



NON-TECHNICAL SUMMARY

PROGRESS DOCUMENT TO: AUGUST 2023

WIND FARM CONSTRUCTION PROJECT IN RÍO GRANDE, TIERRA DEL FUEGO, ANTARCTICA AND THE SOUTH ATLANTIC ISLANDS'

'ENERGY TRANSITION SUPPORT PROGRAM'





ACRONYMS AND ABBREVIATIONS

AllB	Asian Investment and Infrastructure Bank
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
HVL	High Voltage Line
IP	Interconnection Point
NGO	Non-Governmental Organization
UEPPEPAT	Project Implementing Entity
TPS	Transformer Power Substation
SEP	Stakeholder Engagement Plan
WP	Wind Project

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1.PROJECT DESCRIPTION

The Asian Investment and Infrastructure Bank (hereinafter "AIIB" or the "Bank") is considering a sovereign-backed financing for the Province of Tierra del Fuego, Antártida and Islas del Atlántico Sur, Argentina to support the 'construction of a 33.6 MW Wind Farm' to be located in Río Grande, where there is currently a Medium Voltage (MT) line that would allow wind power generated to be incorporated into the local electric power system. Additionally, the loan is expected to finance the 33Kv interconnection line to local power distribution system so as to significantly increase the current capacity and future growth possibilities of the wind farm.

From a strategic perspective this Project foresees that the wind farm works simultaneously with quick start process thermal equipment to provide the necessary stability and robustness to provide clean and efficient energy to the grid, diversifying the energy matrix and providing economic benefits to the zone. The final power of the Wind Farm will depend on the definitive choice of the equipment to be installed, but always within the range of values mentioned above, subject to the electrical studies to be carried out in a preliminary manner at the beginning of the Project works.

1.1 Energy characterization of the wind: Wind potential

By using the wind potential map developed by the Río Grande Electric Cooperative and prepared by the National University of Tierra del Fuego, it is possible to evaluate the place chosen for the implementation of the Wind Farm and obtain the hourly distribution, in that area, of the wind speeds for an entire year, as well as their typical Weibull distribution. *Previous studies show that the average annual speed in the selected area is exceptional, with a distribution of the speed histogram that allows having winds with average annual speeds greater than 10 m/s for at least 5,000 hours a year. In turn, the regional orography is very suitable for the implementation of wind turbines.*

Based on the above and considering the closest place with access to the local power distribution network, the Cabo Domingo area has been preliminarily selected for the location of the Wind Farm.

1.2 Preliminary location of the Wind Farm

From the information obtained in the wind map of Tierra del Fuego and considering the closest place with access to the local power distribution network, the Salesian Congregation land is tentatively selected for the site of the proposed wind farm.







The next step will be to define the wind turbine to be used, its technical specification, and more particularly, the power curve. This is the relationship provided by the manufacturer between the power generated and each speed at mounting height. According to the IEC 61400-1 standard, based on the characterization of the wind in the implementation area, the chosen wind turbine must be Class IA, a consideration that must be added that, since it is a weak (isolated) electrical system, it will be convenient for the generator to of the wind turbine injects all the energy generated into the grid through an electronic converter (*full converter*), because this type of configuration allows much better control of reactive power, frequency and is more tolerant to disturbances, helping to improve overall stability.

Some of the technological equipment analyzed (2015) are VESTAS V-112, and the ENERCON E-82, E-70 and E-101-E2 models. The equipment was pre-selected as a guideline for the development of the project, since they have the appropriate technology for the type of winds and cold climates (anti- freezing systems).

1.3 Interconnection Network to the Province Electric System

Next to the route of National Route No. 3, which is adjacent to the area chosen for the implementation of the Wind Farm, there is a 13.2kV electrical distribution line that currently extends to the *'El Murtillar'* neighborhood, feeding its route, from there, to all the





consumptions of the north zone. This line could channel part of the generation produced in the wind farm, but due to its age and its current reduced capacity, the most efficient and safest option is the construction of a 33kV line from the distribution center located in the neighborhood " Las Barrancas", to the location of the Wind Farm.

The 33kV line will be aerial, "Line-Post" type, built on concrete columns. In addition, a fiber optic network will be laid over the columns, to supervise and remotely control the operation and dispatch of the Wind Farm from the operation center located in the city's power plant. The new line will make it possible to evacuate all the initial generation, and also the future one in the case of expansion of the generation capacity of the Wind Farm, through the addition of new wind turbines if the local electrical system allows it or if they generate interconnected, whether provincial or nationals.



In summary, for the execution of the Project, the acquisition and installation of wind turbines for the Río Grande Wind Farm is foreseen and includes the turnkey provision of: i) Equipment: eight wind turbines suitable for Class IEC IA wind conditions and their equipment complementary auxiliaries, ii) Approximate net annual generation capacity: 156GWh and a Projected Capacity: 33.6 MW. The project costs include engineering costs, civil works, assembly, wiring and start-up of wind turbines, with all their accessories and auxiliaries under a turnkey modality. The wind farm operation and maintenance (O&M) will be responsibility of TERRA IGNIS SA local company.





The Project has been assigned Category B according to the AIIB Environmental and Social Specialist, as confirmed by the results of the environmental and social feasibility study carried out by '*Ambiente y Territorio SA*' consulting firm between June and August 2023, since no critical environmental and social problems were identified and the ESMP establishes and presents the framework approach and the possible potential impacts with adequate mitigation actions based on national/provincial regulations and international good practices.

2.1 Analysis of alternatives

The selection of the appropriate location for the wind farm is one of the most critical aspects in the project planning and development process. A wise choice of the location will make it possible to make the most of the available wind resource and will minimize the environmental and social impacts associated with the construction and operation of the Wind Farm.

2.1.1 Alternative without project

In the non-Project analysis and evaluation scenario, the Government of the Province of Tierra del Fuego would face the problem that arises from current electricity generation technologies, which are inefficient, given that the main input as fuel used is natural gas, added to the factors of antiquity in the machinery that cause high production costs. On the other hand, based on studies carried out, the current electric power generation capacity will not be able to cover the growth in demand within a framework of electrical reliability in the coming years. The generation system is dependent on natural gas, generating two fundamental drawbacks, the availability of the resource and the cost of supply.

Without this Project, it would not be possible to meet the goal of diversifying energy generation and establishing the first steps to reduce dependence on hydrocarbons as the main generating source, contributing to the reduction of polluting effects and allowing full use of the geographical areas' conditions for the exploitation of its natural resources.

2.1.2 Selected alternative

During the wind farm planning and development process, it is essential to carefully evaluate the different alternatives available to guarantee optimal and sustainable implementation, minimizing possible negative impacts on the environment.

