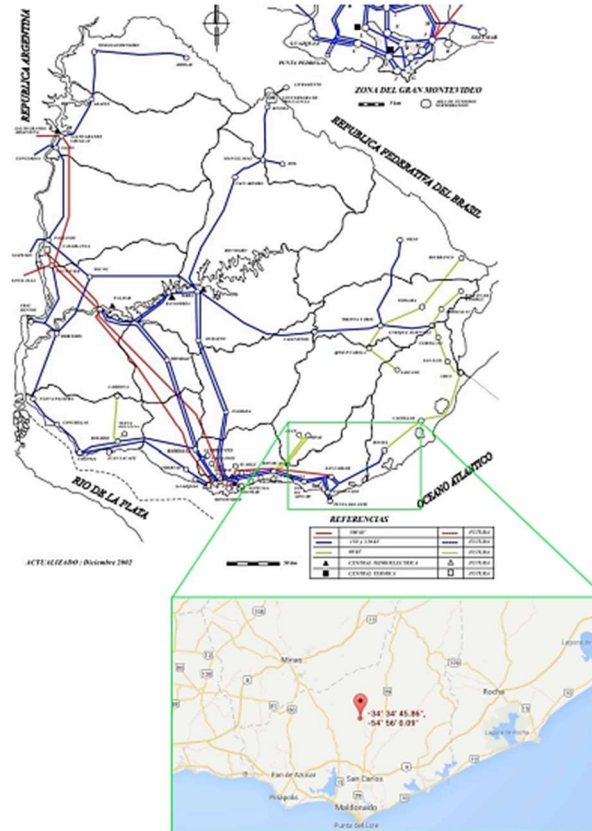


Figure 3 Project location

The location of the wind turbines is shown in the following table:

UTM (21h)	X	Y
CAR-03-01	689,559	6,171,657

CAR-03-02	689,726	6,171,981
CAR-03-03	689,902	6,172,301
CAR-03-04	690,052	6,172,635
CAR-03-05	690,845	6,174,762
CAR-03-06	691,010	6,175,096
CAR-03-07	691,103	6,175,453
CAR-03-08	691,234	6,175,819
CAR-03-09	691,338	6,176,167
CAR-03-10	691,444	6,176,514
CAR-03-11	691,539	6,176,866
CAR-03-12	691,601	6,177,221
CAR-03-13	691,734	6,177,584
CAR-03-14	691,844	6,177,961
CAR-03-15	691,972	6,178,319
CAR-03-16	692,413	6,179,538
CAR-03-17	692,546	6,179,922
CAR-03-18	692,676	6,180,258
CAR-03-19	692,781	6,180,602
CAR-03-20	692,907	6,181,037
CAR-03-21	693,020	6,181,567
CAR-03-22	693,097	6,181,926
CAR-03-23	693,201	6,182,342
CAR-03-24	693,286	6,182,699
CAR-03-25	693,342	6,183,054

Control towers are located at the following coordinates:

UTM (21h)	X	Y
MAL-TC01	689,559	6,179,729

MAL-TC02	689,726	6,183,256
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Finally, the substation is available at the following coordinates:

UTM (21h)	X	Y
SETMAL	689,559	6,173,601

1.14 Conditions Prior to Project Initiation

Baseline scenario is the same as the conditions existing prior to the project initiation and is stated in full in section 3.4 (Baseline Scenario).

1.15 Compliance with Laws, Statutes and Other Regulatory Frameworks

Below is a summary of the regulation governing the installation of new electric generation activities in Uruguay, as well as their compliance by the proposed project:

- Law 14.694, National Electricity. Article 2, amended by Law 16.832, revoking the compulsory public service character of electricity generation, while keeping it mandatory for the transmission and distribution activities.
- Decree 77/06, by which the National Plants and Transmissions (UTE) will promote the celebration of special contracts for the sale of electricity with suppliers in order to promote settling in the country, to produce that energy from wind power, biomass, and small hydro.
- Decree 360/002, Regulation of Whole sale Electricity Market. Title I (approval of new generation) of Section IV states that any generator of electricity can make its release to the National Interconnected System, provided it is duly approved by the Executive.
- Decree 403/09 of August 24, 2009 and its amendment 41/10, dated February 1, 2010, entrusted with carrying out a joint venture call for tenders for the purchase of a rated capacity of 150 MW from wind energy private developments and allow for a second stage regulation of the 150 MW goal of completing the 300 MW by 2015.
- The whole project will have 50 MW of capacity generation; therefore, as is established in the Decree 349/005 (“Reglamento de Evaluación de Impacto Ambiental y Autorizaciones Ambientales”), it will need an environmental approval.

1.16 Double Counting and Participation under Other GHG Programs

1.16.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

1.16.2 Registration in Other GHG Programs

Has the project registered under any other GHG programs?

☐ Yes ☒ No

Is the project active under the other program?

☐ Yes ☒ No

1.16.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

1.17 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.17.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

1.17.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

1.17.3 Supply Chain (Scope 3) Emissions

Do the project activities specified in Section 1.12 affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes

☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."

☐ Yes

☐ No

1.18 Sustainable Development Contributions

The project consists of the operation of a grid-connected wind power plant located in Uruguay. The main activity involves the generation of renewable electricity through wind turbines, which is supplied to the national grid, displacing electricity that would otherwise be generated from fossil fuel-based sources. In addition to energy generation, the project includes environmental management measures implemented within the wind farm area, such as biodiversity conservation actions.

In line with the Sustainable Development Goals (SDGs) and the 2030 Agenda, the project contributes to environmental, social, economic, and technological objectives, as detailed below.

These contributions are achieved through the displacement of fossil fuel-based electricity generation, the increase in renewable energy share in the national grid, and the implementation of environmental management practices within the project boundary.

The project contributes to three SDGs: 7, 13, and 15.

- SDG 7.2 Renewable energy share in the total final energy consumption

The main activity of the project is based on the production of clean energy that increases the percentage of renewable energy in the energy mix, displacing fossil fuels in the country's electrical system.

The amount of renewable energy generated over the first CP is 1,609,023.67MWh:

- 1st Monitoring Period: 426,496.34MWh
- 2nd Monitoring Period: 838,781.36MWh
- 3rd Monitoring Period: 343,745.97MWh

- SDG 13.2 Total greenhouse gas emissions per year

Using renewable energy for generating electricity which otherwise would have been generated through alternate fuel (most likely - fossil fuel) based power plants, contributing to reduction in specific emissions (emissions of pollutant/unit of energy generated) including GHG emissions.

The amount of CO₂ reductions over the first CP is 927,587 tCO₂e:

- 1st Monitoring Period: 245,861 tCO₂e
 - 2nd Monitoring Period: 483,557 tCO₂e
 - 3rd Monitoring Period: 198,169 tCO₂e
-
- SDG 15.2 Progress towards sustainable forest management
- Biodiversity actions were carried out by the company, during the first CP, such as forest conservation of native species on the wind farm site.
- The ARA (Assisted Regeneration Area) was a compensatory measure for the high voltage line which involves the fencing and monitoring of a 6ha area carried out until 2021 as defined in the PGO. After this period, R del Sur voluntarily continued to maintain the 6ha area.
- Since May 2022, biological monitoring has been discontinued, and the area is being guarded by wind farm staff.
- 6 hectares of assisted regeneration area in which conservation indicators have shown improvement or no change. In none of the cases there has been a decrease in the conditions of the species that are being monitored in the influence areas of the wind farm.

The project is aligned with Uruguay's national sustainable development priorities, including renewable energy expansion and climate change mitigation, as reflected in national policies and its Nationally Determined Contribution (NDC).

Monitoring and reporting are ensured through continuous measurement of electricity generation, GHG emission reduction calculations using the applied methodology, and environmental management activities defined in the PGO.

1.19 Additional Information Relevant to the Project

1.19.1 Leakage Management

There are no leak emissions in this project; therefore, a leakage management plan is not necessary.

1.19.2 Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description.

1.19.3 Further Information

There is no further information to be informed.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

Stakeholder Identification

For the identification of stakeholders (i.e. social actors affected by the Project and groups or organizations with interests that define them as “interested parties”) the area of influence of the wind farm was analyzed. Additionally, people or groups with influence on the Project were also considered.

After this analysis, the following stakeholders were identified:

- Surrounding communities: local population, neighborhood groups and communities, local producers. The closest towns are San Carlos, Aiguá and Punta del Este.
- Authorities: national, departmental and local authorities.
- Companies: local companies in the sector, contractors and suppliers of goods and services.
- Industrial organizations: Asociación Uruguaya de Generadores Privados de Energía Eléctrica and Administración del Mercado Eléctrico del Uruguay.
- Industrial bodies and institutions: Universidad Tecnológica, Universidad de la República, Ministry of Industry, Mining and Energy; Administración Nacional de Usinas y Transmisiones (UTE), Dirección Nacional de Calidad y Evaluación Ambiental (Dinacea)
- Other institutions: National Fire Department, Spanish Embassy, Spanish Chamber of Commerce.
- Media: National and local press.
- Public opinion: Local NGOs, educational institutions, and cultural, social, political, or sports organizations.
- Workers and trade union organizations: Contractors' workers, trade union organizations.

	Potential financiers: Financing banks This stakeholder list is included in the Stakeholder Consultation Report.
Legal or customary tenure/access rights	In the area of Parque Eólico Maldonado there are no native communities. The rights to the land have been negotiated directly with the owners and holders of the land. In addition, in terms of the resource (wind), there is no appropriation of it, as wind is an inexhaustible natural resource over which there is no property ownership.
Stakeholder diversity and changes over time	Stakeholders are classified into different categories, based on their characteristics: - Surrounding communities: Groups of stakeholders that coexist geographically with the wind farm, such as settlers, producers or religious communities. - Authorities: National, departmental and local authorities may have an interest in the operation of wind farms, as well as acting as articulators with other organizations operating in the territory. - Companies: This group includes different types of actors, ranging from companies located in the population centers or along the access routes to the wind farms, to the different companies in the sector that operate in the influence area, as well as suppliers of goods and services and contractors. - Industry organizations: Companies linked to energy generation. - Industry organizations and institutions: Including those that contribute to the regulation, production and knowledge of wind energy. - Other institutions: National state actors and those that are linked to the company from their affiliation of origin (Spain). - Media: Media are identified as being of interest for the dissemination of information on the operation of wind farms and the importance of generating this type of energy for the country. - Public opinion: Actors that can influence public opinion and that may have strong community roots. - Workers and trade union organizations: The employees who work in the wind farm operations and the sector's trade union organizations.

	• Potential financiers: Those actors that can finance the execution of the project and its operation. For each specific stakeholder group, it was analyzed: 1) their influence on the Project and 2) the impact of the Project on them (both positive and negative). There are no changes in stakeholder composition for the second crediting period
Expected changes in well-being	The expected changes in wellbeing include the generation of job opportunities, the improvement of rural and public roads and the increase in video surveillance in the area, in addition to the progress that the development of a wind farm represents for the country and the importance of generating clean and renewable energy for environmental preservation. Given that the project is a wind farm, it does not generate additional ecosystem services, nor does it entail changes to existing ones.
Location of stakeholders	The stakeholder analysis determined that the groups to whom the project or its activities could have a potential direct or indirect impact are the residents, producers and communities, as they are directly influenced by the operation of the wind farm. Most of the owners of the area's land registers do not reside in the area, but in the nearest population centers: San Carlos, Aiguá or Punta del Este. In addition, the influence area of the project also includes five rural public schools: School N29 <i>Partido Norte</i>, School N62, School N32, Schools Number 39 and 20 <i>Sierras de Carape</i>, and School N34.
Location of resources	The 25 wind turbines that make up the wind farm are distributed along the <i>Sierra de Los Caracoles</i>, in the municipality of San Carlos, department of Maldonado. Given that the main resource of the project is wind, for the generation of wind energy, there is no precise location or appropriation of the resource.

