

Environmental and Social Review Summary (ESRS) Huemul Portfolio – Chile

Original language of the document: English
Revision's cut-off date: March 2020

1. General Information and Overview of Scope of IDB Invest's Review

Mainstream Renewable Power ("The Sponsor" or "MRP"), through Huemul Energía Spa ("The Client", "The Special Purpose Vehicle" or the "SPV"), is planning to develop the Huemul Renewable Energy Portfolio ("The Project"). The latter comprehends two Photovoltaic Power Plants (Pampa Tigre, located at Antofagasta region, and Valle Escondido, located at Atacama region), and three Wind Farm Plants (Ckani and Llanos del Viento, both located at Antofagasta region, and Puelche Sur located at Los Lagos region), hereafter "The Subprojects".

Each Subproject was subject to an environment evaluation¹ under Chilean legislation, which concludes with a Resolution of Environment Qualification (the "RCA"), which is, in fact, an environmental license. Any modification or new work that might be needed after the RCA has been granted, can be evaluated through a Pertinence Consulting ("CP"), if such works do not impose new impacts; or through an environment assessment declaration ("DIA") or an environmental impact assessment ("EIA"), depending in the magnitude and intensity of such impacts.

Pampa Tigre Photovoltaic Power Plant ("Pampa Tigre"), evaluated through a DIA, includes: i) the installation of 430,920 photovoltaic modules with a gross installed capacity of 100 megawatt alternating current ("MWac"); ii) a booster substation; iii) a switch substation; iv) and a 9.6 km long, 220 kilo-volt ("kV") transmission line ("TL").

Valle Escondido Photovoltaic Power Plant ("Valle Escondido"), evaluated through a DIA, includes: i) the installation of 382,000 photovoltaic modules that total a gross installed capacity of 105 MWac; and ii) a booster substation which will transfer the energy produced by the Project to the Sistema Eléctrico Nacional ("SEN").

Ckani Wind Farm Project ("Ckani"), evaluated through a DIA, includes: i) 26 wind turbines of 4,2 Megawatt ("MW") each, resulting on a gross installed capacity of 109,2 MW; ii) one inner booster substation; iii) a 34,5 kV underground TL of 21.09 km in length; iv) and a 220 kV air TL with a longitude of 23 km that will connect the farm to El Abra Power Electric Substation, property of the SEN.

Llanos del Viento Wind Farm Project ("Llanos del Viento"), evaluated through a DIA, comprises: i) 32 wind turbines of 5,0 MW each, resulting on a gross installed capacity of 160 MW; ii) a booster substation (33 kV to 220 kV); iii) a 25 km 33 kV underground electric transmission that will connect

Either through an Environmental Impact Assessment ("EIA"), when the impacts are deemed to be important and significant, or through an Environmental Impact Declaration ("DIA"), when the associated impacts and risks are deemed to be lesser in importance and magnitude.



the farm to the booster substation; and iv) a 25 km 220 kV air TL that will convey the energy from the farm to the O'Higgins Power Electric Substation, property of the SEN.

Puelche Sur Wind Farm Project ("Puelche Sur") as well as its associated TL, were evaluated through two separate EIAs. The farm includes: i) 30 of 4,8 MW and 3 of 4,0 MW wind turbines of installed capacity, resulting in a total of 156 MW; ii) a 33 to 220 kV booster substation; and iii) a 220 kV TL in simple circuit, of approximately 12,86 km in length that will connect the farm to the Frutillar Substation.

Land requirements for each Subproject is as it follows: i) Ckani WF, 1.271 ha from which 141,2 ha will be used for the works; ii) Pampa Tigre, 660 ha from which 643 ha will directly intervened; iii) Llanos del Viento, 1.819,3 ha from which 656 ha will be used; iv) Valle Escondido, 359,7 ha from which 229,1 ha will be directly occupied; and v) Puelche Sur, 2.702 ha, from which 169 ha will be used for the works.

This Environmental and Social Review Summary is based on the analysis of information provided by the Client² and complemented by that obtained throughout the Environmental and Social Due Diligence site visit that was performed between February 24th to 27th. This visit included: i) meetings with Project's environmental, social and technical teams and consultants; ii) a tour to the Subprojects' sites; and iii) meetings with representatives of the communities near Puelche Sur.

2. Environmental and Social Categorization and Rationale

The Project has been classified as a Category B operation (Low to Medium Risk) as per IDB Invest's Environmental and Social Sustainability Policy, since it will likely generate, among other, the following impacts: i) alteration of air quality due to construction activities; ii) induction of possible erosive processes due to earth movements; iii) increased noise and vibration levels due to the use of heavy machinery during construction; iv) minor loss of vegetation with possible impacts on fauna, flora and natural habitats, due activities linked to the foundation of generation towers (for the windfarms) the construction of the solar panels, and the easement of the right of way for the TL's; v) potential increase in the risk of soil contamination by hazardous substances to be used during the construction and implementation of the Project; vi) disruption of vehicle traffic (especially in Puerto Montt, Puerto Varas and the community of Chíu Chíu) due to the transport of extra-wide and extralong cargo; vii) increased risk to health from the execution of work at heights (assembly of wind turbines and construction of the LT's); viii) potential affectation of flying fauna (birds and bats) due to possible collisions with wind turbine blades; and ix) permanent alteration of the landscape by the presence of wind turbines, the LT's, and the solar panels. These impacts will be mostly localized, temporary (except those related to landscape alteration which will be permanent), reversible and manageable (compensated, mitigated or repaired) by appropriate management systems.