The main aspects related to the location, design, technology, and operation are developed below, describing the particularities and specific challenges that must be considered.





Location

The selection of the appropriate location for the wind farm is one of the most critical aspects in the project planning and development process. A wise choice of the location will make it possible to make the most of the available wind resource and will minimize the environmental and social impacts associated with the wind farm construction and operation.

In relation to the optimization in the use of the wind resource, this aspect is analyzed in detail in the Report of the Renewable Energies Group, Institute of Economic Development and Innovation - National University of Tierra del Fuego, Antarctica and South Atlantic Islands; since the construction of the wind maps for the province, where the existence of excellent wind conditions for the generation of electrical energy can be deduced.

Secondly, the availability of spaces for implementation must be considered, which may be directly related to the type of equipment to be considered, since the number of wind turbines to be implemented is directly proportional to their generation capacity. The lower its generation capacity, the greater the number of wind turbines and consequently a greater surface area will be required.

Design

At the same time, this spatial variable is also related to the general design in terms of generation efficiency since the separation of the wind turbines impacts their generation efficiency. An inappropriate separation can generate a wake effect, that is, the wind that passes through a piece of equipment generates turbulence that can lead to a reduction in wind speed, decreasing the efficiency of the piece of equipment that is behind and receives that lower potential wind.

The topography and geotechnical characteristics are key to the construction of wind turbine equipment. Relatively flat or gently sloping terrain is preferable, as it facilitates the orderly and efficient arrangement of equipment. Steep terrain or with strong changes in altitude can generate shadow and turbulence effects, negatively affecting the performance of the turbines. On the other hand, the characteristics of the soil and its bearing capacity must be such that they allow the installation of the equipment, with foundations within a technical-economic balance. The accessibility to the property, both for construction, considering all aspects of the logistics of the execution of this type of project, and for subsequent maintenance should be analyzed to minimize costs. For this reason, the location in sectors with existing roads or close to easily accessible areas is a key factor in the location. Proximity to urban centers can generate certain undesirable effects for the inhabitants, the most notable being noise and visual disturbance or contamination by traffic wind turbines.

Restrictions due to land use (municipal ordinances) and also protected places, whether they are natural reserves or archaeological heritage, among others, must also be considered. According to the information provided, an area of potential implementation of the Wind Farm





is considered in a circumference of a radius of 50 km with a center in the city of Río Grande, which would have favorable characteristics from the point of view of power generation and characteristics of the territory (topography), having to analyze in greater detail the impacts on the population and its potential resistance by the inhabitants and fundamentally consider the existing reserve areas on the coast *'Reserva Costa Atlántica de Tierra del Fuego'* with its zones of restricted and controlled use, as well as the identified archaeological sites.

2.3 Associated facilities in the area

As to the associated facilities in the area, '*Gobernador Ramón Trejo Noel*' International Airport is located northwest of the center of the city of Río Grande and there are neighboring lands identified closed to chosen wind farm location. Potential impacts will be included in the Environmental and Social Impact Assessment (ESIA) to ensure that the land to be occupied does not interfere with the activities of the airports or air traffic, as well as the regulations in force in regarding signage and lighting.

According to the information provided, it is considered an area of potential implementation of the Wind Farm in a circumference of a radius of 50 km with a center in the city of Río Grande, which would have favorable characteristics from the point of view of energy generation and the characteristics of the territory (topography), having to analyze in greater detail the impacts mentioned in the previous paragraph and fundamentally consider the existing reserve areas on the coast *'Reserva Costa Atlántica de Tierra del Fuego'* with their restricted and controlled use zones, biodiversity as well as the identified archaeological sites. All this will be included in ESIA and addressed in the Public Hearing.

3. RÍO GRANDE WIND FARM PROJECT ENVIRONMENTAL AND SOCIAL IMPACTS

3.1 Construction Stage

Construction activities for wind power facilities typically include land clearing for site preparation and access roads; excavation, blasting and filling; transportation of supply materials and fuels; construction of foundations involving excavation and placement of concrete, operation of unloading cranes and installation of equipment; installation of overhead conductors or cable routes (above ground and underground); and commissioning of new equipment. Decommissioning activities may include removal of infrastructure and rehabilitation of the project site.

Environmental impacts associated with the construction, operation and decommissioning of wind power and energy facility activities may include, among others, impacts on the physical environment (such as noise) or visual impact and biodiversity (affecting birds and their migratory routes or bats, for example). The impacts identified in the environmental and social feasibility study are included below.





3.1.1 Geomorphology

The impact on this component is associated with the morphology alteration of the land due to the project construction works, the interventions on the ground that imply the movement of soil for the excavations for the construction of foundations, platforms and buildings; drainage works; construction of the TPS (transforming power substation), of section of the HVL up to the IP (Interconnection Point); work facilities installation and surface leveling will affect natural geoforms. For most of the construction activities, although they do not involve considerable volumes of soil, a direct, moderate-level negative impact is expected, mostly on natural geoforms of the lands. There is a potential 'moderately significant' direct impact from the construction of new roads that connect the wind turbines, the impact of which will depend on the construction technique used, the layout of the roads and that there are no unnecessary extensions of them or slope cuts. It is possible that there will be alterations in the natural drainage patterns that can eventually promote processes of water erosion in the immediate environment of the Project works. Most of these interventions on the evaluated component are temporary, since the affected surface will be restored once the work is finished, except in the case of internal roads that will remain for access to the wind turbines. These interventions will punctually and moderately modify the geomorphology of the terrain. The impact associated with the action of the movement of machinery, equipment, materials, and transport of wind turbines will also be moderate but of less intensity, to the extent that it circulates through the permitted work sites. The clearing and preparation of the land for the WP, the TPS and HVL works (in outline) will have a slight impact. With respect to the construction of the HVL, the impact on the geomorphology is limited to the excavations of the foundations, which will slightly and punctually modify the forms of the terrain in said area. Because it is a temporary work, it involves temporary affectations, which constitutes a low impact. The potential impacts identified for the 'geology and geomorphology' component are associated with the alteration of the geoforms of the study area and the increase in erosion processes. The evaluation of the environmental impact of the project activities on this component is mainly associated with two environmental factors: In the closure or abandonment stage, the dismantling of the wind turbines, the TPS and the removal of wiring. Mitigation measures must be oriented towards the restitution of the characteristics of the land where the project will be developed, as well as the recomposition tasks that will be carried out in the project area, added to the natural revegetation processes helping to restore the original landscape. In the case of contingencies, the probability of occurrence is low, the value of the impact (if the contingency occurs) is considered low, since it may imply new soil movements.