2.1.2 Stakeholder Consultation and Ongoing Communication

Date of stakeholder consultation	Stakeholder consultation for the project was conducted during the first crediting period, prior to the initial validation of the project. The stakeholder engagement process formed part of the validation activities and was assessed and verified by the Validation and Verification Body (VVB) at that time. ¹⁰
Stakeholder engagement process	Stakeholder consultation for the project was conducted during the first crediting period, prior to the initial validation of the project. The stakeholder engagement process formed part of the validation activities and was assessed and verified by the Validation and Verification Body (VVB) at that time. The outcomes of the stakeholder consultation were considered during the validation process, and no outstanding stakeholder concerns were identified.
Consultation outcome	Prior to the start of the project activity, the population living less than 1 km away from the wind turbines was consulted about their opinion, and it was considered in the Social Impacts Assessment (EIS) document. No major inconveniences were expressed with the development of the wind farm as it was mentioned in the VCS-PD for the first crediting period. ¹¹
Ongoing communication	For the dissemination of information, consultation, involvement and management of stakeholder participation a Stakeholder Participation Plan¹² was developed, which includes the following programs: • Active communication program: Focuses on disseminating relevant information through accessible and reliable means to maintain communication during the Project. Depending on the type of stakeholder, different forms of communication are considered (e.g. newsletters, explanatory materials

¹⁰ The exact date of the stakeholder consultation could not be confirmed, as it was not specified in the original Project Description and supporting documentation from the project development phase is no longer available.

¹¹ As it was stated in the VCS-PD for the first crediting period. "Stakeholders comments In the area of direct influence of the wind farm, the presence of isolated buildings is registered, being four of these at distances less than 1000 m of wind turbines. Owners of these buildings opinions have been into account, and the possible affecting to their lives has been considered in the environmental impact assessment. Project participant has made a report on social impact for the project "Estudio de Impacto Social R. del Sur - Rivero 2012". In this report, opinions and comments from stakeholders have been taken into account."

¹² RdelSur Plan de Participacion de Actores Sociales

	disseminated on the web or in the wind farm's office, specific material on demand, annual sustainability report, etc.). • External complaint reception and management system: This consists of deploying mechanisms and tools for receiving inquiries, suggestions or complaints from the different local communities. These mechanisms include reception boxes in the wind farm offices, telephone numbers, and forms on the company's website. Suggestions or complaints received through these means are centralized for fair, confidential, and independent resolution. Educational centers visit program: This initiative aims to bring the work carried out at the wind farms closer to the community, through the reception of students visits from different educational centers in the area. During these visits, aspects such as the work carried out at the wind farms, the benefits of renewable energy production, or the relevant ecosystems located on the territory are explained. • Active communication program: A total of 9 interviews were conducted with different types of social actors (neighbors from surrounding communities, educational institutions, departmental authorities and trade union organizations) between 13/12/2022 and 06/02/2023. • External complaint reception and management system: A phone call was received on 01/08/2022 to report a downed wire fence. • Educational centres visit program: during this monitoring period (01/2022-04/2024) 2 educational visits were received in the wind farm: School No. 7 Simón Bolívar (Sarandí Grande) visited the wind farm on 20/10/2023 and students of Technological Engineering of UTU, on 30/06/2022. In addition, a total of 2 visits to educational centers were carried out: the first one was to School No. 7 Simón Bolívar (Sarandí Grande), in June 2023, and the second one to School Woodside (Punta del Este) on 17/11/2023.
Stakeholder input	The project is currently undergoing revalidation. No additional stakeholder consultation was conducted as part of the revalidation process, as the project design and activities remain unchanged since the initial project registration.

	The project maintains an external grievance mechanism to receive and address comments or concerns from stakeholders during project implementation. Through this mechanism, one telephone complaint was received on 01/08/2022 regarding a downed wire fence near the project area. The issue was addressed promptly by the project proponent, who purchased a pole and repaired the fence within four days. The stakeholder confirmed satisfaction with the resolution and the case was closed on 05/08/2022. The concern was related to a minor operational matter and did not affect the environmental or social performance of the project. Therefore, no changes to the project design were required. However, the project continues to maintain the grievance mechanism to ensure that any stakeholder concerns can be received and addressed throughout the crediting period.
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2.1.3 Free Prior and Informed Consent

Obtaining consent	Prior to the start of the project activity, the population living less than 1 km away from the wind turbines was consulted about their opinion, and it was considered in the Social Impacts Assessment document. No major inconveniences were expressed with the development of the wind farm. Nevertheless, stakeholders can leave any comments or complaints about the project in the reception boxes in the wind farm's access offices, through the telephone numbers, or by filling in the forms on the company's website. All comments are and will be considered. There have been no conflicts or incidents from the beginning of the Project until now.
Outcome of FPIC	The Social Impacts Assessment reflected that the closest neighbors were part of the Project development itself, and that all of them negotiated their participation to suit their interests. In addition, R del Sur has surface rights and lease agreements with the owners of the land on which the wind turbines are located (more detail provided in section 2.3.4. Property Rights). Furthermore, the municipal authorities consulted did not express any objections to the project, and, in order to address the possible concerns of the actors involved, workshops were held with the neighbors to discuss the installation of wind farms. In these

	workshops the only concerns that were exposed were regarding the noise that wind turbines could generate and the issue of migratory birds, however, with the implementation of the Project they have proved not to have a significant impact, as explained in sections 2.2.2 and 2.4.1., respectively. This all proves that the project has neither encroached on land, relocated people without consent, nor forced physical or economic displacement.
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2.1.4 Grievance Redress Procedure

Development process	The results of the stakeholder interviews showed that, except for the people closest to the wind farm, other social actors were not aware of some of the activities that the Project carries out, and in which they showed interest (such as visits to educational centers, support to educational institutions, etc.). As a result of this observation, it was decided to be more transparent with the local population about all the actions carried out by the wind farm. To this end, information related to this type of activity was included in the company's sustainability report.
Grievance redress procedure	The process and methods used to document the outcomes of the stakeholder consultation include: • For the active communication program, the Stakeholder Consultation Report, which includes information on the stakeholders interviewed, the specific questions asked, and the conclusions drawn from their answers. • For the reception and management of external complaints, there is a database that records information about the consultation/complaint, the actions taken and the complainant's agreement with the resolution of the issue. Stakeholders can leave any comments or complaints about the project on the website https://www.rdelsur.com.uy/ Through this web page the wind farm company can be contacted by email, telephone, or through a public form available in the contact section that allows collecting any suggestion, complaint, or query. • For the educational centers visit program, participants carry out a survey after their visit, in which they confirm to have received certain information (e.g. the importance of renewable energies), and where they can share their thoughts regarding aspects of the visit that could be improved.

2.1.5 Public Comments

Comments received	Actions taken
No comments were received during the public consultation period.	N/A

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

The team responsible for the operation and management of R del Sur S.A. is composed of professionals from various disciplines with more than 20 years of experience. The management team has remained with R del Sur S.A. since the construction stage (2013–2014) and throughout the commercial operation stage (since 2014), thereby accumulating extensive knowledge and experience in the implementation of the project’s activities and programs, as well as in its relationship with the local community.

In addition, all specialized knowledge required for the operation of the wind farm is provided by experienced external companies contracted to deliver specific technical services.

Siemens Gamesa Renewable Energy (SGRE) acts as the main operation and maintenance (O&M) contractor and is also the supplier of the wind turbines. SGRE is an internationally recognized wind turbine manufacturer and O&M provider with extensive experience in wind farm operation and maintenance.

CIEA is responsible for the operation and maintenance of the electrical Balance of Plant (BoP), providing specialized expertise in the management of the project’s electrical infrastructure.

Smartener S.L. (Spain) is in charge of the overall operational management of the wind farm, including coordination of O&M activities and general operational oversight.

Through this combination of an experienced internal management team and specialized external contractors, the project ensures the availability of the necessary technical, operational, and managerial expertise for its reliable and efficient operation throughout the crediting period.

2.2.2 Risk Assessment

	Risks identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to	No risk identified.	There are no human-induced risks to stakeholders’ wellbeing due to the Project activity.

stakeholders' wellbeing		Regarding natural risks, fires in the wind farm could represent a risk; however, no fires of any kind have ever been recorded. In addition, preventive actions are carried out in accordance with the Environmental Management Plan for Operation of the wind farm, which includes periodic inspections of the facilities and work areas, and training of personnel to act in the event of fires, among others.
Risks to stakeholder participation	No risk identified.	The Project has carried out a consultation process with stakeholders to ensure continuous and efficient communication, as explained in section 2.1. of this report.
Working conditions	No risk identified.	All Project activities ensure safe working conditions for employees. In addition, the Project counts with a "Health and Safety Program", aimed at identifying and managing occupational and safety risks. During the period 2022-2023 no safety incidents were reported.
Safety of women and girls	No risk identified.	The Project does not involve harm to women and girls in the local community.
Safety of minority and marginalized groups, including children	No risk identified.	The Project does not involve risks in the protection of children and minority and marginalized groups from harm in the local community.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Noise	Prior to the start of the Project, neighbors of the surrounding areas were concerned about the noise that the wind turbines would produce. For this reason, during the first four years of operation of the wind farm, noise monitoring was carried out in the houses closest to the wind turbines, and no noise complaints were received from any of them. In addition, these houses are no longer in use, so the monitoring was discontinued. If the houses become permanent or if there are complaints or denunciations from the inhabitants, the monitoring will be resumed. Furthermore, interviews with stakeholders also confirmed that neighbors are not bothered by the noise of the wind turbines, as they stated that it is

totally tolerable and that it blends in with the noise of nature, birds and wind.

2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

	Risks identified ¹³	Mitigation or preventative measure(s) taken
Discrimination	No risk identified	As detailed in the Human Resources Policy ¹⁴ , the company embraces a diverse work environment and is firmly committed to providing equal opportunities to existing and/or potential staff members, regardless of gender, marital status, age, race, ethnic, national origin or religion. In case of any discriminatory treatment, the company will apply disciplinary actions. As of now, there have been no complaints about discrimination cases and there is no evidence that there has been any case.
Sexual harassment	No risk identified	The company complies with Uruguayan Law No. 18.561 ¹⁵ . regarding sexual harassment. In the event of a sexual harassment case, the procedure to be followed is explained in a dedicated section of the Human Resources Policy. As of now, there have been no complaints about sexual harassment cases and there is no evidence that there has been any case.
Equal pay for equal work	No risk identified	In terms of gender equality and non-discrimination, R del Sur complies with the provisions of Law 19.846 ¹⁶ . In this sense, male and female workers are equal in dignity and rights, and any form of gender discrimination is

¹³ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

¹⁴ Política de RRHH V1_septiembre 2022 submitted to the VVB as evidence.