The Performance Standards (PS) triggered by the Project are: PS1: Assessment and Management of Environmental and Social Risks and Impacts; PS2: Labor and Working Conditions; PS3: Resource

² Among other: i) four Environmental Impact Declarations (DIA) for Pampa Tigre, Valle Escondido, Ckani and Llanos del Viento; ii) one Environmental Impact Assessment (EIA) for Puelche Sur; iii) Project Documents; iv) Environmental and Social Management Plans; and v) Integrated Management System Manual.



Efficiency and Pollution Prevention; PS4: Community Health, Safety, and Security; PS7: Indigenous Peoples; and PS8: Cultural Heritage.

3. Environmental and Social Context

Pampa Tigre and Valle Escondido photovoltaic ("PV") farms are in Atacama Desert, where the solar radiation is considered one of the best in the world. Both subprojects are close to transmission lines and energy demand centers, which makes their execution very attractive and feasible from an economic and technical standpoint. In addition, in terms of accessibility, they both have connecting roads in good condition and are close to urban centers: Pampa Tigre is 65 km away from Antofagasta city and Valle Escondido is 49 km away from the city of Copiapó.

Ckani is also in the Atacama Desert, about 45 km away from the urban city limits of Calama, in an area characterized by steady wind high velocity with no communities or indigenous settlements nearby or within the Subproject's area of influence. The site is also very close to El Abra substation, a fundamental piece to evacuate the energy to be generated.

Llanos del Viento, is in a desertic area with an annual average of wind speeds close to 4m/s, nearby electric line grids and points of highly electricity demands. The project site can be accessed through several paved roads and highways directly from the Antofagasta city, which is 50 km away.

Puelche Sur is located about 10 km west from the Frutillar community, in the region of Los Lagos, in the provinces of Llanquihue and Osorno, on highly anthropized privately own lands characterized by livestock and agricultural activities. The place does not interfere populated centers, indigenous territories, or sites considered of high archaeological, paleontological or cultural value. Notwithstanding, near the area of direct influence four indigenous communities can be found.

4. Environmental Risks and Impacts and Proposed Mitigation and Compensation Measures

4.1 Assessment and Management of Environmental and Social Risks

4.1.a E&S Assessment and Management System

MRP has an Integrated Management System ("IMS") for Occupational Health, Safety and Environment ("HSE"). The IMS aims at managing HSE risks under ISO standards 45.001 "Safety and Health at Work" and 14.001 "Environmental Management System".

The IMS³ only applies to construction management, run by Mainstream. The main goals that the IMS pursues are the following: i) identification of risks and opportunities for each project phase; ii) identification, evaluation and control of environmental aspects to determine the most significant impacts and management measures; iii) hazard identification, evaluation and control; iv)

³ So far, the IMS does not apply to contractors and subcontractors. The latter must have a defined management system, which will be controlled and audited by Mainstream.



identification and evaluation of legal and other requirements compliance; and v) identification of HSE objectives.

4.1.b Policy

MRP has an integrated Environmental Management, Safety and Occupational Health policy that factors in the following aspects: i) injurie prevention and health decay culture promotion; ii) provision of safe and healthy conditions to reduce safety and occupational health risks; iii) protecting the environment and keeping trust bonds with communities nearby; iv) avoiding contamination, keeping vegetation and wild animals safe, and promoting environment consciousness through an efficient and rational use of natural resources; v) compliance with applicable laws, regulations, standards and other instruments while respecting at all times its employees and affected communities' human rights; vi) interruption of works under hazardous conditions, by giving its workers the prerogative to stop any harmful activity that might affect them or the environment, and; vii) continuous improvement, by periodically checking, evaluating and retrofitting the IMS's goals, methodologies, programs and achievements.

4.1.c Identification of Risks and Impacts

Even though Ckani, Pampa Tigre and Valle Escondido subprojects are not likely to generate significant environmental impacts, their most important risks and impacts are related to the generation of small quantities of hazardous and nonhazardous liquid and solid wastes; atmospheric emissions; and the production of noise during their construction.

Llanos del Viento will likely generate minor impacts on air quality, basically due to ground movement activities, gasoil electric generators operation, and heavy trucks transport and vehicles transit over paved and unpaved roads to access the subproject.

Puelche Sur's most likely impacts during its construction phase are related to: i) loss and alteration of soil; ii) introduction of artificial elements (wind turbines) into the landscape; iii) alteration of local tourism; iv) sound pressure increase due construction works; v) possible impacts to the Mapuche-Williche⁴ indigenous communities; and v) alteration in traffic and vehicles due to transportation of large equipment and wide cargo materials. During its operation phase, impacts will be related to: i) permanent alteration of the landscape and tourism pattern; ii) possible collisions of flying fauna (birds and bats) against the wind turbines; and iii) possible visual impacts to the *Mapuche-Williche* indigenous community lives.