3.1.2 Erosion processes





The main earthworks that will be carried out during the construction stage will correspond to the area destined for both permanent and complementary works, referring to civil works (adaptation and/or construction of main access and internal roads; construction of foundations; platforms and buildings; construction of works of art and drainage; construction of the WP internal electrical network; grounding system and communications link; construction of TPS and HVL section to the IP could generate or increase erosive processes. Contour modifications synergistically affect other elements such as soil structure. The removal of vegetation cover, related to soil movements, exposes the superficial horizons of the soil that could increase the erosive processes in the area of direct influence of the project. This impact is synergistic since it can enhance wind and water erosion phenomena. Depending on the characteristics of the existing soils in the area, the movement of soils can generate erosion processes in the sectors to be removed, for which reason the impact is considered negative, temporary and of a moderate level in the construction stage. The clearing and elimination of the vegetation cover to be occupied by the bases of the wind turbines, as well as along the projected internal corridors and the line, also generate favorable conditions for wind erosion processes that end up degrading the edaphic layer. The main construction activities will have a 'moderate and moderately significant' negative impact on the component evaluated according to the environmental assessment.

3.1.3 Soils Soil structure and quality

It refers to the alteration due to the movement of soils, adequacy of access and construction of internal roads, transport of equipment, machinery, materials and wind turbines, construction of foundations, platforms, assembly of wind turbines, internal electrical network of the WP, grounding system and communications link, TPS, HVL, operations building, and drainage works that will affect the 'soil structure' directly since the natural conditions of the soil are mechanically modified. Its effects are expressed in soil compaction, loss of infiltration capacity, reduction of soil porosity, loss of the surface horizon. Soil movements imply the removal and loss of the existing edaphic cover, so the environmental importance of the impacts associated with the work actions on the soil reaches a negative value of moderate and moderately significant. It is extremely difficult for soils capable of agricultural use to be affected by the project, since it demands the installation of specific columnar structures, separated from each other by estimated distances of the order of 150 meters and more. The opening of roads for the transport and maintenance of the same will also occupy a strip whose width can hardly exceed 20 meters. The greatest effect will be registered in the construction phase, decreasing in the operation phase.

3.1.4 Superficial and underground water resources





Soil disturbance and resulting erosion can affect previous drainage characteristics and runoff patterns in the surrounding area. If they are not properly channeled, controlled and integrated into the natural design of the sector, they can trigger processes of water erosion that put the facilities at risk and degrade the landscape.

The potential impact on the quality of the resource is linked to changes in its chemical nature from the loss or overturning of fuels, oils, lubricants, or any other chemical substance that may affect the quality of surface and/or groundwater. It is considered that the latter can occur due to contingent events in the development of the activities of the construction stage that could occur above ground and in turn that these can effectively infiltrate until they reach groundwater or over a course or body of water.

From the point of view of groundwater, the project will have low relevance, considering that it does not demand excessive use for the construction stage, with respect to a potential contingent event, the risk of groundwater contamination is low. Due to the above, the possibility of impacting water (surface / underground) is very low and it is considered an impact without measurable incidence.

3.1.5 Air quality – Noise

The impact on air quality is relevant considering the circulation of heavy vehicles through dirt roads, the movement of soils associated with interventions on the ground and concrete production (by the concrete mixer plant in the preparation of concrete), cause the suspension of particulate matter in the air.

Combustion gases produced by machines and vehicles, among which are carbon monoxide (CO), carbon dioxide (CO2), volatile organic compounds (VOC's), sulfur dioxides (SO2), and nitrogen oxides (NOx) used at this stage will also have a negative effect on air quality. This impact is of slight and temporary intensity since it will be generated at the construction stage of the work. If it is considered that it will be a temporary impact and that circulation will also be controlled and the speed allowed, the impact is low.

Air quality will also be negatively affected by typical painting and welding activities. However, this affectation will be punctual and temporary because the area is characterized by being open, with no other sources of neighboring emissions, with a significant wind regime that favors natural dispersion.

With respect to the sound level, all the tasks that imply the operation of equipment and the circulation of vehicles throughout the stages of the project will be the cause of its increase. However, the impact will be punctual and temporary, while the works last. Considering the potential distance to which the works will be located, the noise caused by construction activities on the population is considered light and moderate. Therefore, the direct and





temporary effects will involve only construction personnel in all construction tasks or those that involve the operation of equipment and circulation of vehicles.

3.1.6 Scenic and landscape quality

One of the most relevant environmental impacts corresponds to the modification of the landscape. During the construction stage, the presence of equipment, machinery and the construction activities will generate a temporary impact on the original characteristics of the area, affecting the intrinsic visual quality (aspect directly related to the quality of the landscape), an estimated moderate and moderately significant impact on the 'scenic quality and landscape'. The very visual appearance of the machines in motion and the civil works on a natural environment will affect the scenic quality in the construction stage. The assessment of the landscape quality will depend on the perception of the spectators.

The assessment of the impact on the scenic quality of the landscape by the project activities in the construction stage is considered punctual, moderate to moderately significant.

3.1.7 Vegetation cover

For the construction stage, the direct impacts are generated by the temporary and permanent civil works of the wind project with a moderate level of importance for the most part and moderately significant. There will be a negative impact on the vegetation, produced by the clearing and movement of soils that are carried out in the area of adaptation and construction of access roads, installation of facilities, in the foundations and by trenching for the laying of underground wiring. During the construction of the foundations, the total clearing and removal of soil from the site must be carried out, and it is recommended that the upper organic soil be separated, to reuse it to cover the trenches. In case of exceeding the projected measures, the impact on the resource is enhanced. The circulation of machinery and vehicles outside the areas contemplated in the project can cause the affectation of the surrounding vegetation, the impact is slight or low since there will be planning and control of the movements of the necessary mobilizations.

3.18 Biodiversity - Fauna

The preparation of the land and the construction of the permanent and temporary works of the wind farm, constitutes a moderately significant impact on the fauna due to the change of the intraspecific and interspecific ecological relationships (territoriality, competition and association), the effects that the loss can produce of habitat in animal populations, from loss of reproduction areas that would be expressed in a population reduction to changes in migratory routes. The construction activities could produce a temporary scare away of the fauna of the area, especially birds or rodents that inhabit the area and where the vegetation





is mostly present. Due to being associated with the existing vegetation, the same valuation is attributed to the fauna, with respect to the same work actions considered, since it is expected that the animals move away from the place at the moment in which it is disturbed and return to it, when conditions are favorable.

3.1.9 Socioeconomic and cultural environment 3.1.9.1 Employment

The different activities leading to the construction of the wind farm are sources of work that are generated directly and indirectly (provision of goods and services), which is why they are considered as positive impacts, although they are temporary, of moderate incidence and locally, given the size of the work. For the stage of preparation and construction of the works, it is estimated that approximately 300 people will participate, at its maximum peak, and an average of 180, with different professional knowledge and different skills required for this type of activity.