¹⁵ <https://www.impo.com.uy/bases/leyes/18561-2009>

¹⁶ <https://www.impo.com.uy/bases/leyes/19846-2019>

		prohibited, and severe disciplinary measures will be applied where appropriate. In this sense, the Project provides equal opportunities in the context of gender equity and remuneration of labor and work.
Gender equity in labor and work	No risk identified	R del Sur workers are declared on a way that is supervised by government authorities, using legal contracts, who ensure that there is no infringement in their labor rights. In the same way, there is no hiring or labor exploitation of minors. Additionally, all subcontracts are required to sign compliance with IFC PS2 standards (International Finance Corporation, Performance Standard 2: Labor and Working Conditions), which asks companies to treat their workers fairly, provide safe and healthy working conditions, avoid the use of child or forced labor, and identify risks.
Forced labor	No risk identified	R del Sur workers are declared on a way that is supervised by government authorities, using legal contracts, who ensure that there is no infringement in their labor rights. In the same way, there is no hiring or labor exploitation of minors. Additionally, all subcontracts are required to sign compliance with IFC PS2 standards (International Finance Corporation, Performance Standard 2: Labor and Working Conditions), which asks companies to treat their workers fairly, provide safe and healthy working conditions, avoid the use of child or forced labor, and identify risks.
Child labor	No risk identified	R del Sur workers are declared on a way that is supervised by government authorities, using legal contracts, who ensure that there is no infringement in their labor rights. In the same way, there is no hiring or labor exploitation of minors.
Human trafficking	No risk identified	R del Sur workers are declared on a way that is supervised by government authorities, using legal contracts, who ensure that there is no infringement in their labor rights. In the same way, there is no hiring or labor exploitation of minors.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified.	R del Sur respects and promotes the protection of human rights. In addition, there are no Indigenous or Tribal Peoples in the project area.

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	There are no indigenous populations in the project area
Damage to archeological heritage	Within the wind farm property, there are dry stone walls of archeological interest. In order to verify that they are not affected, they are periodically inspected. As a result of these revisions, it was confirmed that they remain unaffected. As a preventive measure, in case maintenance work is needed in the area where these archaeological elements are located, an exclusion area will be created delimiting the elements to be preserved to avoid damage. There are also banners with information about the heritage value of these walls in the visitors' room of the win farm's control center.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The wind turbines are located on land over which R del Sur has surface rights and lease agreements with the owners for a term of 20 years (with the possibility of extending for another 10 more).

2.3.5 Benefit Sharing

Not applicable, because the agreements signed are for 20 years, so there have been no changes or benefit sharing during the last crediting period.

Process used to design the benefit sharing plan	N/A
Summary of the benefit sharing plan	N/A
Approval and dissemination of benefit sharing plan	N/A

2.4 Ecosystem Health

	Risks identified	Mitigation or preventative measure(s) taken
Impacts on biodiversity and ecosystems	Flying birds and mammals' mortality from collisions	To determine the evolution of the biodiversity of fauna and mortalities of birds and flying mammals (<i>chiroptera</i>) due to collisions with the wind turbines, annual biodiversity studies will be conducted in the influence area of the wind farms. The project has implemented preventive and mitigation measures to minimize potential impacts on wildlife, including birds and bats. These measures include periodic monitoring of wildlife interactions with wind turbines, regular inspection of the surrounding area to detect possible mortality events, and maintenance of turbine

		infrastructure to reduce collision risks. In addition, operational personnel are trained to report any wildlife incidents and ensure that appropriate corrective actions are taken if necessary. If monitoring identifies an increase in mortality events or the involvement of species of conservation concern, additional mitigation measures will be evaluated and implemented in coordination with the relevant environmental authorities..
Soil degradation and soil erosion	No risk identified.	Not applicable. The project activity does not affect the soil. However, R del Sur carried out maintenance works of service roads within the wind farm.
Water consumption and stress	No risk identified.	The water supply for the wind farm's control building comes from a borehole authorized by the National Water Authority (DINAGUA-RM 520/2021).

2.4.1 Rare, Threatened, and Endangered Species

Is the project located in or adjacent to habitats for rare, threatened, or endangered species?

☒ Yes

☐ No

Species and habitat	As a result of biodiversity monitoring, priority species for conservation in Uruguay have been identified, as well as species listed as threatened by the IUCN (International Union for Conservation of Nature), either globally or regionally. These species are listed below: Birds:
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- Aquatic birds: None of the species sighted are on the IUCN lists, either globally or regionally. However, the species *Aramus guarauna* (common name “Carao”) is included in the list of Priority Species for Conservation in Uruguay. This species has been detected in 7 of the 8 surveys conducted (absent in M2), so it is not considered to have been affected by the Project.
- Birds of prey: 2 of the confirmed species are Priority for Conservation in Uruguay (*Coragyps atratus*, Black-headed Crow and *Geranoaetus melanoleucus*, Black-headed Eagle) and one of them is also considered Vulnerable (VU) according to IUCN criteria at regional level (*Geranoaetus melanoleucus*, Black-headed Eagle). Both species have been detected in all the monitoring carried out, so it is not considered that they have been affected by the operation of the wind farm.
- Migratory birds: None of the migratory species ever confirmed integrate IUCN threat categories, neither globally nor regionally. Neither are they included in the list of Priority Species for Conservation in Uruguay. Furthermore, the richness of migratory species has remained stable in recent monitoring.
- Other birds with conservation problems: 7 birds included in the list of Priority Species for Conservation in Uruguay were identified between 2022 and 2024: *Cariama cristata*, *Donacospiza albifrons*, *Lochmias nematura*, *Nothura maculosa*, *Paroaria coronata*, *Rhea americana* and *Rhynchotus rufescens*. None of them are included in the IUCN lists. Most of the species were detected in all the monitoring carried out, so they have not been affected by the project's activities, except for *Cariama cristata*, *Donacospiza albifrons* and *Rhynchotus rufescens*, which were absent in the M3, M2&M3, and M3 monitoring, respectively. During the last two years, all species have remained stable.

Mammals:

- Chiroptera: None of the species detected are included in IUCN threat categories, either globally or regionally.

Neither are they included in the list of Priority Species for Conservation in Uruguay. In addition, the species richness detected has been maintained since the first monitoring, as well as the levels and hourly patterns of activity.

- Other mammals: During monitoring between 2022 and 2024, 8 priority species for conservation in Uruguay were identified: *Cerdocyon thous*, *Ctenomys torquatus*, *Dasypus hybridus*, *Dasypus novemcinctus*, *Hydrochoerus hydrochaeris*, *Leopardus geoffroyi*, *Lycalopex gymnocercus* and *Myocastor coypus*. None of them are included in the IUCN lists. The species *Lycalopex gymnocercus* (Gray Fox), was not observed in M6&M7, but reappeared in M8; and *Leopardus geoffroyi* (Wildcat), was confirmed until M6 but absent thereafter. The absence of this species in the latest monitoring can be due to natural variations of the fauna communities and climate conditions. The rest of the species were confirmed in all monitoring, so it is not considered that they have been affected by the operation of the wind farm.

Reptiles:

- The presence of the species *Bothrops pubescens* (Yarara) and *Tupinambis merianae* (lizard), included in the list of Priority Species for Conservation in Uruguay, was detected. Both species have been detected in all the monitoring carried out, so they have not been affected by the activity of the Project.

Amphibians:

- None of the species identified are in any of the IUCN threat categories. Only the Common Frog (*Leptodactylus latrans*) is included in the List of Priority Species for Conservation in Uruguay. Its inclusion is because this species have commercial value, not for conservation reasons. Furthermore, it is a species that has remained represented in all monitoring periods, so it has not been affected by the activity of the Project.

In general, the diversity of tetrapod's (flying and non-flying) remains stable, with the expected variations that exist within the fauna communities and the particularities that

	each year may present, such as the influence of the accumulated water deficit of several years. In addition, other environmental aspects unrelated to the operation and presence of the wind farm have an impact on the fauna, such as agriculture and livestock, or climate change.
Areas needed for habitat connectivity	There are no relevant connectivity areas that are affected by the operation of the Project.

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	Bird and chiropteran mortality	The biodiversity studies that have been carried out since the beginning of the wind farm's operation have not detected any cases of mortality of threatened or priority species for conservation. If this situation changes, the measures to be adopted will be evaluated.
Areas for habitat connectivity	No risk identified.	The operation of the wind farm does not affect the connectivity of the habitats as it does not generate physical barriers.

2.4.2 Introduction of Species

There is no introduction of species, therefore, this is not applicable

2.4.3 Ecosystem Conversion

The Project doesn't involve ecosystem conversion, so this section is not required.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
CDM baseline and monitoring methodology	ACM0002	Grid-connected electricity generation from renewable sources	22.0 ¹⁷
CDM methodological tool	TOOL07	Tool to calculate the emission factor for an electricity system	07.0 ¹⁸
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	3.0.1 ¹⁹

3.2 Applicability of Methodology

Methodology ID	Applicability condition	Justification of compliance
ACM0002	This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plant(s)/unit(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or	Applicable The project activity was a new greenfield wind power farm which was installed where no renewable power plant was operating prior to the implementation of the project. Hence, project still complies with this condition since nothing has changed and the project is seeking for a crediting period renewal.

¹⁷ <https://cdm.unfccc.int/UserManagement/FileStorage/ROIJ1X9LQ7W2GOYHSMBFCPE3VKZ685>

¹⁸ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

¹⁹ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf>

	(e) Involve a replacement of (an) existing plant(s)/unit(s); or (f) Install a Greenfield power plant together with a grid-connected Greenfield pumped storage power plant. The greenfield power plant may be directly connected to the PSP or connected to the PSP through the grid.	
	In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic¹ or wind power plant(s)/unit(s); (c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s); (e) Integrate a BESS together with a Greenfield power plant that is operating in coordination with a PSP. The BESS is located at site of the greenfield renewable power plant.	Not applicable The project activity does not involve the integration of a BESS
	The methodology is applicable under the following conditions:	
	(a) Hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power	Applicable

	plant/unit, wave power plant/unit or tidal power plant/unit;	This project is a wind power plant.
	(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 must have started commercial operation prior to the start of a minimum historical reference period of five years. The reference period is used for the calculation of baseline emissions and defined in the baseline emission section. Furthermore, 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;	Not applicable This project does not involve a capacity addition, retrofits, rehabilitations or replacements
	(c) In case of Greenfield project activities applicable under paragraph 7(a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g., by referring to feasibility studies or investment decision documents)	Not applicable The project activity does not involve the integration of a BESS
	(d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies ² may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section 5.4.4 below. The charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity generated by the project renewable energy plant during a monitoring period. During the time periods (e.g.,	Not applicable The project activity does not involve the integration of a BESS

	week(s), months(s)) when the BESS consumes more than 2 per cent of the electricity for charging, the project participant shall not be entitled to issuance of the certified emission reductions for the concerned periods of the monitoring period.	
	(e) In case the project activity involves PSP, the PSP shall utilize the electricity generated from the renewable energy power plant(s) that is operating in coordination with the PSP during pumping mode.	Not applicable This is not a PSP.
	In case of hydro power plants, one of the following conditions shall apply:3 (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (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 (7), is greater than 4 W/m²; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m²; or (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 (7), is lower than or equal to 4 W/m², and all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated	Not applicable. The project is not a hydro power plant.

	project, as per equation (8), is greater than 4 W/m²; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² are: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	
	In the case of integrated hydro power projects, project participants shall: (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 (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 of five years prior to the implementation of the CDM project activity.	Not applicable. The project is not a hydro power plant.