4.1.c.i Cumulative impact analysis

Even though the Subprojects the impacts of existing projects -if any- have already been factored in their base line analyses; there are no other projects currently being implemented within their area of influence; a cumulative impact analysis was performed as part of the DIA process through which the Subprojects obtained their RCA. Thereafter, the DIA for Llanos del Valle factors in the

⁴ Most specifically the Weichan Mapu, Lafken Mapu Inchen, Peñi Mapu and Los Canelos.



aggregated impacts of Pampa Tigre and Cerro Tigre⁵; and the DIA of Pampa Tigre also includes the cumulative impacts that will be generated by Cerro Tigre.

Puelche's Sur EIA has a specific chapter that deals with synergistic impacts, which in fact is a cumulative impact assessment. The results of this analysis show that these synergistic (cumulative) impacts are minor and do not require a specific mitigation, compensation or reparation plan.

4.1.c.ii Analysis of alternatives

Due to their remote location (in the Atacama desert), to the fact no communities were found in the vicinities and that no flora and fauna species of ecological importance or abundance were registered, the analysis of alternatives for Valle Escondido, Pampa Tigre, Llanos del Viento, and Ckani was undertaken mostly from the technical perspective. However in Puelche Sur, some minor adjustments to the general layout were introduced to avoid impacts to the nearby communities⁶, which include: i) a realignment of the transmission line, to avoid crossing over some forest remains and prevent impacts to some land owners; and ii) the rearrangement of the farm's layout, to avoid impacting in indigenous traditional or ritual lands.

4.1.d Management Programs

The EIA and DIA's include a series of measures to avoid, mitigate or compensate undesired impacts and risks: i) bischofite⁷ will be spread in most of access roads to control the generation of dust; ii) training will be provided to all personnel working in the projects on how to protect the flora and fauna; iii) a chance find procedure will be adopted should any archaeological or paleontological finding appear; iv) revegetation of all intervened areas will be performed with local species⁸; v) a monitoring program for high-mobility⁹ fauna will be put in place; vi) a waste management program that include liquid and solid, domestic and hazardous wastes will be put in place; vii) rescue and relocation of low-mobility fauna species will be undertaken; viii) water and energy use and conservation; and ix) bird and bat collision monitoring programs for the wind farms.

4.1.e Organizational Capacity and Competency

The management of the environmental and social aspects related to the five Subprojects will be handled by two managers that will report directly to the Client. Each of them will have a specialist (to oversee and monitor the execution of the environmental and social management plans for each Subproject. Each of these professionals, when needed, will be able hire more support personnel.

Engineering, Procurement and Construction ("EPC") contracts establish the need of all contractors to have an environmental, social and health and safety unit that will handle the execution of the

⁵ This project is part of the Condor Portfolio that will also be undertaken by Mainstream.

These modifications were either identified by the potential affected communities or suggested by them throughout the EIA process.

Bishofite is a hydrous magnesium chloride mineral (MgCl₂·6H₂O), often obtained as a sub product of mining activities. It is widely used in Chile to stabilized unpaved roads and to prevent the generation of dust due to traffic.

⁸ A seed recollection campaign will be started for that purpose.

Guanacos, fox and lizards.



management programs in a day-to-day basis, and that will coordinate with the Client's environmental and social personnel assigned to each subproject.

4.1.f Emergency Preparedness and Response

Each subproject has a Contingency Prevention and Emergency Plan, approved by its corresponding RCA. Such plans that contain operational measures to avoid or minimize the occurrence potential emergency situations or the respond promptly, should they occur. They also identify the most probable natural and anthropic risks for each subproject's phases, such as fire, landslides, earthquakes, and hazardous waste or wastewater spills, among others. In addition, for each risk identified, and define a general risk prevention strategy that includes: i) preventive and corrective maintenance of machinery; ii) systematic verification of compliance with applicable regulations; iii) internal risk control programs; iv) training in environmental aspects that are sensitive to workers; v) control of contractors; and vi) internal audit processes to verify compliance with environmental and emergency procedures.

Additionally, MRP has a complementary emergency preparation and response procedure applicable to all Huemul Portfolio Projects, that contains a series of actions in case of emergency. This procedure defines responsibilities among the Project's organizational structure and includes a Crisis Management Plan to communicate with the authorities, the local community and the media should an emergency materializes.

Before the initiation of activities, all subcontractors need to present MRP an Emergency Plan, that identifies all major hazards related to the activities they are going to perform, assess their probability of occurrence and describe the command and communication flows in case of emergency.

MRP is responsible to implement trainings and to perform routine drills to test the efficiency of the emergency preparedness and response mechanisms and to generate feedback to improve them.

4.1.g Monitoring and Review

Each construction works included in the Project will be overseen by a system that includes internal and external instances. Internal ones are made up of the environmental and social teams of the Client and of each of the main contractors, the environmental and social specialists appointed by the Client to each subproject and the environmental, social and health and safety personnel of the Technical Inspection of Works ("ITO").