3.1.9.2 Population

There is no settled population in the area where the project is located and its surroundings, therefore the impact on the local population is low. It is estimated that the localities of Rio Grande do not generate direct impacts due to the activities and construction works of the project.

The residents who circulate in the area may be temporarily affected during the transport of machinery, equipment, materials and wind turbines along National Route 3, which will receive the greatest impact due to the circulation of the large trucks that will transport the wind turbines, a situation that It will be reflected in the alteration of normal daily traffic and possible damage to the pavement.

The impact is considered minimal negative and compatible if it is considered that the event will be temporary and, fundamentally, to the extent that the respective environmental management measures are adopted.

3.1.9.3 Occupational health and safety

The impact on the health and safety of workers due to the development of their functions in the project can occur due to contingent events in all stages of the project. The risks to the health and safety of the workers during the construction, operation and dismantling of the wind farm have a low impact given that it is planned to implement all the necessary safety and hygiene prevention and control measures to reduce the risks in Workers. The main risks





to which workers may be exposed in carrying out their activities in the construction stages can be physical, chemical, physical, mechanical, electrical, mainly.

3.1.9.4 Economic activities

The local economy would benefit from the possibility of an increase in commercial exchange to supply the logistical requirements of the work, purchase of materials, services, etc. The balance of the impact is estimated as positive, since the project itself is considered beneficial for the socioeconomic activity of the area, particularly due to the requirement of different services in the construction stage. Demand for related services is also increasing, such as transportation of fuels and lubricants and materials and equipment, waste removal, control services, demand for consulting and internal security equipment, telecommunications, etc.

3.1.9.5 Heritage (archaeological finds)

As described in the environmental baseline, archaeological sites are located near the study area. The activities that could potentially affect these sites correspond to the mobilization of equipment, machinery, materials and components of wind turbines and/or the adaptation of roads in case it is not carried out in the authorized and projected sites for the work. In general, the project activities do not affect these sites of archaeological importance (they are excluded from the areas affected by the project), but it is an aspect to prevent and mitigate.

3.1.9.6 Native Peoples (Cultural Heritage)

In the province of Tierra del Fuego, Antártida and Islas del Atlántico Sur, it is home to various indigenous communities, including the '*Selk'nam*' (Onas) and the '*Yaganes*' (Yámanas). These communities have historically been inhabitants of the region long before the arrival of the European colonizers.

The province has worked to preserve and promote the culture and rights of these indigenous communities. The Complementary Survey of Indigenous Peoples (ECPI) 2004-2005, complementary to the National Census of Population, Households and Housing of Argentina in 2001, gave as a result that 696 people were recognized and/or descended in the first generation of the Ona people in Argentina (none residing in indigenous communities), of which 391 lived in the province of Tierra del Fuego, Antarctica and the South Atlantic Islands; 114 in the City of Buenos Aires and 24 parties in Greater Buenos Aires; and 191 in the rest of the country. The 2010 National Population Census in Argentina revealed the existence of 2,761 people who recognized themselves as *'onas'* throughout the country, 294 of whom were in the province of Tierra del Fuego, Antártida e Islas of the South Atlantic.





On December 12, 1996, the National Institute of Indigenous Affairs of Argentina recognized the legal status of the *'Rafaela Ishton Indigenous Community'* of Ushuaia, belonging to the *'Selk'nam'* or Ona people.

The 'Yagán' or 'Yámana' people are an indigenous people from the Fuegian archipelago in the extreme south of South America, in the territory of Chile and Argentina. Their traditional way of life was nomadic, they traveled in canoes, dedicated to hunting, gathering, and fishing. The current descendants of the 'Yagans' form a community in Villa Ukika, near Puerto Williams on Navarino Island (Chile). In Ushuaia (Argentina), on November 25, 2014, the 'Yagan Paiakoala Indigenous Community' was established. The 'Yagan Lom Sapakuta' community resides in Punta Arenas (Chile), established on February 14, 2015. On February 22, 2021, the National Institute of Indigenous Affairs of Argentina registered the legal status of the Yagan Paiakoala Indigenous Community, belonging to the yagan of the municipality of Ushuaia, for which the *'yámanas'* were legally recognized by the Argentine State.



'Ishton' Natural Reserve of the 'Selk'nam-Ona' community of Tierra del Fuego, is located on the north shore of Lake Fagnano, department of Tolhuin in the Heart of the Island, which has been titled to the community since 2011, being the only aboriginal community in Tierra del Fuego that has its own legally assigned territory.





The aboriginal communities present in the province of Tierra del Fuego do not have territorial claims on the potentially suitable location for the installation of wind farm Project.

3.2 OPERATION STAGE

3.2.1 Physical Natural Environment - Geomorphology and erosion processes

The potential impacts on the landforms are essentially those that affect them in their aspects of relief, drainage and stability. During the operation and maintenance stage of the wind farm, potential impacts on the landforms are not considered.

3.2.2 Soil quality

The quality of the soil can be affected by the circulation of vehicles and maintenance in the wind farm due to losses and spills of fuels or lubricants, which could directly affect this resource.

During the normal operation stage there is the possibility of failures in the mechanism that can cause incidents, however, a preventive maintenance plan is assumed according to the manufacturer's requirements, and this aspect will be controlled and monitored as part of the mitigation measures, reducing the risk of affectation and contamination of the soil. The proper implementation of machinery and vehicle maintenance operations will prevent possible losses or spills with fuel residues that affect soil quality. The disposal of containers, the classification of waste and its extraction will contribute to minimizing the impact on this resource.

3.2.3 Water resources3.2.3.1 Surface and underground water system

In the operation stage, it will allow the maintenance of the wind turbines in case the same equipment is needed. The constructed area of the platforms and maintenance roads will modify the natural runoff of the area immediately to the works, the affectation to the natural drainage is low, for which the impact is considered light and moderate.

The possibility of impacts on water quality (surface/underground) is practically negligible since there is no incidence in the area of direct influence on nearby courses and/or bodies of water. Impact without measurable incidence is considered.

3.2.4 Atmosphere 3.2.4.1 Air quality





The impact on air quality is almost insignificant in the operation stage, since it is restricted to the movement of maintenance vehicles that assist the teams, eventually.

3.2.4.2 Sound level

In the operation stage of the project, the noise generated by the operation of the wind turbines is considered fundamentally, it is classified into two types, mechanical and aerodynamic.

Aerodynamic noise is generated by the wind passing through the blades and mechanical noise is generated by the internal gears. During this stage the importance of the impact reaches a moderate negative and moderate significant value. Assuming background from similar projects where the sound impact is modeled with the isophone lines, around the wind turbines, which show the set of points in which the equivalent sound level is of a given value, all the space that is outside the line orange isophone receives an equivalent sound impact of less than 45 dB(A).