	In the case of PSP, the project participants shall demonstrate in the PDD that the project is not using water which would have been used to generate electricity in the baseline.	Not applicable This is not a PSP.
	The methodology is not applicable to: (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; (b) Biomass fired power plants/units.	Not applicable The project does not involve from fossil fuels to renewable energy sources at the site of the project activity or biomass fired power plants/units.
	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 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”.	Not applicable This projects does not involve retrofits, rehabilitations, replacements, or capacity additions.
TOOL07	This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).	Applicable The project activity substitutes grid electricity
	Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the	Not applicable. The emission factor calculation does not include off-grid power plants.

	step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in “Appendix 1: Procedures related to off-grid power generation” should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.	
	In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	Not applicable The project is located entirely in Uruguay which is a non-Annex I country
	Under this tool, the value applied to the CO2 emission factor of biofuels is zero.	Applicable The value applied in the calculations to biofuels is zero.

Tool 07 and 11 Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, does not have applicability conditions to discuss.

3.3 Project Boundary

According to the methodology ACM0002 Grid-connected electricity generation from renewable sources version 22.0 “The spatial extent of the project boundary includes the project power plant/unit and all power plants/units connected physically to the electricity system⁶ that the CDM project power plant is connected to.” Therefore, the spatial extent of the Project boundary is the national grid and this energy generated by the project is supplied through the annexed substation “Estación Francisco Veira”.

Source	Gas	Included?	Justification/Explanation
Baseline	CO ₂	Yes	Main emission source
	CH ₄	No	Minor emission source
	N ₂ O	No	Minor emission source
	Other	No	Minor emission source
Project activity	CO ₂	No	Project emissions are considered to be zero, as the project activity does not involve any emission sources identified in ACM0002 version 22.0.
	CH ₄	No	Project emissions are considered to be zero, as the project activity does not involve any emission sources identified in ACM0002 version 22.0.
	N ₂ O	No	Project emissions are considered to be zero, as the project activity does not involve any emission sources identified in ACM0002 version 22.0.
	Other	No	Project emissions are considered to be zero, as the project activity does not involve any emission sources identified in ACM0002 version 22.0.



Figure 4 Satellite image of the substation Francisco Veira



Figure 5 Satellite image of the wind turbines connected in series

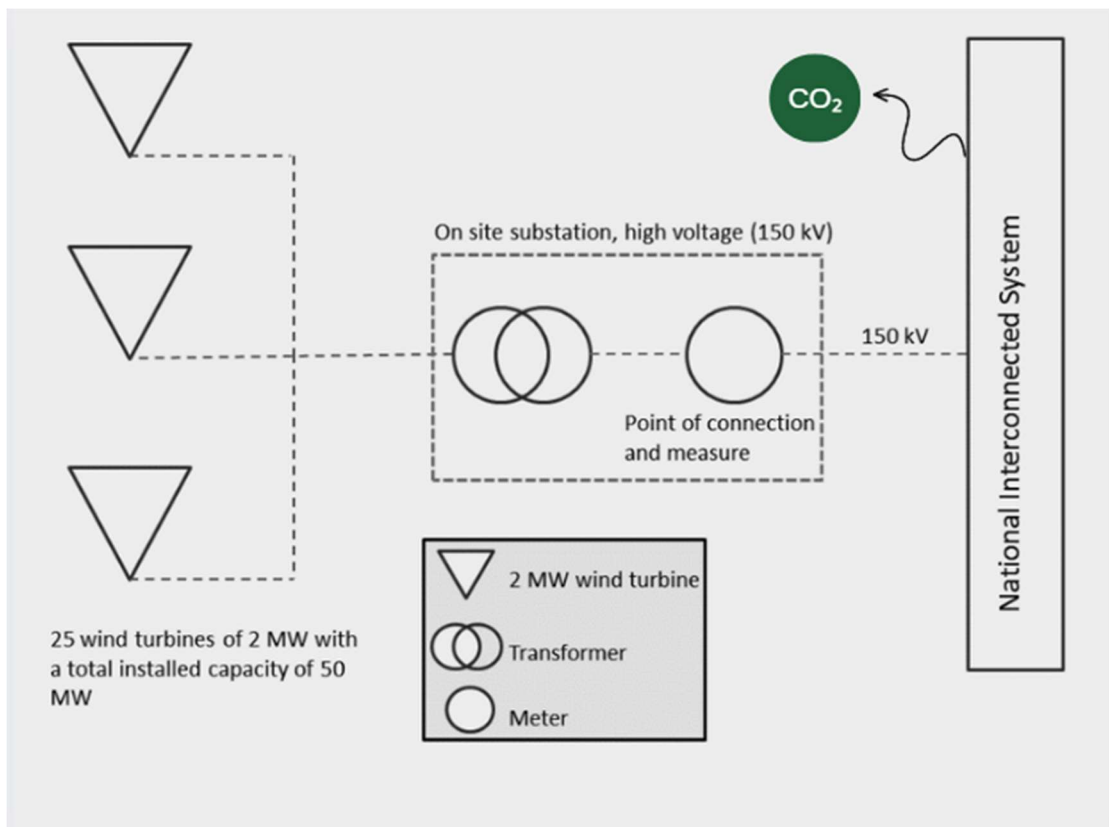


Figure 6 Emission source

3.4 Baseline Scenario

According to description of the approved methodology ACM0002 (version 22.0), if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: "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 emissions factor for an electricity system”. The project activity consists of the operation of a grid connected wind power project. Thus, according to this, the baseline scenario for the project activity is the Uruguayan national grid.

According to the VCS Standard version 4.7

“The validity of the original baseline scenario shall be demonstrated, or where invalid, a new baseline scenario shall be determined when renewing the project crediting period as follows:

- a) The validity of the original baseline scenario shall be assessed. Such assessment shall include an evaluation of the impact of new relevant national and/or sectoral policies and circumstances on the validity of the baseline scenario.”

Therefore, the next steps were followed according to Tool 11 Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period version 3.0.1

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

The baseline scenario, as defined by ACM0002, consists of electricity that would have 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. For this project, the Uruguayan national grid is the reference system.

Since the project start date and during the current crediting period, no new mandatory national or sectoral policies have been introduced in Uruguay that would require renewable electricity generation or disallow grid-connected fossil fuel-based generation. Although Uruguay promotes renewables through incentive-based mechanisms (e.g. auctions, PPAs), participation in such programs remains voluntary, and thermal generation continues to be permitted and operational in the electricity mix.

Therefore, the current baseline scenario—based on grid-connected electricity generation that includes a share of fossil fuel sources—remains in compliance with all relevant mandatory policies currently in effect. There is no requirement to update the baseline based on regulatory non-compliance.

Step 1.2: Assess the impact of circumstances

At the time of requesting renewal of the crediting period, the annual electricity consumption in Uruguay, shows a growth of 3.9% compared to 2023. This increase represents the largest rise since 2018 and consolidates a trend of expansion that has remained steady in recent years.²⁰ This upward trend is driven by electrification, population growth, and industrial expansion.

²⁰ https://www.segingenieria.com/wp-content/uploads/2025/01/Indicadores-Energ%C3%A9ticos_2412_fe.pdf

While Uruguay's electricity mix is predominantly renewable (approximately 99% in 2024 from hydro, wind, solar, and biomass²¹), thermal power plants remain part of the grid, serving as backup during peak demand and drought periods. Official data from ADME indicate that thermal power represented around 8% of total electricity generation in 2023²².

The continued existence and operation of large thermal facilities, such as Punta del Tigre (530 MW), confirm that fossil-based generation remains a relevant part of the national grid's supply system under certain conditions. There is no evidence of structural change (e.g. retirement of thermal capacity, legal prohibition) that would invalidate the baseline emission factor calculations.

Thus, the circumstances affecting baseline emissions—including fuel availability, system reserves, and demand trends—support the continued validity of the baseline scenario as initially established.

Step 1.3: Assess whether continuation of current equipment or an investment is the most likely scenario

This step is not applicable, as the baseline scenario for this wind power project was not based on the continuation of specific equipment without investment, but rather on electricity supplied by the national grid, as per ACM0002 guidance for greenfield renewable projects.

Therefore, no baseline equipment lifetime or investment substitution assessment is required.

Step 1.4: Assessment of the validity of the data and parameters

²¹ <https://adme.com.uy/controlpanel.php>

<https://catalogodatos.gub.uy/dataset/miem-generacion-de-electricidad-por-fuente>

²²

AÑO	EE_F	%	EE_B	EE_H	EE_Eo	EE_S	TOTAL
2002	26,426	0%	0	9535,259			9561,685
2003	6,604	0%	0	8529,549			8536,153
2004	1076,798	18%	27,272	4780,749			5884,819
2005	956,339	12%	24,456	6683,62			7664,415
2006	1971,163	35%	38,611	3545,09			5554,864
2007	1224,622	13%	134,054	8021,144			9379,82
2008	3388,735	39%	872,418	4500,71	7,291		8769,154
2009	2634,035	30%	929,909	5059,788	42,098		8665,83
2010	1165,081	11%	1089,849	8407,154	69,914		10731,998
2011	2627,172	25%	1127,547	6478,898	111,307		10344,924
2012	3748,303	35%	1313,776	5420,877	112,456		10595,412
2013	1859,534	16%	1447,958	8205,917	144,054		11657,463
2014	729,769	6%	1893,267	9649,13	732,668	3,427	13008,261
2015	962,643	7%	2388,365	8265,992	2065,118	48,694	13730,812
2016	463,261	3%	2432,721	7842,237	2994,348	151,911	13884,478
2017	249,182	2%	2553,139	7517,857	3774,476	268,558	14363,212
2018	391,352	3%	2529,479	6556,625	4732,211	413,552	14623,219
2019	314,662	2%	2491,312	8108,275	4752,355	423,523	16090,127
2020	824,853	6%	2700,8	4093,943	5475,501	462,05	13557,147
2021	2469,156	15%	2736,658	5272,828	4991,309	483,444	15953,395
2022	1349,258	9%	2437,65	5685,671	4783,12	503,018	14758,717
2023	1020,6	8%	3083,284	3516,321	4764,819	492,014	12877,038
2024	184,684	1%	4419,296	7331,382	4751,27	517,638	17204,27

The project uses parameters and emission factors derived from the Tool to calculate the emission factor for an electricity system, applying a Combined Margin (CM) approach for the Uruguayan national grid.

At the time of this renewal request, the following considerations apply:

- If IPCC default values were used in the baseline emissions calculation, they must be reviewed against the most recent IPCC reports or national inventory guidelines (e.g., AR6 or 2019 Refinement to the 2006 Guidelines).
- Grid emission factors used for the CM must be updated²³ based on the latest available official data on Uruguay's generation mix and fuel-specific emissions, unless they reflect historical conditions no longer present (e.g., prior to project implementation).

As such, any static parameters not monitored during the crediting period should be reassessed and, if necessary, updated using current data, in line with the VCS and CDM methodology requirements.