The external supervision is composed by: i) the Superintendence of the Environment ("SMA"); ii) the various sectoral offices with competence in environmental, health, labor, natural resources, and public infrastructure matters, such as: the Health Regional Ministerial Office (Seremi de Salud); the National Forestry Corporation ("CONAF"); the Agricultural and Livestock Service ("SAG"); the National Monuments Council ("CMN"); the Labor Inspectorate; and the Transportation Regional Ministerial Office (Seremi de Transporte), among others; and iii) the Lenders environmental and social teams.



4.1.h Stakeholder Engagement

A stakeholder identification process was made for each Subproject. However, except for Ckani and Puelche Sur, no directly related stakeholders were identified for Llanos del Viento, Valle Escondidio and Pampa Tigre due to their very remote location.

For Ckani the stakeholder analysis identified two indigenous communities: The Chíu Chíu and the Lasana communities, located respectively at about 20 and 11 km from the subproject site. For Puelche Sur the analysis identified: i) four indigenous communities¹⁰; ii) the community of Quelanto; iii) two neighborhood associations¹¹; and iv) the Union of Neighborhood Association of Frutillar.

A stakeholder map was prepared for Ckani and Puelche Sur as well as a Stakeholder Engagement Program.

4.1.h.i Disclosure of Information

Most of the Project's information is disclosed through MRP's webpage¹² or through face-to-face meetings that are regularly being held with the neighboring communities and principal stakeholders.

4.1.h.ii Informed Consultation and Participation

Due to the relative proximity of the potentially affected population, Puelche Sur was the only subproject that developed a process of citizen participation (PAC) and Indigenous Consultation (PCPI). Framed in the PAC, a total of eighteen meetings were held with the communities aiming at providing them information regarding the possible impacts associated with the subproject, as well as of the measures considered for their management. Additionally, there were two rounds of early citizen participation held before the EIA was submitted.

The PCPI started on April 2017 and ended in February of 2019 with the subscription of a Final Agreement Protocol, was triggered by the SEA because the Client, after having performed the stakeholder and environmental analyses, identified the following impacts: i) significative alteration of human communities' livelihoods or customs; ii) location of projects in the vicinity of protected [indigenous] communities; and iii) significant alteration of landscapes. According to the Chilean 19.300 Law, projects need an Indigenous Consultation once one or more of the latter conditions are verified.

4.1.i External Communication and Grievance Mechanisms

MRP has a mechanism to capture, process and resolve (when possible) external queries, suggestions, grievances, claims or request for information related to any of the Subprojects. The mechanism has four main instances: i) the external party, which generates the claim; ii) the

 $^{^{10}}$ Weichan Mapu, Lafken Mapu Inchen, Peñi Mapu and Los Canelos

¹¹ Colonia Ponce and Colonia San Martin.

¹² https://www.mainstreamrp.com/chile/



Community Relationship Responsible ("ERC"), who receives and registers the claim, redirects it to the proper area, follows up the internal process until its resolution and prepares periodic reports; iii) the Project Manager, who is responsible to determine the possible causes of the claim and to set up, as needed, action plans (with their corresponding budget) with a list of activities needed to close the claim; and iv) the Corporate Affairs Management Area, that is responsible to assure on-time solutions for the claim; answer to government authorities, auditing entities and public media regarding the claim, when necessary; and dully grant the strict compliance of this procedure.

The main means of capturing claims is through mailboxes located in strategic places in the communities. Once the claim¹³ is captured, the ERC has a 24-hour time framework to contact the claimant and, if necessary, help this person to complement it with additional information. Thereafter, the ERC must divert the claim to the Project area that will be dealing with it. The responsible of that area has five days to gather all necessary information, generate an answer to the claimant, and deliver it to the ERC who has one day to approve it and to send it to the claimant.

If the answer satisfies the claimant, the claim is closed. If not, the ERC will request the area in charge of preparing the answers to revise the proposed solution or to provide further explanations to support the answer before communicating this second result with the claimant. If the affected still is not satisfied, the claim can be escalated to the MRP's Corporate Affairs Management Area for a final opinion.

Despite using the Project's grievance mechanism, claimants are always entitled to use any other legal procedure they deem necessary.

4.2 Labor and Working Conditions

4.2.a Working Conditions and Management of Worker Relationships

MRP, in line with its corporate policy and following local laws and applicable international standards, is committed to generating workplaces where workers are treated with respect and justice. In line with the above, it does not allow the hiring of minors; promotes job standards compatible with work and services that are carried out voluntarily; does not allow the recruitment of workers to be constituted in any form of economic exploitation; and prohibits forced or coerced labor.

As part of its Integrated Management System ("SGI"), the project has an Occupational Safety and Health Management System ("SG-SST2) that aims at ensuring workers a safe and healthy work environment. This system involves all Project direct workers, contractors and subcontractors and has been developed since a risk analysis (physical, chemical and biological).

The SGI requires each contractor to prepare a Competence and Training Plan for each Subproject. It also requires them to provide its workers and subcontractors with occupational health and safety training that covers at least the following topics: i) worker responsibilities, rights and limitations in their working environment; ii) code of conduct; iii) occupational safety and health policy of MRP and

¹³ Claims must identify the reason, context and main background that support them. They can be submitted either signed or in an anonymous way.



the contractors; (iv) occupational risks, preventive measures and safe working methods; v) emergency and evacuation action plans; and vi) special occupational health and safety requirements.