3.2.5 Shadows and flickering of wind turbines.

In the operation stage of the project, the shadow effect that the wind turbines have on the surface is considered, this is called 'Shadow flicker', this is known as the effect caused by the intermittent change of light intensity in a specific area, due to near a wind turbine whose blades obstruct the light. The 'shadow effect' consists of the intermittent change in light intensity in a specific area, due to the proximity of a wind turbine whose blades obstruct the light. An observer located in that area will see the shadows cast on the ground by the rotating blades.

Some basic conditions must be met for this effect to be perceived: it must be daytime, the blades must be rotating, and the wind turbine must have a height, a blade length, a "yaw" orientation, and a solar zenith angle such that they generate the "shadow effect" in the analyzed area. The assessment of the scope of the shadows cast on the ground by the wind turbines is evaluated as moderate.

3.2.6 Blade/Ice Throw

A rotor blade failure can result in the 'throwing' of a rotor blade, or part of it, which can affect public safety. The overall risk of blade toss is extremely low. If ice builds up on the blades, which can happen under certain weather conditions in cold climates, then pieces of ice can be thrown from the rotor during operation or fall off if the turbine is idling. Turbines must be located an acceptable distance ('setback') between the wind turbines and adjacent ones. Sensitive receivers to maintain public safety in the event of ice release or blade failure.





3.2.7 Scenic and landscape quality

During the operation of the Wind Farm, the visualization of the wind turbines establishes a permanent modification to the surrounding landscape, related to the height of the towers and the movements of the blades, with a direct incidence on the visual quality of the landscape. It has been estimated based on the visual basin method ¹.

3.2.8 Plant cover

During the operational stage of the project, no impacts on the vegetation will be generated, however, there may be contingencies in the operation of the project, accidents, or extraordinary events with the possibility of occurring during the operation and maintenance phase: fires, fuel spills, exits of service due to strong winds, extraordinary snowfall, etc.

The visual basin ² is the set of surfaces or zones that are seen from an observation point, it is the visual environment of a point where there would be direct impacts to the vegetation of the area of influence in the project (these are not considered as an impact within environmental assessment but as a contingency).

3.2.9 Biodiversity Fauna – Birds

The operation of the wind farm constitutes a moderately significant impact on fauna due to the change in intraspecific and interspecific ecological relationships (territoriality, competition and association, the effects that habitat loss can produce in animal populations from loss of breeding areas that It would be expressed in a population reduction until changes in migratory routes. On the other hand, the main potentially negative effects of wind farms on fauna are concentrated on birds and bats due to collision, displacement caused by avoidance, barrier effect and loss of habitat.

It is worth making special mention of birds in terms of their impact on the collision, displacements caused by avoidance, barrier effect and loss of habitat.

- Collision: The collision occurs not only against the blades, but also against the towers, gondolas, and associated structures such as reins, high voltage lines and communication and meteorological towers. The movement of the rotors creates areas of depression and turbulence that affect the flight of the birds and can deflect them until they impact or are forced to descend to the ground.

¹ (Morlans, 2005)

² (Fernandez, 1977)





Security lights can increase the risk of collision by attracting and disorienting birds. - Displacement: The density of birds in these areas decreases by 20% to 80%. Birds avoid passing within 1 km (at night) or 3 km (day) of the turbines, which affects their flight routines. The latter causes birds to leave areas, suffering loss of suitable habitats for them.

- Barrier effect: Due to the size of the turbines and the extension of the wind farms, birds must take long detours to avoid them, which affects their energy costs.

- Loss of habitat: The installation of wind turbines and associated infrastructure cause transformation or loss of habitat. Birds can be potentially affected by the installation and operation of the wind turbines, as well as the laying of the high voltage power line.

According to the study 'Suggested Practices for plane Protection on power Lines: The State of the Art in 2006' prepared by Avian Power Line Interaction Committee (APLIC) in 2006, has compiled information on bird deaths due to power lines, as summarized in the following table.

Mortality cause	Estimated Annua	Percentage of				
	Minimum	Maximum	maximum			
Collisions with windows	97	980	66,30%			
electrocutions with power lines	0,01	0,01	0,01%			
cats	39	100	6,77%			
collisions with power lines	174	174	11,77%			
communication towers	4	50	3,38%			
pits with oil, oils	1	2	0,14%			
collisions with vehicles	60	100	6,77%			
Poisoning	72	72	4,87%			
Wind turbines	0,01	0,04	0,00%			

Table 1. Estimate of annual human-caused mortality of birds, expressed in millons.

Source: Avian Power Line Interaction Committee, APLIC, 2006)

Additionally, positive impacts would be found for animal populations, such as the principle of resilience (whose objective is to return the site to a state as similar as possible to its initial situation) it would allow establishing cleaning actions and generating work that enables the recovery of ecological conditions. viable to restart biological processes of growth and reproduction. In case of contingencies, the fauna may be affected, resulting in a moderately significant environmental importance.

3.2.10 Resource Management for Adaptation Purposes

In relation to the previous point, it is recommended that the environmental management of the project follow an Adaptation Resource Management (ARM) plan, whose intention is to provide a procedure that involves the collaboration and guidance of specialists to evaluate





management measures and control to avoid and minimize avian mortality. The ARM plan will provide flexibility in the use of environmental management procedures over time to maximize the effectiveness and efficiency of the procedures that are adopted.

3.2.11 Related infrastructure

In the event that it is feasible, it will be recommended to use interconnection cables to the national electrical network underground to avoid the collision and electrocution of birds with aerial cables, according to the recommendations of *Miguel E. Equihua Zamora et al., (2003)*

When it is not feasible to use underground cabling, the design of towers and power lines should consider the bird flow in the area to minimize bird strikes.

If possible, avoid building power transmission lines over bodies of water or areas with a high concentration of birds. If it is necessary to cross rivers or bodies of water, it will be sought that the arrangement of the crossing of the cables is oblique to the direction of the body of water or river and it will be avoided that the crossing is perpendicular. It should be sought that the layout of the power lines is parallel to the direction of the prevailing winds.

3.2.12 Aviation radar

Wind power facilities, if they were very close to the Rio Grande International Airport radar, could impact/affect the operation of the aviation radar by causing signal distortion, which can cause signal loss, mask real targets and/or signals errors on the radar screen, creating flight safety problems. This aspect will be considered when evaluating the technology and equipment of the wind turbines at the time of their acquisition and assessing potential impact.