Based on the above analysis, the baseline remains compliant with regulations (Step 1.1), the market and operational circumstances continue to support the validity of the baseline (Step 1.2) and the parameters used in baseline emissions should be checked and updated accordingly (Step 1.4).

3.5 Additionality

3.5.1 Regulatory Surplus

Is the project located in an UNFCCC Annex 1 or Non-Annex 1 country?

- ☐ Annex 1 country ☒ Non-Annex 1 country

Are the project activities mandated by any law, statute, or other regulatory framework?

- ☐ Yes ☒ No

If the project is located inside a Non-Annex 1 country and the project activities are mandated by a law, statute, or other regulatory framework, are such laws, statutes, or regulatory frameworks systematically enforced?

- ☐ Yes ☒ No

According to Uruguay's regulatory framework, electricity generation is an activity of free entry and free competition, and there is no legal requirement for private actors to build or operate renewable energy projects such as wind farms. The Renewable Energy regulatory framework establishes conditions for participation but does not impose mandatory targets or compliance obligations for project implementation.

²³ This information is presented in Section

Additionally, the Energy Efficiency Law (Ley 18.597) recognizes renewable energy sources as part of energy efficiency policy but does not require private investment in specific projects. While various policy instruments (e.g., incentives and facilitation of power purchase agreements, fiscal incentives via investment promotion regimes) exist to support renewable deployment, these are voluntary and do not mandate project implementation. Therefore, the project is implemented voluntarily and meets the regulatory surplus criteria.

The points listed below give supporting justification and evidence to what is mentioned above.

1 – Free entry / no mandate

According to the national regulatory framework, electricity generation in Uruguay is an activity of free entry and free competition. The regulatory regime does not impose mandatory requirements for private actors to develop specific renewable energy projects, including wind farms. The concept of free entry is explicitly recognized in sector documentation prepared by the energy regulator and UTE.

https://www.gub.uy/unidad-reguladora-servicios-energia-agua/sites/unidad-reguladora-servicios-energia-agua/files/documentos/noticias/Energ%C3%ADas%20Renovables%20en%20Uruguay_final.pdf?utm_source=chatgpt.com

2 – Law 18.597

Law 18.597 recognizes renewable energy as a component of national energy policy and efficient energy use. However, it does not mandate private entities to implement renewable energy projects or meet specific renewable generation targets.

https://www.impo.com.uy/bases/leyes-originales/18597-2009?utm_source=chatgpt.com

3 – Incentives are not mandates

While the project may benefit from incentives under the investment promotion regime (Law 16.906 and Decree 354/009) and favorable conditions for contracting renewable energy, these instruments are voluntary and do not impose a requirement to undertake the project. They do not alter the regulatory surplus conclusion.

<https://www.impo.com.uy/bases/leyes/16906-1997>

<https://www.impo.com.uy/bases/decretos/354-2009>

4 – Policy support vs obligation

National energy policy documents, including the Energy Plan 2005–2030 and official renewable promotion strategies, outline government support for renewable integration but do not establish binding obligations for specific projects.

<https://www.gub.uy/ministerio-industria-energia-mineria/sites/ministerio-industria-energia-mineria/files/documentos/publicaciones/Plan%20Energetico%202005-2030.pdf>

<https://www.ute.com.uy/web/guest/medios-y-comunicacion/ultimas-noticias>

Based on the regulatory framework described above, the project is not required by any law, regulation, or mandatory policy instrument in Uruguay and has been implemented voluntarily by the project proponent. Any policy support mechanisms accessed by the project are voluntary in nature and do not constitute a regulatory mandate. Accordingly, the project meets the regulatory surplus requirements under the VCS Program.

3.5.2 Additionality Methods

According to the VCS Standard version 4.7 “A full reassessment of additionality is not required when renewing the project crediting period unless otherwise specified in the methodology.” In this case, the methodology ACM0002 version 22.0, does not specified anything regarding the reassessment of additionality. Therefore, this section remains unchanged from the VCS Project Description validated for the first crediting period..

3.6 Methodology Deviations

There are no methodology deviations in this project.

4 QUANTIFICATION OF ESTIMATED GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The baseline emission is calculated as the product of electrical energy baseline EG(PJ,y) expressed in MW·h, produced by the renewable generating unit and multiplied by the grid emission factor:

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

Where:

BE_y: Baseline Emission in year y (tCO₂).

EG_{PJ,y}: Quantity of net electricity generation that is produced and fed into the grid because of the implementation of the VCS project activity in year y (MW·h/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/MW·h)

Calculation of $EG_{PJ,y}$

The calculation of $EG_{PJ,y}$ is different for (a) Greenfield plants, (b) retrofits and replacements, and (c) capacity additions. Since the project involves the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity (Case (a) Greenfield plant), then:

$$EG_{PJ,y} = EG_{facility,y}$$

Where:

$EG_{PJ,y}$: Quantity of net electricity generation that is produced and fed into the grid because of the implementation of the VCS project activity in year y (MW·h/yr.).

$EG_{facility,y}$: Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MW·h/yr.).

The electricity supplied by the project is measured by a SMEC meter, located in the connection and measure point, along with the substation “Estación Francisco Veira” in project land. There is also a back-up meter that is only utilized should there be any problem with the main meter.

This measurement is cross-checked with invoices from ADME. The value collected in the invoices corresponds to the total energy generated that is injected into the national grid by the wind farm. Performing the crosscheck, it is possible to observe that the resulting energy supply matches the values from the invoices.

On the other hand, the wind farm has energy consumption that is billed separately. Therefore, the net electricity used for the emission reduction calculation is the result of the energy that is produced and supply to the grid minus the energy that is consumed. These energy consumption values are also obtained from the DTE records, where the amount of energy consumed hourly for each month is collected.

Calculation of $EF_{grid,CM,y}$

According to Tool 07 version 07.0, project participants shall apply the following six steps:

- (a) Step 1: Identify the relevant electricity systems;
- (b) Step 2: Choose whether to include off-grid power plants in the project electricity system (optional);
- (c) Step 3: Select a method to determine the operating margin (OM);

- (d) Step 4: Calculate the operating margin emission factor according to the selected method;
- (e) Step 5: Calculate the build margin (BM) emission factor;
- (f) Step 6: Calculate the combined margin (CM) emission factor.

The six steps are detailed including the choices made applying the tool.

- (a) Step 1: Identify the relevant electricity systems

The Uruguayan Interconnection System is the relevant electricity system.

Any imports will come from connected electricity systems located outside of Uruguay. Therefore, following the guidance given by the Tool, an emission factor of 0 tCO₂ per MWh is chosen for electricity imports.

- (b) Step 2: Choose whether to include off-grid power plants in the project electricity system

For this step, option 1 was chosen, where only grid power plants are included in the calculation, as off grid power generation is not significant.

- (c) Step 3: Select a method to determine the operating margin (OM)

The Tool gives four options to calculate OM. For this project, option (a) cannot be chosen, or Simple OM, since low cost/must-run (hydro, solar, biomass and wind) resources (LCMR) accounted for are more than 90% of total grid generation²⁴.

²⁴ <https://adme.com.uy/controlpanel.php>

<https://catalogodatos.gub.uy/dataset/miem-generacion-de-electricidad-por-fuente>

AÑO	EE_F	%	EE_B	EE_H	EE_Eo	EE_S	TOTAL
2002	26,426	0%	0	9535,259			9561,685
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2022	1349,258	9%	2437,65	5685,671	4783,12	503,018	14758,717
2023	1020,6	8%	3083,284	3516,321	4764,819	492,014	12877,038
2024	184,684	1%	4419,296	7331,382	4751,27	517,638	17204,27

Although the Simple Adjusted OM method could have been applied, the Dispatch Data Analysis method was selected due to the availability of hourly generation data for the electricity system. This method provides a more accurate representation of the marginal generation units operating in the system.(d) Step 4: Calculate the operating margin emission factor according to the selected method;

Dispatch data analysis OM is the selected method.

$$EF_{grid,OM-DD,y} = \frac{\sum_h EG_{PJ,h} \times EF_{EL,DD,h}}{EG_{PJ,y}}$$

Parameter	Description
EF _{grid,OM-DD,y}	Dispatch data analysis operating margin CO ₂ emission factor in year y (t CO ₂ /MWh)
EG _{PJ,h}	Electricity displaced by the project activity in hour h of year y (MWh)
EF _{EL,DD,h}	CO ₂ emission factor for grid power units in the top of the dispatch order in hour h in year y (t CO ₂ /MWh)
EG _{PJ,y}	Total electricity displaced by the project activity in year y (MWh)
h	Hours in year y in which the project activity is displacing grid electricity
y	Year in which the project activity is displacing grid electricity

EF_{grid,OM-DD,y} Is determined based on the grid power units that are actually dispatched at the margin during each hour h where the project is displacing grid electricity.

Hourly EF of grid units calculated based on unit efficiency and fuel type used.paragraph 66 of Tool 07 version 7.0 since the hourly fuel consumption data is not available

$$EF_{EL,DD,h} = \frac{\sum_n EG_{n,h} \times EF_{EL,n,y}}{\sum_n EG_{n,h}}$$

Parameter	Description
EF _{EL,DD,h}	CO ₂ emission factor for grid power units in the top of the dispatch order in hour h in year y (t CO ₂ /MWh)
EG _{n,h}	Net quantity of electricity generated and delivered to the grid by grid power unit n in hour h (MWh)
EF _{EL,n,y}	CO ₂ emission factor of grid power unit n in year y (t CO ₂ /MWh)
n	Grid power units in the top of the dispatch (as defined below)
h	Hours in year y in which the project activity is displacing grid electricity

As per paragraph 67 of the Tool the CO₂ emission factor of the grid power units n (EF_{EL,n,y}) should be determined as per the guidance for the simple OM, using the Options A1, A2 or A3.

Option A1 (paragraph 49) is selected since fuel consumption and electricity generation is available for power units serving the grid.

In this case, EF_{EL,n,y} = EF_{EL,m,y}, equation (4) Tool 07, v7.0

$$EF_{EL,m,y} = \frac{\sum_i FC_{i,m,y} \times NCV_{i,y} \times EF_{CO2,i,y}}{EG_{m,y}}$$

Parameter	Description
-----------	-------------

$EF_{EL,n,y}$	=	
$EF_{EL,m,y}$		CO ₂ emission factor of power unit m in year y (t CO ₂ /MWh)
$FC_{i,m,y}$		Amount of fuel type i consumed by power unit m in year y (Mass or volume unit)
$NCV_{i,y}$		Net calorific value (energy content) of fuel type i in year y (GJ/mass or volume unit)
$EG_{m,y}$		Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)
$EF_{CO_2,i,y}$		CO ₂ emission factor of fuel type i in year y (t CO ₂ /GJ)
i		All fuel types combusted in power unit m in year y
m		All power units serving the grid in year y except low-cost/must-run power units
y		Year in which the project activity is displacing grid electricity

Units are ordered in sheet OM calculation following the economic merit order, from the first more expensive to the last low cost must run units.

Top n units included cover the 10% of grid power generated as it is the greater value in each hour of the year.