Subprojects will need a labor force¹⁴ that, depending on the farm, fluctuates between 350 and 650 people during their construction phase and from to 8 to 36 during operation¹⁵. No working camps with lodging facilities will be needed for the Project. Food for the Project's personnel will be provided by certified third parties and consumed in canteens that will located one in each Subproject main facility.

4.2.a.i Human Resources Policies and Procedures

MRP has a Human Resources Policy and an Internal Order, Health and Safety Regulation Procedure at Work ("OHSRP") that follow the Chilean legislation in topics related to working activities, benefits, obligations, and contracts.

MRP's labor and local services contracting procedure prioritizes the hiring of local resources, with the help of the Labor Information Municipal Offices ("OMIL").

Work weeks usually consider 45 working hours. Legal holidays and Sundays are not included unless an agreement for exceptional activities (extra work) has been reached with the worker. Extra work is compensated with a 50% surcharge with respect to normal working wages and may not exceed 2 days per week.

Contractors and subcontractors are bound to comply with MPR's Human Resources policy and with the OHSRP.

4.2.a.ii Workers' Organizations

Freedom of association and worker unions are constitutional rights in Chile. According to the Chilean legislation, worker unions can be established in any company with more than 50 workers. MRP will pose no restrictions to the worker's right to form new or adhere to existing worker unions.

4.2.a.iii Non-discrimination and Equal Opportunity

The Chilean Labor Code prohibits the discrimination of workers because race, color of the skin, sex or sexual inclination, maternal status, age, civil condition, religion, political participation, and nationality, among others. MRP will have to comply with such requirements.

¹⁴ Pampa Tigre 654, Valle Escondido 500, Ckani 350, Llanos del Viento 510, and Puelche Sur 420.

Pampa Tigre 14, Valle Escondido 32, Ckani 8, Llanos del Viento 30, and Puelche Sur 36.



4.2.a.iv Retrenchment

Even though the Subprojects will experience a drastic decrease in the demand of labor from their construction to their operation phase, MRP does not yet have a retrenchment plan.

4.2.a.v Grievance Mechanism

MRP will use the same grievance mechanism to capture, process and solve grievances presented by their workers (either direct of subcontracted).

4.2.a.vi Child Labor

The Chilean Labor Code, in general, prohibits child labor. However, it allows that minors between 15 and 18 years old to develop certain kind of light works, when all of the following conditions are met: i) the proposed works will not harm their health and physic or mental development; ii) their parents, relatives or caretakers have authorize them to work; iii) the proposed work will not interfere with their studies; iv) the number of hours to be worked will not exceed 30 hours per week if the minor is still studying; and; v) the working journey does not exceed 8 hours in any case.

Chile signed the international ILO Convention 105 (enacted by the Decree 227 of 1999) that prohibits forced labor within the Chilean territory.

4.3 Resource Efficiency and Pollution Prevention

4.3.a Resource Efficiency

The energy required by Pampa Tigre will be supplied from the existing public grid. In addition, two 500 kilo-volt-amperes ("kVA") generators and 10 portable generators of 15 kVA will be used as backups.

During its construction phase, Ckani will supply its own electricity demand through two diesel electric generators (one of 100 kVA and the other of 400 kVA) which will be maintained during operation as backup.

Llanos del Viento will also produce its own energy by means of two diesel 220 kVA generators that will be used in an alternate way. It will also use a 9 kVA generator at the concrete plant as backup.

During its construction phase, Valle Escondido's energy demands will be supplied by one diesel 110 kVA generator that will be installed in the farm. During its operation, a second 500 kVA generator will be installed on the booster substation as back up.



Puelche Sur will install a diesel 200 kVA main generator and a backup 20 kVA generator. Additionally, in each of the work fronts, portable 30 kVA generators will be available. For the Subproject's operation phase, a 30 kVA generator will be placed as a backup on the booster substation.

4.3.a.i Greenhouse Gases

So far, MRP has not yet calculated the greenhouse gas emissions that will be generated during the Subproject's implementation phases.

4.3.a.ii Water Consumption

Both potable and industrial water will be supplied by trucks to all Subprojects by local companies located in the main nearby cities: Antofagasta, Calama, Copiapó, and Frutillar or Puerto Montt.

For its construction phase, Pampa Tigre has estimated a potable water consumption of about 150 l/day (2,880 m³ for the whole construction phase) that will be stored in six 40 m³ tanks. Its industrial water demand will be of around 5,475 m³. During operation, water consumption (mainly for panels cleaning) will be of about 640 m³/year.

Valle Escondido has an estimated potable water consumption of 1,575 m³/month for tis construction phase, and of about 140 m³/month for its operation phase. The consumption of industrial water for its construction phase will be of roughly 600 m³/month (mainly to be used in moistening of unpaved roads) during construction and 600 m³/ year for operation.

Ckani's demands of potable water during its construction phase has been estimated in roughly 1.000 m³/month. Industrial water needs will either be provided by third parties or by reutilizing wastewater treated on the internal sewage plant. The estimated demand is of about 1.500 m³/month. During operation the demand will decrease to roughly 2.000 m³/year.