3.2.13 Electromagnetic interference

Wind turbines could cause electromagnetic interference in telecommunications systems (for example, microwave, television and radio). This interference could be caused by path obstruction, shading, reflection, scattering, or re-radiation. The nature of the potential impacts depends primarily on the location of the wind turbine in relation to the transmitter and receiver, characteristics of the rotor blades, characteristics of the receiver signal frequency, and characteristics of radio wave propagation in the local atmosphere. This aspect will be considered when evaluating the technology and equipment of the wind turbines at the time of their acquisition and assessing potential impact.

3.2.14 Transport of abnormal load





Traffic and transportation problems will be key aspects to consider when locating wind power facilities in accordance with the Executive Project, since wind turbine components are usually oversized or heavy (blades, turbine tower sections, nacelles, and transformers) and cranes to the site.

3.2.15 Logistics and traffic

The transportation study should assess impacts to existing off-site roads, bridges, culvert crossings, as well as overpasses/underpasses, turning radii, and utilities, as well as surface replacements, upgrades, or relocations will be required. To reduce delays to other road users and the potential for other effects on local communities near the proposed route, schedule deliveries off-peak, use only approved access routes, provide traffic management to stop other traffic where necessary and provide police escorts when necessary to minimize the impact.

3.2.16 Socioeconomic and cultural environment 3.2.16.1 Employment Generation

In the operation and maintenance stage, the Wind Farm will generate a slight increase in the demand for man hours at the operational level, both for its operation and for its maintenance, albeit slightly. The environmental importance of the impacts associated with all construction actions on occupation and employment in the area of indirect influence of the work reaches a compatible positive value.

3.2.16.2 Population

During the operation and maintenance stage, particularly due to noise emissions, there will be a negative level impact, but with a low level given that there are no residents in the direct area of influence of the project, as well as the personnel affected by the operation of the project. The Wind Farm Project is consequently assigned a compatible importance and a negative sign, to the extent that the pertinent controls are carried out.

3.2.16.3 Occupational Health and Safety

Occupational health and safety performance should be assessed against internationally published standards and based on incident statistics. To this end, the Contractor will be requested to include an Occupational Health and Safety Plan that includes:

• Record all the incidents that occur during the execution of the project. • Recording data on near misses (also known as near misses) during a project to identify trends and implement improvements. • Carrying out audits of the workplace and workers to assess the





effectiveness of risk management systems and safety culture at work. • Consultation and comments from workers through questionnaires or periodic safety meetings. • Compare the organization's data with published industry-specific data, if available.

Accident and fatality rates

Project management should aim to reduce the number of accidents among project workers (whether direct or subcontracted employees) to zero, especially accidents that could result in lost work time, different levels of disability, or even fatalities. The impact on the health and safety of workers due to the development of their functions in the project can occur due to contingent events in all stages of the project.

However, the risks to the health and safety of the workers during the construction, operation and dismantling of the wind farm have a low impact given that it is planned to implement all the necessary prevention and control measures of safety and hygiene for the reduction of risks for workers.

The main risks to which workers may be exposed in carrying out their activities in the construction, operation and closure stages of the project can be physical, chemical, physical, mechanical, electrical, mainly.

3.2.16.4 Economic activities

The local economy would benefit from the possibility of an increase in commercial exchange to supply the logistical requirements of the civil works, purchase of materials, services, etc. The operation of the Wind Farm will generate a slight increase in the demand for services, both for its operation and for its maintenance and cleaning. On the other hand, the production of this type of alternative energy will serve as a replacement for the use of fossil fuels or water resources, it can mean great economic growth. In this sense, it is considered that the importance of the impact associated with the operation and maintenance of the Wind Farm reaches a positive value.

4. MEASURES TO MITIGATE THE EFFECTS

Based on the results obtained from the matrix in which the environmental impacts were identified and weighted, a series of measures are developed to prevent or mitigate said impacts to: i) Reduce and/or mitigate a large part of the potential negative impacts caused by this Project; ii) guarantee that the Project is developed in an environmentally responsible manner, in compliance with the current legal framework and in harmony with the environment.





The document 'Environmental and Social Management Plan (ESMP) presents a summary with the recommendations and executive mitigation measures, which may be adjusted once the Executive Project is concluded and the corresponding Environmental and Social Impact Assessment (ESIA) have been completed, including the instances of the Participatory Workshops and Public Hearing.

Measures of a generic nature for this type of project are described, as well as specific measures based, basically, on the analysis of the information generated in the field and compiled by the consulting firm '*Ambiente y Territorio SA*'.

Said Plans and Measures will be implemented by the contractor company that is awarded the Works, which must include personnel and budgetary resources to implement all the Social Environmental Management Programs (ESMP) and other Specific ones that arise at the time of obtaining the License or Apt. Environmental by the competent provincial authority and in accordance with the Social and Environmental Framework of the AIIB.

The Contractor must comply, throughout the contract period, with all Argentine environmental, social, labor, occupational risk and occupational safety and hygiene regulations and, with all applicable legislation, in force on the date of the contract. award, whether or not it is indicated in the bidding documents, particularly the ESMP.

Likewise, it must comply with the rules and regulations that may be issued during the development of the contract, both of the 3 institutional levels of Argentina, and of the Environmental and Social Policies of the AIIB. You must also comply with the observations, requirements or sanctions made by the national, provincial and/or municipal Control Authorities and Organizations, assuming the costs, taxes, rights and/or fines for any concept on your own.

5. ENVIRONMENTAL MONITORING PROGRAM

For the purposes of executing this Project, there will be an Environmental Monitoring Program which provides for environmental audits/inspections, which will preferably be three, distributed as follows:

- > During the preparation of the land and adequacy of the access roads.
- > During the assembly tasks of the wind turbines.
- > During the commissioning of the Wind Farm.

An External Environmental Auditor will be assigned as the main person in charge of environmental monitoring in the Project stage. He will be in charge of coordinating the general verifications of the area, and in case of need, he will have the collaboration of an archaeologist and/or paleontologist to verify the cultural heritage rescue needs. The Environmental Auditor will prepare reports on the tasks carried out and their environmental results, throughout the execution of the work, following the guidelines detailed in this Plan.





It is advisable that the first monitoring be carried out when the works are reconsidered, to actively collaborate with the Site Manager in the ways of addressing actions, depending on the environment and to define the vegetation and soil monitoring sites.

Construction will be monitored through weekly verification of compliance with the plans and mechanisms mentioned above. During operation, monitoring will be carried out on a monthly basis. Annual reports on environmental and social performance will reflect the progress of the implementation of the plans.

The reports will be verified with the provincial legal requirements and the Environmental and Social Policies of the AIIB.

This Non-Technical Summary and the SEP will be published prior to Bank approval of the Project. The SEP provides a mechanism for the consideration and response to additional comments, it describes the contractor company's approach to interacting with interested parties, including the local community and the disclosure of relevant information regarding Project implementation.