ADME is the organization in charge of operating the interconnection system, plan electricity capacity needs, coordinate dispatch operations and regulate economic transactions in the wholesale electricity market

The amount of fuel type consumed ($FC_{i,m,y}$) is extracted from the UTE's official website as it can be seen in figure 6 below

Composición Energética

Producción Térmica

Período

Fecha Inicial: 10/04/2024

Fecha Final: 09/04/2025

Unidades

☐ CWh

☒ MWh

☐ Ver 4 decimales

Aplicar

<

period, there was no consumption of natural gas. Therefore, the emission factor was calculated considering only gas oil consumption.

The information extracted from the official website is compiled, organized, and transcribed as shown in the figure below, and then used as input data for the calculations.

Power plant	Unit	Generatio n with fuel (MWh)	Generatio n with gas (MWh)	Self consumptio n (MWh)	Gas Oil consumptio n (m ³ at room T)	Fuel Oil consumptio n (m ³)	Fuel Oil Motors consumptio n (m ³)	Natural Gas consumption (m ³)	Specific fuel consumption (g/kwh)	Specific Gas consumption (m ³ /MWh)
C.T. Batlle	Motores	70.502,8	0,0	3.442,0	0,0	0,0	14.780,1	0,0	210,0	
C.T. P. del Tigre A	Grupo 1	3.682,4	0,0	486,7	994,7	0,0	0,0	0,0	227,0	0,0
C.T. P. del Tigre A	Grupo 2	3.510,3	0,0	375,2	930,0	0,0	0,0	0,0	223,0	0,0
C.T. P. del Tigre A	Grupo 3	5.359,0	0,0	1.557,6	1.428,5	0,0	0,0	0,0	224,0	0,0
C.T. P. del Tigre A	Grupo 4	9.848,4	0,0	341,2	2.614,3	0,0	0,0	0,0	223,0	0,0
C.T. P. del Tigre A	Grupo 5	5.319,1	0,0	290,6	1.392,2	0,0	0,0	0,0	220,0	0,0
C.T. P. del Tigre A	Grupo 6	7.342,3	0,0	502,5	1.977,7	0,0	0,0	0,0	226,0	0,0
C.T. P. del Tigre A	Grupo 7	337,1	0,0	425,0	90,0	0,0	0,0	0,0	224,0	0,0
C.T. P. del Tigre A	Grupo 8	253,5	0,0	0,0	63,3	0,0	0,0	0,0	210,0	0,0
C.T. P. del Tigre B	Grupo 1	71.871,1	0,0	5.944,0	24.322,6	0,0	0,0	0,0	284,0	0,0
C.T. P. del Tigre B	Grupo 2	34.036,1	0,0	5.472,8	10.901,8	0,0	0,0	0,0	269,0	0,0
C.T. P. del Tigre B	Grupo 3	51.761,8	0,0	753,3	0,0	0,0	0,0	0,0	0,0	0,0
C.T. de Respaldo	Grupo 1	1.077,8	0,0	1.346,1	367,8	0,0	0,0	0,0	287,0	0,0
C.T. de Respaldo	Grupo 2	781,0	0,0	1.575,4	272,5	0,0	0,0	0,0	293,0	0,0
Totals		265.683	0	22.512	45.355	0	14.780	0	3.120	0

Figure 8 Screenshot of UTE´s website.

Renewable energy units: Biomass, Hydroelectric, Wind and Solar energy based, have an emission factor of 0 t CO₂/MWh

NCV´s values are extracted from the Ministry of Industry, Energy and Mining website. It publishes national data on the net calorific value and density of each fuel used in the country.

The value extracted from the official spreadsheet published is in (kcal/l) so this equation is applied:

$$\text{NCV(GJ/t)} = \text{NCV(kcal/l)} \times 4.18 \times 10^{-6} / \text{Density (kg/l)} \times 1000$$

$$1 \text{ kcal} = 4.18 \times 10^{-6} \text{ GJ}$$

Density value is also obtained from an official spreadsheet in the same website

This calculation is presented in the Excel spreadsheet Grid Units Emission Factor 2024, sheet 04-2024-04-2025 Emission factor calculations

The CO₂ emission factors of the fuel types are extracted from 2006 IPCC Guidelines on National GHG. Table 1.4 of Chapter 1 of Vol. 2 (Energy)

Finally, the net quantity of electricity generated and delivered to the grid by the power units is extracted from ADME's official website and detailed in the Excel spreadsheet EF 04-2024-04-2025

e) Step 5: Calculate the build margin (BM) emission factor

In terms of vintage of data, Option 1 was chosen. For the first crediting period, the calculation of the build margin emission factor was determined ex ante, based on the most recent information available on units already built for sample group m at the time of PD submission to the VVB for validation.

According to Tool 07.0 Version 07.0, for the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the VVB. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. This option does not require monitoring the emission factor during the crediting period.

As per Tool 07.0 Version 07.0 capacity additions from retrofits of power plants are not included in the calculation of the build margin emission factor, and the sample group of power units m used to calculate the build margin was determined as it states in paragraph 75. As a result, in 04-2024-04-2025 the SET $\geq$ 20% had a larger production than SET5 units, so SET $\geq$ 20% has been considered the sample set (SET sample).

The build margin emissions factor is the generation-weighted average emission factor (tCO₂/MWh) of all power units m during the most recent year y for which electricity generation data is available, calculated as follows:

$$EF_{grid,BM,y} = \frac{\sum_m EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}}$$

Where:

$EF_{(grid,BM,y)}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh)

$EG_{(m,y)}$ = Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)

$EF_{(EL,m,y)}$ = CO₂ emission factor of power unit m in year y (tCO₂/MWh)

m = Power units included in the build margin

y = Most recent historical year for which electricity generation data is available

$EF_{(EL,m,y)}$ of each power plant was calculated according to Option A1 selected in Step 4.

Build Margin calculation steps

Step a): SET 5 units are identified as is stated in paragraph 75 option a)

1. UPM 2
2. PE Palomas
3. PF TS
4. PF Abril
5. Albisu

$AEG_{SET-5-units} = 1186373,6 \text{ MWh}$

Step b): Total net generation excluding CDM registered projects:

Power units that started to supply electricity to the grid most recently and comprise 20 per cent of AEG_{total} (SET>20 per cent):

1. UPM 2,
2. CORFRISA,
3. PE Talas del Maciel I,
4. PE 18 de Julio,
5. PE Villa Rodriguez,
6. PE Palomas,
7. PE Kiyu,
8. PE Talas del Maciel II,
9. PE Pampa,
10. PF TS,
11. PF Casalko,
12. PF Abril,
13. Albisu.

$AEG_{total} \text{ (SET>20 per cent)} = 2120287,5 \text{ MWh}$ (this comprises 20.1% of the total annual electricity delivered to the grid, excluding carbon credits project activities)

Step c): SET_{sample} is determined as SET>20 per cent.as it comprises the larger annual electricity generation

Steps (d), (e) and (f) are ignored, as SET_{sample} comprises Power Units not older than 10 years.

(f) Step 6: Calculate the combined margin (CM) emission factor

The calculation of the CM emission factor ($EF_{grid,CM,y}$) is based on the weighted average method (Option a, paragraph 81), which is the preferred method as indicated by the Tool. The CM emission factor is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times W_{OM} + EF_{grid,BM,y} \times W_{BM}$$

Where:

$EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh)

$EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh)

W_{OM} = Weighting of operating margin emissions factor (per cent)

W_{BM} = Weighting of build margin emissions factor (per cent)

The following default values should be used for wOM and wBM:

(a) Wind and solar power generation project activities: wOM = 0.75 and wBM = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods;

The calculation is available in EF 04-2024-04-2025 spreadsheet.

Calculation of Baseline Emissions

As it has been explained above, Baseline Emissions are calculated according to the following formula:

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

Where:

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

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the VCS project activity in year y (MWh/y).

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using version 05.0 of the “Tool to calculate the emissions factor for an electricity system” (tCO₂/MWh).

The baseline emissions are the product of the electricity generated and supplied by the project power plant to the grid in the period year ($EG_{PJ,y}$) and the grid emission factor ($EF_{grid,CM,y}$).

Therefore, as said before, the combined margin CO₂ emission factor of 0.0357 tCO₂/MWh is calculated based on the Dispatch Data Analysis. This approach is not applicable to historical data and, thus, requires annual monitoring of $EF_{grid,OM-DD,y}$ as per “Tool to calculate the emission

factor for an electricity system, (version 07.0)” and the energy generation is measured through the monitoring period in accordance with “ACM0002 version 22.0”. Then, baseline emissions of the project are detailed in Section 4.4.

4.2 Project Emissions

As per paragraph 40, methodology ACM 0002 version 22.0 for most renewable energy project activities, the project emissions are neglected. Following the methodology, as the project is a wind farm project, it does not lead to any GHG emissions and therefore project emissions are considered equal to zero.

$$PE_y = 0 \text{ tCO}_2\text{e} / \text{year}$$

4.3 Leakage Emissions

As per paragraph 71, methodology ACM 0002 version 22.0 no leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, and transportation). These emissions sources are neglected.

4.4 Estimated GHG Emission Reductions and Carbon Dioxide Removals

Baseline emissions (BE_y) regarding renewable electricity generation:

In reference to the renewable electricity generation, ACM0002 Version 22.0 defines,

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

Where:

$$EG_{(PJ,y)} = EG_{(PJ,facility,y)}$$

Symbol	Unit	Value	Description	Reference
$EG_{PJ,facility,y}$	MWh	152,481	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y	Project design, Average value
$EG_{PJ,y}$	MWh	152,481	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y and fed into the grid as a result of the implementation of the CDM project activity in year y	Project design, Average value

Symbol	Unit	Value	Description	Reference
$EF_{grid,y}$ or $EF_{grid,CM,y}$	tCO ₂ /MWh	0.0357	Combined margin CO ₂ emission factor for grid connected power generation in year y	Tool 07 Version 07.0 "Tool to calculate the emission factor for an electricity system"
$BE_{2,y}$	tCO ₂ /year	5,436	Baseline emissions in year y	Calculated. Equation 11 Methodology ACM0002 Version 22.0

The combined margin (CM) is calculated as the weighted average of the operating margin (OM) and build margin (BM) according to the procedures prescribed in the “Tool to calculate the emission factor for an electricity system” Version 07.0. Therefore,

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times W_{OM} + EF_{grid,BM,y} \times W_{BM}$$

Where:

Symbol	Unit	Value	Description	Reference
$EF_{grid,OM,y}$	tCO ₂ /MWh	0.048	Operating margin CO ₂ emission factor in year y	Available to the VVB for validation
W_{OM}	-	75%	Weighting of operating margin emissions factor	Paragraph 86 option (b) Tool 07.0 Version 07.0
$EF_{grid,BM,y}$	tCO ₂ /MWh	0.000	Build margin CO ₂ emission factor in year y	Available to the VVB for validation
W_{BM}	-	25%	Weighting of build margin emissions factor	Paragraph 86 option (b) Tool 07.0 Version 07.0
$EF_{grid,CM,y}$	tCO ₂ /MWh	0.0357	Combined margin CO ₂ emission factor for grid connected power generation in year y	Tool 07 Version 07.0 "Tool to calculate the emission factor for an electricity system"

Vintage period	Estimated baseline emissions (tCO ₂ e)	Estimated project emissions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated reduction VCU (tCO ₂ e)	Estimated removal VCU (tCO ₂ e)	Estimated total VCU (tCO ₂ e)
10-Apr-2024 to 31-Dec-2024	3,964	0	0	3,964	0	3,964

01-Jan-2025 to 31-Dec-2025	5,436	0	0	5,436	0	5,436
01-Jan-2026 to 31-Dec-2026	5,436	0	0	5,436	0	5,436
01-Jan-2027 to 31-Dec-2027	5,436	0	0	5,436	0	5,436
01-Jan-2028 to 31-Dec-2028	5,436	0	0	5,436	0	5,436
01-Jan-2029 to 31-Dec-2029	5,436	0	0	5,436	0	5,436
01-Jan-2031 to 31-Dec-2031	5,436	0	0	5,436	0	5,436
01-Jan-2030 to 31-Dec-2031	5,436	0	0	5,436	0	5,436
01-Jan-2032 to 31-Dec-2032	5,436	0	0	5,436	0	5,436
01-Jan-2033 to 31-Dec-2033	5,436	0	0	5,436	0	5,436
01-Jan-2034 to 09-Apr-2034	1,474	0	0	1,474	0	1,474
Total	54,359	0	0	54,359	0	54,359

According to ACM0002 version 22.0:

$$ER_y = BE_y - PE_y$$

Where:

ER_y = Emission reductions in year y (t CO₂e/yr)

BE_y = Baseline emissions in year y (t CO₂/yr)

PE_y = Project emissions in year y (t CO₂e/yr)

Since $PE_y=0$ as it was mentioned in Section 4.2 $ER_y=BE_y$

This project does not require to assess non-permanence risk.