Llanos del Viento, will keep water for human consumption in tanks of 20 m³ capacity. 20 liters dispensers will be used to supply water needs in the working fronts. Potable water consumption is estimated in about 2.000 m³/month for the construction phase. This volume will drastically reduce for to operation phase to roughly 1.500 m³/year. Industrial water will be stored in 15 m³, 20 m³, and 120 m³ tanks. Consumption for the construction phase is estimated in around 1.500 m³/month.

Puelche's Sur potable water consumption has been estimated in 120 m³/month for the construction phase. Freshwater will be stored on five 20 m³ tanks located on each working facility. For its operation phase, a deep well will provide about 2,6 m³/day. Industrial water demand for its construction phase has been estimated in around 120 m³/month and of 2.700 m³/year.

4.3.b Pollution Prevention

Pursuant their environmental studies (EIA or DIA) all Subprojects have Environmental and Social Management Plans to prevent, mitigate or compensate undesired impacts and risks. Such plans include measures to control and prevent noise; manage the (very scarce) flora and fauna; avoid



impacts on the landscape and touristic activities; and manage liquid and solid, domestic and hazardous wastes.

4.3.b.i Wastes

During their construction phase, chemical baths will be installed in all Project work fronts and maintained by a company authorized by the corresponding Health Authority. All Subprojects will have wastewater treatment plants (PTAS) to manage all liquid domestic wastes. Treated water will be temporary kept in 30m³ tanks before being used for dust control. Residual sludge will be removed by a cistern truck from an authorized third party.

Solid wastes will be separated in their place of origin into hazardous and domestic. Hazardous wastes will be places in temporary storing facilities until an authorized third-party company will collect and take them for their final disposal. Domestic wastes will be sorted into compostable, reusable and discardable. All solid wastes will be placed in temporary facilities before they are picked up by authorized companies for their final disposal.

4.3.b.ii Hazardous Materials Management

During their different stages of development, all Subprojects will use substances and products considered to be hazardous (mainly hydrocarbon-based substances). These substances will be stored in specially designed facilities, following national regulations.

4.3.b.iii Pesticide Use and Management

None of the Subprojects will use pesticides.

4.4 Community Health, Safety and Security

4.4.a Community Health and Safety

Each Subproject has a Safety and Occupational Health Management Plan ("SOHMP") that comprehends a structure to prevent any possible accident. This Plan will be constantly updated as a response of new or amended regulations, incidents that may occur, or any other aspect that might alter the security or health planification and control. The Plan defines several security leadership activities to all their employees, in order to identify risk and to spread preventing knowledge among the personnel. These activities include daily, weekly and monthly security meetings. According to the plan, Project Managers will reinforce and award desired behaviors and initiatives to anybody that reflects positive H&S management. Every contractor and subcontractor must comply with this Plan and develop specific measures for the Subproject they will be working on.



4.4.a.i Infrastructure and Equipment Design and Safety

While the transportation of all needed components and equipment for the solar farms does not represent an issue, the transit of extralong and extra width cargo needed for the construction of the wind farms through populated areas¹⁶ will certainly present a challenge. Therefore, MRP has defined a Traffic Management Plan which contains a detail of the routes, crossing points, bridges, schools, pedestrian crosses, and other features to be considered while transporting the freight to the wind farms. Such plan foresees a coordination with Carabineros (the Chilean Police) to rearrange traffic routes or restrict vehicle circulation while the extralong and extra wide cargo is transported.

This Plan, for instance, contemplates the use of the Angamos Port, located at Mejillones city instead of the Antofagasta port, to decrease impacts due to traffic.

4.4.b Security Personnel

Safety and security services provided by firms are regulated by the Supreme Decree N° 867¹⁷. Such decree establishes that guards, among other requisites, must: i) be of legal age; ii) be in conditions compatible with the work to be carried out; iii) at the moment of performing the activities, not being charged or convicted of a felony or a simple crime; and iv) approve the appropriate training courses, as required by the auditing authority in matters of private security. Pursuant Decree 867, private security personnel cannot carry weapons and must comply with a Code of Conduct that regulates the use of force.

Even though, to date, MRP has not engaged any private security firm, it is very likely that its contractors will. Notwithstanding, as of the closure of the Due Diligence process, none of the Subprojects has yet: i) developed a safety program to protect it from external agents (such as terrorist threats or attacks) or robberies; ii) defined protocols for safety companies to be hired; iii) adopted a Code of Conduct for the security personnel; and iv) adopted a training program for the guards.

4.5 Land Acquisition and Involuntary Resettlement

Land requirements for each Subproject is the following: i) Ckani WF, 1.352 ha from which 141,2 ha will be used for the works; ii) Pampa Tigre, 642,8 ha from which 330,52 ha will directly intervened; iii) Llanos del Viento, 1.819,3 ha from which 65,6 ha will be used; iv) Valle Escondido, 359,7 ha from which 229,1 ha will be directly occupied; and v) Puelche Sur, 3.000 ha, from which 163,09 ha will be used for the works.

The sites where Valle Escondido, Pampa Tigre, Llanos del Viento (these two latter relatively very close one to the other) and Ckani will be located are very isolated in the middle of the desert. The

¹⁶ Through Antofagasta (Llanos del Viento), Calama and Chíu Chíu (Ckani), and Puerto Montt and Puerto Varas (Puelche Sur).