For more information about the Project and its progress, you can visit the Official website www.tierradelfuego.gob.ar Project Implementing Entity Email address tierradelfuego@apn.gob.ar or call at (+54) 2901-441100.





APPENDIX 1 IDENTIFICATION OF ENVIRONMENTAL AND SOCIAL IMPACTS FOR THE IMPLEMENTATION OF THE WIND FARM PROJECT IN RÍO GRANDE

Aspecto			Fisi	ico				Biót	ico	Socioeconómico								
Componente	Geomo	rfología Suelos Recurso hidrico Atmósfera						a	Paisaje	Flora y	Fauna	Socioeconómico y cultural						
Elemento	1			2	1				1			-	2			2		1
Acciones	Geoformas	Procesos de erosión	Estructura del suelo	Calidad del suelo	Sistema hidrico superficial (escor rentia)	Calidad de agua	Calidad de Aire	Nivel sonoro	Efecto sombra	Calidad escenica y del paísaje	Cobertura vegetal	Fauna	Empleo	Población local	Seguridad y salud laboral	Actividades económicas	Infraestructura existente	Patrimonio cultural (Hallazgos arqueologicos)
	ETAPA 1: Constructión																	
Preparación de terreno																		
Habilitación del obrador	l Î							1										
Movilización de equipos, maquinarias y materiales								1										
Transporte de componentes aerogeneradores									10									
Movimiento de suelos (caminos , cimentaciones ,plataformas)					3 3			5	and a second					1				
Adecuación de acceso y construcción caminos internos					1													
Construcción obras de arte ydrenaje														l l				
Construcción de fundaciones)										
Construcción de plataformas	1							1	ан — Эл							-	100 - 100 100	
Construcción de edificio de operaciones				14					1			2		1		5	6	
Montaje de aerogeneradores					1 W				2 23								-	
Construcción de la red eléctrica interna del PE, sistema de puesta a tierra y enlace de																		
comunicaciones.																		
Construcción de subestación transformadora				Ĭ.	lí I)				1				1 I					
Construcción LAT	, in the second se				ť í				2									
Pruebas y energizado PE	1			<u> </u>	B 3	2		2		-					-		ę – 8	
Limpieza y acondicionamiento del terreno																		
								E	APA 2:	Operació	ón							_
Operación de los aerogeneradores																-		
Operación de la SET					8 8)	1							5	-	1
Operación de LAT de 220kv				-	S 13				8 B							2		
Circulación de vehículos					· · · · ·													
Mantenimiento de aerogeneradores, SET, LAT																		
									ETAPA	3: Cierre	i)							
Desmantelamiento de aerogeneradores e infraestructura				1	<u> </u>			6	3 3	1		8	4				i - 5	
Retiro de cableado subterráneo			_	12	. n				-	-								
Desmantelamiento de SET	-			-	-				a 11		_							-
Restablecimiento de las condiciones originales del terreno																		
			Impacto	negativ	0						Impacto	positivo						





ANNEX 2 SUMMARY ASSESSMENT OF POTENTIAL ENVIRONMENTAL IMPACTS

Etapa	Construcción																			
Aspecto			w		Fisico							tico	Socioeconómico y cultural							
Componente	Geomor	fología	Sue	elos	Recursos	hidricos	1	Atmosfera	1	Paisaje	Flora y	fauna	Socioeconómico y cultural							
Elemento	Geoformas	Procesos de Erosión	Estructura del suelo	Calidad del suelo	Sistema hidrico superficial (escorrentia)	Calidad del agua	Calidad de Aire	Nivel sonoro	Efecto sombra	Calidad escenica y del paísaje	Cobertura vegetal	Fauna	Empleo	Población local	Seguridad y salud laboral	Activida des econômicas	Infraestructura existente	Hallazgos arqueològicos		
Preparación de terreno	-17	-23	-23	-27	-26	-19	-19	-26	0	-23	-31	-31	28	0	-17	32	0	0		
Habilitación del obrador	-17	-25	-23	-32	-26	-33	-23	-30	0	-23	-29	-28	28	0	-17	38	0	0		
Movilización de equipos, maquinarias y materiales	-28	-28	-28	-28	0	-24	-40	-40	0	-36	-26	-33	28	-23	-21	38	-29	-25		
Transporte de componentes aerogeneradores	-28	-28	-28	-28	0	-24	-40	-34	0	-27	-26	-33	28	-23	-21	38	-29	-25		
Movimiento de suelos (caminos, cimentaciones, plataformas)	-30	-43	-44	-50	-30	-33	-35	-23	0	-44	-41	-39	28	0	-21	38	-25	0		
Adecuación y construcción de caminos de acceso	-42	-38	-42	-32	-32	-29	-31	-29	0	-28	-37	-41	28	0	-18	38	-29	-25		
Construcción de obras de arte y drenaje	-30	-28	-39	-29	-27	-23	-23	-29	0	-23	-29	-26	28	0	-18	38	0	0		
Construcción de fundaciones	-19	-32	-36	-44	-27	-20	-35	-29	0	-28	-36	-36	28	0	-21	38	0	0		
Construcción de plataformas	-32	-34	-36	-46	-33	-20	-35	-29	0	-28	-30	-36	28	0	-21	38	0	0		
Construcción de edificio de operaciones	-28	-26	-36	-32	-31	-20	-31	-29	0	-28	-37	-36	28	0	-21	38	0	0		
Montaje de aerogeneradores	-32	-28	-43	-32	-27	-19	-26	-29	0	-37	-28	-32	28	0	-21	38	0	0		
Montaje Líneas eléctricas internas de MT	-20	-20	-36	-32	-30	0	0	-29	0	-28	-37	-37	28	0	-21	38	-25	0		
Construcción de subestación transformadora	-28	-23	-36	-32	-25	-33	-31	-29	0	-28	-37	-36	28	0	-21	38	-25	0		
Construcción LAT	-30	-25	-41	-37	-24	-19	-31	-29	0	-28	-32	-34	28	0	-21	38	-25	0		
Pruebas y energizado PE	0	0	0	0	0	0	0	-26	0	0	0	-24	28	0	-21	38	-25	0		
Limpieza y acondicionamiento del terreno	30	30	31	27	34	27	33	27	0	27	27	27	28	0	-18	38	0	0		
Etapa								Oj	peración									19 ⁶		
Operación de los aerogeneradores	0	0	-38	0	0	0	43	-41	-31	-57	0	-52	45	-23	-24	32	0	0		
Operación de la SET	0	0	0	0	0	0	0	-28	0	0	0	-46	35	0	-24	32	0	0		
Operación de LAT de 220kv	0	0	0	0	0	0	0	-28	0	0	0	-46	39	0	-24	32	0	0		
Circulación de vehículos	0	0	0	-28	0	-24	-27	-41	0	-24	-26	-39	39	0	-22	32	0	0		
Mantenimiento de aerogeneradores, SET, LAT	0	0	0	-24	0	-24	-24	-26	0	-19	-26	-24	29	0	-24	32	0	0		
Etapa									Cierre									$1 \dots 1$		
Desmantelamiento de aerogeneradores e infraestructura	0	0	34	0	35	0	-28	-26	0	61	35	48	28	0	-21	32	-17	-17		
Retiro de cableado subterráneo	0	0	40	0	33	0	-24	-23	0	39	34	42	25	0	-18	32	0	0		
Desmantelamiento de SET	0	0	34	0	33	0	-28	-23	0	39	37	42	25	0	-21	- 32	0	0		
Restablecimiento de las condiciones originales del terreno	31	31	40	30	30	27	30	34	34	30	30	30	25	0	-18	32	0	0		