5 MONITORING

5.1 Data and Parameters Available at Validation

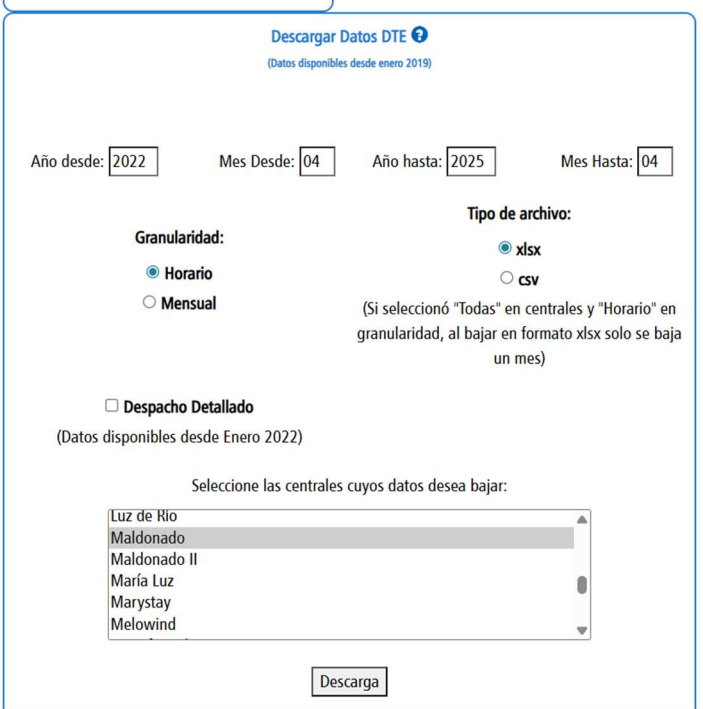
Data / Parameter	$FC_{i,m,y}$	
Data unit	Mass or volume unit	
Description	Amount of fuel type i consumed by grid power unit m in the year y	
Source of data	Data provided by UTE	
Value applied	Fossil fuel	$FC_{i,m,y}$ (m ³)
	Fuel oil	14,780
	Gas oil	45,355
Justification of choice of data or description of measurement methods and procedures applied	Data are obtained from publicly available official sources. UTE publishes the specific fuel consumption (amount of fuel per unit delivered to the grid) for each power unit as the ratio of fuel consumption ($FC_{i,m,y}$)	
Purpose of data	Calculation of baseline emissions	
Comments	https://portal.ute.com.uy/institucional/ute/utei/composicion-energetica	

Data / Parameter	$NCV_{i,y}$
Data unit	GJ/t
Description	Net calorific value (energy content) of fuel type i in year y
Source of data	National average default values

	Ministry of Industry, Energy and Mining, National Energy Management Planning, Statistics and Balance (Ministerio de Industria, Energía y Minería, Dirección Nacional de Energía, Planificación, Estadística y Balance)																																																					
Value applied		Net Calorific value (GJ/t)																																																				
	Fuel Oil	41.00																																																				
	Gas Oil	42.90																																																				
Justification of choice of data or description of measurement methods and procedures applied	Data are obtained from publicly available official sources. The Ministry of Industry, Energy and Mining publishes national data on the net calorific value and density of each fuel used in the country The value extracted from the official spreadsheet published is in (kcal/l) so this equation is applied: NCV(GJ/t)= NCV(kcal/l) x 4.18 x 10 ⁻⁶ /Density (kg/l)*1000 1 kcal = 4.18 x 10 ⁻⁶ GJ Density value is also obtained from an official spreadsheet This calculation is presented in the Excel spreadsheet Grid Units Emission Factor 2024, sheet 04-2024-04-2025 Emission factor calculations																																																					
Purpose of data	Calculation of baseline emissions																																																					
Comments	https://www.gub.uy/ministerio-industria-energia-mineria/comunicacion/publicaciones/propiedades-fisico-quimicas The data applied is highlighted in yellow in the images of the official excel spreadsheets																																																					
	<table><tr><td colspan="3">DENSIDADES ⁽¹⁾</td></tr><tr><td colspan="3">Valores variables en la serie histórica</td></tr><tr><td></td><td>unidad</td><td>2024</td></tr><tr><td>fueloil UTE generación ⁽¹¹⁾</td><td>kg/l</td><td>0,9674</td></tr><tr><td>fueloil plantas de celulosa ⁽¹²⁾</td><td>kg/l</td><td>0,9648</td></tr><tr><td>fueloil zona franca ⁽⁴⁾</td><td>kg/l</td><td></td></tr><tr><td>gasoil 10S ⁽⁵⁾</td><td>kg/l</td><td>0,8310</td></tr><tr><td>gasoil 50S* ⁽⁵⁾</td><td>kg/l</td><td>0,8385</td></tr></table> <table><tr><td colspan="3">PODERES CALORÍFICOS INFERIORES</td></tr><tr><td colspan="3">Valores variables en la serie histórica</td></tr><tr><td></td><td>unidad</td><td>2024</td></tr><tr><td>fueloil UTE generación ⁽¹²⁾</td><td>kcal/l</td><td>9.473</td></tr><tr><td>fueloil plantas de celulosa ⁽¹⁴⁾</td><td>kcal/l</td><td>9.452</td></tr><tr><td>fueloil zona franca ⁽⁴⁾</td><td>kcal/l</td><td></td></tr><tr><td>gasoil 10S ⁽⁵⁾</td><td>kcal/l</td><td>8.532</td></tr><tr><td>gasoil 50S* ⁽⁵⁾</td><td>kcal/l</td><td>8.591</td></tr><tr><td></td><td>% mezcla</td><td>-</td></tr></table>			DENSIDADES ⁽¹⁾			Valores variables en la serie histórica				unidad	2024	fueloil UTE generación ⁽¹¹⁾	kg/l	0,9674	fueloil plantas de celulosa ⁽¹²⁾	kg/l	0,9648	fueloil zona franca ⁽⁴⁾	kg/l		gasoil 10S ⁽⁵⁾	kg/l	0,8310	gasoil 50S* ⁽⁵⁾	kg/l	0,8385	PODERES CALORÍFICOS INFERIORES			Valores variables en la serie histórica				unidad	2024	fueloil UTE generación ⁽¹²⁾	kcal/l	9.473	fueloil plantas de celulosa ⁽¹⁴⁾	kcal/l	9.452	fueloil zona franca ⁽⁴⁾	kcal/l		gasoil 10S ⁽⁵⁾	kcal/l	8.532	gasoil 50S* ⁽⁵⁾	kcal/l	8.591		% mezcla	-
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	% mezcla	-																																																				

Data / Parameter	EF _{CO2,i,y}						
Data unit	tCO ₂ /GJ						
Description	CO ₂ emission factor of fossil fuel type i used year y						
Source of data	IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.4 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG.						
Value applied	<table> <tr> <th></th><th>Emission factor (EF) (ton CO₂/GJ)</th></tr> <tr> <td>Fuel Oil</td><td>0,07550</td></tr> <tr> <td>Gas Oil</td><td>0,07260</td></tr> </table>		Emission factor (EF) (ton CO ₂ /GJ)	Fuel Oil	0,07550	Gas Oil	0,07260
	Emission factor (EF) (ton CO ₂ /GJ)						
Fuel Oil	0,07550						
Gas Oil	0,07260						
Justification of choice of data or description of measurement methods and procedures applied	IPCC publishes the standard default values of CO ₂ emission factor of each fossil fuel type. This is consistent with the equation under Option A.1.						
Purpose of data	Calculation of baseline emissions						
Comments							

Data / Parameter	EG _{m,y}																												
Data unit	MW·h																												
Description	Net quantity of electricity generated and delivered to the grid by power unit m in year y (MWh)																												
Source of data	Data provided by ADME																												
Value applied	<table> <tr> <th>Power unit</th><th>MWh</th></tr> <tr> <td>UPM 2,</td><td>917,237</td></tr> <tr> <td>CORFRISA,</td><td>522</td></tr> <tr> <td>PE Talas del Maciel I,</td><td>136,066</td></tr> <tr> <td>PE 18 de Julio,</td><td>31,298</td></tr> <tr> <td>PE Villa Rodriguez,</td><td>28,240</td></tr> <tr> <td>PE Palomas,</td><td>247,967</td></tr> <tr> <td>PE Kiyu,</td><td>146,095</td></tr> <tr> <td>PE Talas del Maciel II,</td><td>144,696</td></tr> <tr> <td>PE Pampa,</td><td>445,800</td></tr> <tr> <td>PF TS,</td><td>336</td></tr> <tr> <td>PF Casalko,</td><td>1,196</td></tr> <tr> <td>PF Abril,</td><td>507</td></tr> <tr> <td>Albisu.</td><td>20,326</td></tr> </table>	Power unit	MWh	UPM 2,	917,237	CORFRISA,	522	PE Talas del Maciel I,	136,066	PE 18 de Julio,	31,298	PE Villa Rodriguez,	28,240	PE Palomas,	247,967	PE Kiyu,	146,095	PE Talas del Maciel II,	144,696	PE Pampa,	445,800	PF TS,	336	PF Casalko,	1,196	PF Abril,	507	Albisu.	20,326
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PF Casalko,	1,196																												
PF Abril,	507																												
Albisu.	20,326																												
Justification of choice of data or description of	Data used are from Uruguayan authorities (ADME).																												

measurement methods and procedures applied	
Purpose of Data	Calculation of baseline emissions
Comments	 Webpage screenshot where the information is extracted ADME´s webpage link: https://adme.com.uy/controlpanel.php

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO ₂ /MW·h
Description	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the “Tool to calculate the emission factor for an electricity system” Version 07.0
Source of data	Administración del Mercado Eléctrico (ADME)
Value applied	0.0357 tCO ₂ /MW·h
Justification of choice of data or description of measurement methods and procedures applied	“Tool to calculate the emission factor for an electricity system” Version 07.0
Purpose of data	Calculation of baseline emissions
Comments	