¹⁷ The decree established new standards for individuals, staff and businesses receiving services or performing private security activities



closest human settlement near Valle Escondido is the town of Los Loros, located at roughly 15 km from the project, in the community of Tierra Amarilla. There are, however three isolated houses that are about 4 km away from the Subproject site that will not be affected by the works.

The nearest urban center (Antofagasta city) to Pampa Tigre and Llanos del Viento is located about 50 kilometers away. La Negra (with a population of 60 inhabitants), the closest locality next to Llanos del Viento, is 10 km away from the 220KV electric transmission line and 30 km from the Subproject's site

The areas where these Subprojects will be located is not and has not been used by any community to access any natural resources, nor has or is been used in any traditional way (medicinal, spiritual or cultural).

For Valle Escondido, Pampa Tigre, Ckani, and Llanos del Viento, all Subproject sites were procured through a long-lease contract¹⁸ with the Chilean State, celebrated between MRP and the Ministry of Public Assets (Ministerio de Bienes Nacionales).

The situation in Puelche Sur is a bit different. The area where it will be built is privately owned and mainly used for agriculture and livestock. Near the Subproject site four communities can be found: Colonia San Martín, Línea Pantanosa (located near Frutillar), Quilanto (located at Puerto Octay and Frutillar) and Colonia Ponce (located at Purranque).

The land easements for Puelche Sur were obtained in the following way: 17 long-term leases with 11 landowners for the main site; and 13 long-term land easements (servitudes) with 13 landowners for the TL, plus the acquisition of one plot with one landowner who preferred to sell the land instead of to lease it.

None of the subprojects will affect any human settlement, hence, no involuntary resettlement will be taking place.

4.6 Biodiversity Conservation and Natural Habitats

4.6.a General

D T' 11

Pampa Tigre, Llanos del Viento, and Ckani in the Atacama Desert considered as the driest desert in the world. In their area of influence no species of flora or fauna of ecological or biological importance were identified.

The only bird species recorded in Ckani's, Pampa Tigre's and Llano's del Viento area of influence was the Redheaded Turkey Vulture (*Cathartes aura*), or "jote". In Cerro Plomo, located about 30 km away from Panpa Tigre and Llanos del Viento, some nesting sites of the Garuma Seagull (*Leucophaeus modestus*) have been also found. Regarding terrestrial fauna, only four species with

Concesión de Uso Oneroso (CUO), is a form of administration which consists in granting a special right of use of a public property, with a pre-established objective, and for a specified period not exceeding 50 years. This type of concessions is usually awarded through public or private tendering, national or international, or directly in duly founded cases; exclusively for the implementation of a specific project, according to the characteristics of the estate given in concession.



some minor category of conservation were found: the Guanaco (*Lama guanicoe*), the Atacama Lizard (*Liolaemus atacamensis*), the Culpeo Fox (*Lycalopex culpaeus*), and the Torres-Mura Dragon (*Liolaemus torresi*).

Valle Escondido is located approximately 2 km from the eastern boundary of a biodiversity hotspot known as the Flowering Desert Zone, a sporadic spring phenomenon, in which the seeds that are dormant in the arid land but germinate when rain occurs. Here, 12 species of vascular flora were identified and two are subject of ecological importance: the Varilla (*Adesmia argyrophylla*) and the Pacul (*Krameria cistoidea*), which fall in the Vulnerable and Minor Interest categories respectively according to the Chilean legislation. Regarding the fauna, the two field campaigns found six species of terrestrial fauna from which three are in a minor conservation category: the Guanaco, the Atacama Lizard and the Culpeo Fox.

Puelche Sur is in private lands which have suffered very strong anthropic interventions to allow agriculture and cattle raising. Despite that fact, some patches of well-preserved secondary forests were detected as well as some bird species such as the jote and the bandurria (*Theristicus caudatus*).

4.6.b Protection and Conservation of Biodiversity

Even though in Valle Escondido, Pampa Tigre, Ckani and Llanos del Viento very Little flora and fauna was found, both in terms of species and of number of individuals, the Project has voluntarily adopted the following commitments: i) undertake routine talks and training sessions with workers on good practices and regulations to protect wildlife; ii) perform bird and bat monitoring and to register any collision with the wind turbines and the TL's; iii) perform seed recollection, revegetation with native species, and monitoring of the areas that will be used to compensate those that are going to be affected by the Project; iv) adopt measures such as disseminating signage forbidding hunting, prohibit the disposal of wastes in places other than those permitted, limit transit only on habilitated roads, and setting up the maximum speed in 30 km/h for vehicles in all access roads; and v) twice a year guanaco (Lama Guanicoe) monitoring, starting before the construction activities and continuing until five years after.

In Puelche Sur, where the presence of birds is more evident, on top of the general commitments that have been agreed for the other Subprojects, the following measures will be adopted: i) when needed, feather the turbines' blades should the number of bird and bat collision become important; ii) installation of navigation lights; and iii) painting patrons on wind turbines blades.

4.6.b.i Critical Habitat

No critical habitat within Huemul Portfolio projects will be affected.