ANNEX 3 ASSESSMENT OF POTENTIAL ENVIRONMENTAL IMPACTS

	5. 1.54																	
Flags	1								C	onstrucción			1					
Aspecto							6			Biólico	Socioeconômico							
Componente	Georgeon	eologia y morfologia	Suelos		Recursos hidricos		Atmosfera					Paisaje	Æ	lona y fauna	Socioeconómico			
Valoración y calificación Acciones	Valoración media	Clastfeactón	Vatoración media	Clasific ación	Valoración media	Ctastfcación	Valoración media	Clasifeación	Valoración media	Clasticación	Valoración media	Clastfoaction	Valoración media	Classificación	Valoración media	Clasifeación	Valoración media	Clasificación
Etapa			-						C	onstrucción								
Preparación de terreno	-20	Leve	-25	Leve	-23	Leve	-15	Leve		8 V	-23	Leve	-31	Moderado	30	Moderado	4	Insignificante
Habilitación del obrador	-21	Leve	-28	Moderado	-30	Moderado	-18	Leve		(a) 7	-23	Leve	-29	Moderado	33	Moderado	-4	Insignificante
Movilización de equipos, maquinarias y materiales	-28	Moderado	-28	Moderado	-12	Insignificante	-27	Leve			-36	Moderado	-30	Moderado	33	Moderado	-25	Leve
Transporte de componentes aerogeneradores	-28	Moderado	-28	Moderado	-12	Insignificante	-25	Leve		8 6	-27	Moderado	-30	Moderado	33	Moderado	-25	Leve
Movimiento de suelos (caminos , cimentaciones ,plataformas)	-37	Moderado	-47	Moderado significativo	-32	Moderado	-19	Leve			-44	Moderado significativo	-40	Moderado	33	Moderado	-12	Insignificante
Adecuación y construcción de caminos de acceso	-40	Moderado	-37	Moderado	-31	Moderado	-20	Leve	1		-28	Moderado	-39	Moderado	33	Moderado	-18	Leve
Construcciónd e obras de arte y drenaje	-29	Moderado	-34	Moderado	-25	Leve	-17	Leve		8 8	-23	Leve	-28	Moderado	33	Moderado	-5	Insignificante
Construcción de fundaciones	-26	Leve	-40	Moderado	-24	Leve	-21	Leve			-28	Moderado	-36	Moderado	33	Moderado	-5	Insignificante
Construcción de plataformas	-33	Moderado	-41	Moderado significativo	-27	Insignificante	-21	Leve			-28	Moderado	-33	Moderado	33	Moderado	-5	Insignificante
Construcción de edificio de operaciones	-27	Moderado	-34	Moderado	-26	Leve	-20	Leve		8	-28	Moderado	-37	Moderado	33	Moderado	-5	Insignificante
Montaje de aerogeneradores	-30	Moderado	-38	Moderado	-23	Leve	-18	Leve			-37	Moderado	-30	Moderado	33	Moderado	-5	Insignificante
Montaje Líneas eléctricas internas de MT	-20	Leve	-34	Moderado	-15	Leve	-10	Insignificante		li li	-28	Moderado	-37	Moderado	33	Moderado	-12	Insignificante
Construcción de subestación transformadora	-26	Leve	-34	Moderado	-29	Moderado	-20	Leve		8	-28	Moderado	-37	Moderado	33	Moderado	-12	Insignificante
Construcción LAT	-28	Moderado	-39	Moderado	-22	Leve	-20	Leve			-28	Moderado	-33	Moderado	33	Moderado	-12	Insignificante
Pruebas y energizado PE	0	Nulo	0	Nulo	0	Nulo	-9	Insignificante			0	Nulo	-12	Insignificante	33	Moderado	-12	Insignificante
Limpleza y acondicionamiento del terreno	30	Moderado	29	Moderado	31	Moderado	20	Leve	-		27	Moderado	27	Moderado	33	Moderado	-5	Insignificante
Etans Operación de los aerogeneradores	0	Nulo	-19	Leve	0	Nilo	43	Moderado	-36	Moderado	-57	Moderado	-26	Leve	39	Moderado	-12	Insignificante
Operación de la SET	0	Nulo	0	Nulo	0	Nuío		argriticatives	-9	Insignificante	0	Nulo	-23	Leve	34	Moderado	-6	Insignificante
Operación de LAT de 220kv	0	Nulo	0	Nulo	0	Nulo			-9	Insignificante	0	Nulo	-23	Leve	36	Moderado	-6	Insignificante
Circulación de vehículos	0	Nulo	-14	Leve	-12	Insonificante			-23	Leve	-24	Leve	-33		36	Moderado	-6	Insignificante
Mantenimiento de aerogeneradores, SET, LAT	0	Nulo	-12	Insignificante	-12	Insgnificante	-		-17	Leve	-19	Leve	-25	Leve	31	Moderado	-6	Insignificante
Eaps		3 3	1 1	12	÷ 1	ų.	3 0		Cier	re y abandono				ana an t		e		5
Desmantelamiento de aerogeneradores e infraestructura	0	Nulo	17	Leve	18	Leve			-18	Leve	61	Significativo	42	Moderado significativo	30	Moderado	-14	Leve
Retiro de cableado subterráneo	0	Nulo	20	Moderado	17	Leve			-16	Leve	39	Moderado	38	Moderado	29	Moderado	-5	Insignificante
Desmantelamiento de SET	0	Nulo	17	Moderado	17	Leve			-17	Leve	39	Moderado	40	Moderado	29	Moderado	-5	Insignificante
Restablecimiento de las condiciones originales del terreno	31	Moderado	36	Moderado	29	Moderado	33	Moderado	- 33	Moderado	30	Moderado	30	Moderado	29	Moderado	-5	Insignificante