5.2 Data and Parameters Monitored

Data / Parameter	EG _{facility,y}	
Data unit	MW-h/yr	
Description	Quantity of net electricity generation supplied by the project plant to the grid in year y	
Source of data	Electricity meter at project site (SMEC)	
Description of measurement methods and procedures to be applied	The electricity supplied by the project is measured by a SMEC meter, located in the connection and measure point, along with the substation “Estación Francisco Veira”. There is also a backup meter utilized only in case of problems with the main meter. Net energy is calculated by subtracting the incoming energy from the outgoing energy by the SMEC meter.	
Frequency of monitoring/recording	The hourly measured reading by SMEC meters is recorded monthly by plant personnel	
Value monitored	Total generation	MWh
	10-April-2022/09-April-2023	153,307
	10-April-2023/09-April-2024	147,895
	10-April-2024/09-April-2025	156,241
	Average net generation	152,481
Monitoring equipment	The system SMEC has two meters, the main meter, class 0.2, and back up meter, class 0.5, installed in parallel with the main meter.	
QA/QC procedures to be applied	Monthly measurement results recorded are used for cross check with records of sold electricity and/or with DTE²⁵, and SMEC meters are periodically calibrated at least once every two years during the verification of the system, according with Resolution 14/002²⁶ According to this Resolution and the evidence from ADME provided, ADME is responsible for granting the authorization of the measurement systems. The Resolution in Article 40 defines that the meters must be verified at least once every 2 years. Electricity meters are calibrated and verified according to the procedures established by the system operator and the applicable regulatory requirements in Uruguay. In January 2024, a fault was identified in the operation of the back-up meter, so it was	

²⁵ DTE: it is the Economic Transactions Document published monthly by ADME.

²⁶ https://www.gub.uy/unidad-reguladora-servicios-energia-agua/sites/unidad-reguladora-servicios-energia-agua/files/2024-08/TOR2%20Energia%20Electrica%202022.07.pdf?utm_source=chatgpt.com

	replaced by a new one (serial number 24777 as can be seen in the table above). Below are the details and characteristics of the different electricity meters as well as their calibration dates: Meter M1: Manufacturer: Itron Type: SL7000 Accuracy class: 0.2S Serial number: 30023003 Calibration frequency: At least once every two years Last calibration date: 30/10/2024 Previous calibration: 09/11/2022 Meter M2 – Back up (Replaced): Manufacturer: EMH Type: LZQJ-XC Accuracy class: 0.5S Serial number: 3970853 Calibration frequency: At least once every two years Calibration date: 09/11/2022 Meter M2 – Back up (New): Manufacturer: ITRON Type: ACE6000 Accuracy class: 0.5S Serial number: 24777 Calibration frequency: At least once every two years Last calibration date: 30/10/2024
Purpose of the data	Calculation of baseline emissions
Calculation method	N/A. This parameter is monitored continuously.

Comments

These data are used to directly calculate emission reductions.

5.3 Monitoring Plan

The Monitoring Plan is developed in accordance with the approved consolidated baselines and monitoring methodology for grid-connected electricity generation from renewable sources – ACM0002. The monitoring plan will specify the monitoring tasks to be implemented in order to ensure that the real, measurable and long-term greenhouse gas (GHG) emission reduction for the proposed project is monitored and reported.

Monitoring Management Structure

To ensure organization in the project in terms of reliable data collection and gathering during the full crediting period, the project owner has established the organization of the monitoring team with clear roles and responsibilities assigned to all staff involved in the VCS project.

In accordance with the methodology, monitoring consists of metering the electricity generated by renewable technology. The operation and maintenance are carried out by Gamesa, which has personnel specifically qualified for this task.

The project owner has archived electronically all data collected as part of monitoring and has kept it at least 2 years after the end of the last crediting period. The project owner has implemented a monitoring plan to guarantee accurate and transparent determination of avoided emissions.

In summary, the project owner has executed the monitoring plan of the project, in accordance with the requirements of the applicable methodology and the EB on monitoring and verification to ensure that the emission reductions are monitored, recorded, and reported accurately.

Monitoring equipment and installation

The monitoring system measures and records the net electricity generated by the project activity using calibrated electricity meters installed at the point of connection to the grid.

Project owner has installed an electricity meter at the connection and measurement point along with the substation “Estación Francisco Veira”, in the project land. The grid connection diagram indicates the positioning of metering instruments used in the monitoring of emission reductions, in the figure below:

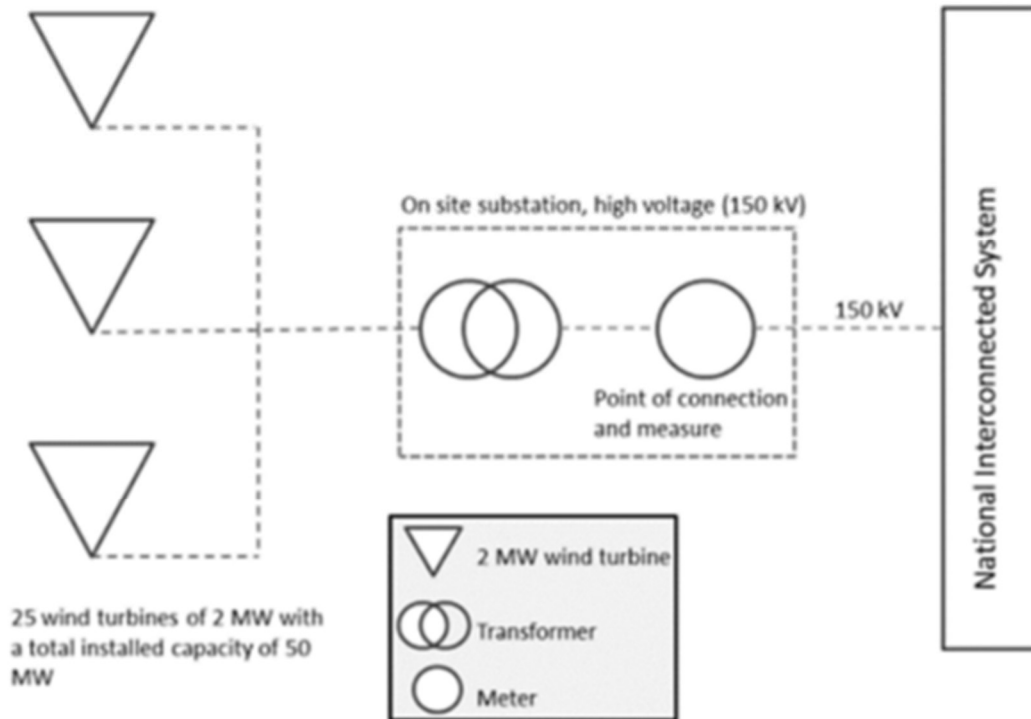


Figure 9 Positioning of metering instruments

Certified entities have provided the equipment used to monitor the electricity production and conducted calibration per the Resolution 14/002 and the standards IEC 62052-119 and IEC 62053-2210 for static active meters of classes 0.2 and 0.5.

Meter	Manufacturer	Type	Serial number	Accuracy	Calibration date	Calibration frequency
M1 Main Meter	ITRON	SL7000	30023003	0.2S	09/11/2022 30/10/2024	Once every two years
M2 (Replaced)	EMH	LZQJ-XC	3970853	0.5S	09/11/2022	Once every two years
M2	ITRON	ACE6000	24777	0.5S	17/01/2023 ²⁷ 30/10/2024	Once every two years

²⁷ The recorded calibration date refers to a calibration carried out prior to the installation of the meter at the project site in January 2024. After installation, the next calibration was performed in October 2024.

Table 1. Calibration data

In addition, data on electricity generation from the power plants included in the electricity system are obtained from publicly available information published by the system operator. These data are used for the calculation of the grid emission factor in accordance with the procedures described in Tool 07 – Tool to calculate the emission factor for an electricity system.

In the case of Uruguay, electricity generation data are obtained from official reports published by Administración del Mercado Eléctrico (ADME).

Data recording and archiving:

Project owner has monitored the electricity supplied by the project to the grid using a calibrated electricity meter and taking monthly records.

Measurements have been crosschecked with sale receipts for electricity and/or with the information published in DTE, using conservative values for calculation of emission reductions.

The project participants have archived all data collected as part of monitoring during the monitoring period plus two years.

Quality assurance and Quality control have been applied:

An overarching monitoring system maintains the quality of data generated by this project. This system includes procedures used to double-check data, for staff training, meter calibration, accreditation of the facility completing calibration and adherence to the relevant standards.

Measuring equipment has been calibrated according to Resolution 14/002, at least once every two years during the verification period.

Procedures on how to deal with erroneous measurements: In the event of a problem with the measurements system, the information is obtained through one of the following sources of measurement in this order:

Data from the main meter of SMEC

Data from the back-up meter of SMEC

Data from SCADA system

Data provided by user to the control center of DNC via telephone.

Monitoring personnel prepare the monitoring report, containing the data report and the results of the energy generation and emission reductions of the project for the defined verification period.

Management structure to monitor emission reductions

The General Manager holds overall responsibility for the monitoring process, but as indicated below, some tasks of the process are delegated. The first step is the measurement of the electrical energy

supplied to the grid and reporting of daily operations by the plant operation staff. The project owner appoints a:

Plant operation staff, who are responsible for the electrical energy measurements and review the daily operation of the wind farm station.

Monitoring officer, who is responsible for verification of the measurement, collection of sales receipts, collection of billing receipts of the power supplied by the grid to the wind farm and the calculation of the emissions reductions. In addition, is responsible for preparing operational reports of the project activity, reviewing the daily operation of the wind farm station including operating periods, power delivered to the grid, equipment defects, etc.

Finally, the General Manager has reviewed the monitoring results.

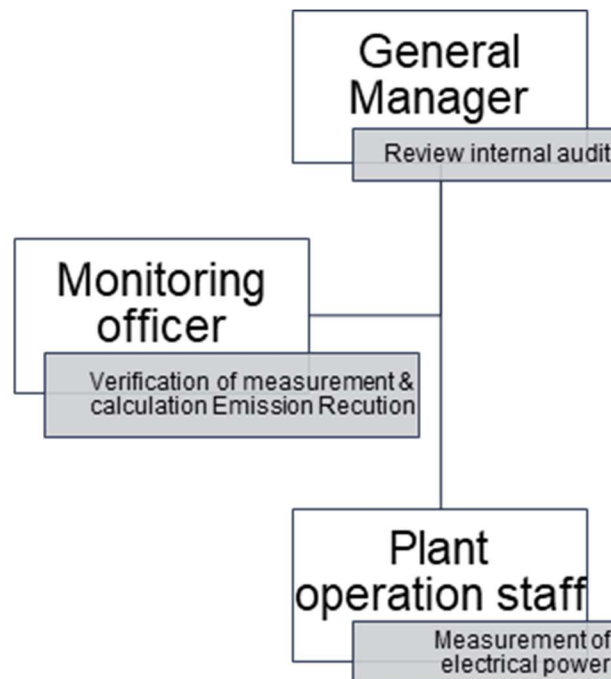


Figure 2. General management structure

APPENDIX 1: COMMERCIALY SENSITIVE INFORMATION

N/A