4.7 Indigenous Peoples

4.7.a General

The stakeholder analysis performed for Ckani identified two indigenous communities: The Chíu Chíu and the Lasana communities, located respectively at about 20 and 11 km from the Subproject site. Since no direct impacts were identified for these communities, no prior consultation process was needed. Notwithstanding, voluntary commitments¹⁹ were signed with these two communities which basically consist on the Community Investment Fund²⁰ constitution (FIC) for each one of them to finance small projects related to: i) potable water; ii) irrigation; iii) education; iv) rescue of traditional values; v) access roads; vi) solar heating; vii) quality life enhancement activities for elders; viii) support for tourism activities; and ix) be used as counterpart to access governmental-sponsored development projects; among others. The way in where and how the money from FIC will be spent will be decided directly by the communities.

Given that the stakeholder analysis performed for Puelche Sur acknowledged four indigenous communities (Weichan Mapu, Lafken Mapu Inchen, Peñi Mapu and Los Canelos), and the Client had identified three of the main impacts²¹ included in the Chilean Law as triggers for an Indigenous Consultation Process ("PCPI"), such process, led by the National Environmental Service (SEA), began on April 2017. The PCPI, however, did not include the Lafken Mapu Inchen community as it was deemed that such community was not going to be directly affected by the Subproject. The Client, however, insisted before the SEA to include it as it had been identified in the stakeholder map. Once the arguments presented were evaluated, the SEA agreed to do so. Thereafter and as a part of the PCPI, the Methodological Agreement²² was reached with all four communities.

Los Canelos and Peñi Mapu communities signed the so-called Final Agreement Protocol²³ (PAF) on Abril 2018, which included two main management measures: i) the creation of a Community Investment Fund²⁴ (FIC); and ii) the participatory monitoring of the subproject by the communities. The Lafken Mapu Inchen signed the PAF on November 2018 but adding to the latter agreements the creation of a complementary fund for education²⁵, more known as Scholarship Fund for the community.

¹⁹ All commitments and agreements are signed in front of a public notary: They include a conflict resolution mechanism based on dialogue. However, should a conflict not be solved through this means, it could easily be transformed into a court case.

 $^{^{20}}$ With a yearly endowment of about US\$30,000 that will be maintained throughout the project's life span.

Significative alteration of human communities' livelihoods or customs; location of projects in the vicinity of protected [indigenous] communities; and significant alteration of landscapes.

This procedure includes: i) the general working scope; ii) the definition of the representatives of the communities; iii) whether the Client will be invited or not to the process; iv) the length of the process; and v) whether any other advisors or translators will be needed for the process.

 $^{^{23}}$ This is the result of the PCPI, which contains the final agreements.

The FIC has an initial endowment for each participating community of approximately US\$ 11.000 for the first year that will be replenished yearly during the subproject's construction phase and that will be increased to approximately US\$ 18.000 per year during the project's operation phase. The FIC will finance local development projects related to: i) sustainability; ii) organizational strengthening; iii) environmental education; iv) productive development; and v) cultural strengthening, among others

²⁵ This fund has an endowment of approximately US\$ 3.600 per year for the life span of the subproject.



The Weichan Mapu community decided to drop the PCPI process and refused to sign the PAF, following the advice of their lawyer and LONGKO²⁶. Notwithstanding, the Client still considers the community as a beneficiary of the stakeholder participation program and has provisioned resources should it change its mind and decide to adhere to the benefits offered by the Subproject.

4.8 Cultural Heritage

The archaeological prospecting campaigns carried out in Pampa Tigre's influence area, recorded a total of eight linear heritage elements corresponding to: six linear archeologic features, an old cattle route and one pedestrian trail. This route would probably articulate with the old railway line and the Llanos railway station, located about 4.5 km north of the registered tracks.

In Valle Escondido the three archeological campaigns found the presence of 77 heritage elements, 69 were located within its influence area, mainly corresponding to isolated lithic findings.

No other findings of importance were recorded on the other Subprojects.

4.8.a Protection of Cultural Heritage in Project Design and Execution

Even though the likelihood of archaeological, paleontological and cultural findings in the Subprojects' area of influence is very low, MRP has adopted the following voluntary commitments: i) engagement of archeologists, who will be present at all time in each work front where earth movements will be taking place; ii) delivering of introductory talks to all new personnel, and reinforcement sessions for old personnel on how to proceed in case an archaeological, paleontological or cultural finding arise; iii) posting of signage in working fronts to request workers to transit only in permitted areas; and iv) permanent archaeological, paleontological and cultural monitoring specially for those activities that requires earth movements.

MRP has chance find procedure²⁷ that will be triggered should a finding arises. Besides the stoppage of any activity where the finding has appeared and the necessity of informing the National Monument Council (CMN) of such finding, the procedure establishes, for instance, that the site must be identified with information signage and a perimeter fence shall be placed around it to avoid pedestrian or vehicular transit.

5. Local Access of Project Documentation

The documentation relating to the Project can be accessed at through the following link: https://mainstreamrp.cl/

Ancestral Authority which not necessarily belongs to the specific community but to all the Mapuche communities.

²⁷ This procedure beside being compliant with the directives of the National Monument Council (CMN), is also compliant with PS8.



6. Environmental and Social Action Plan (ESAP)

PROJECT HUEMUL PORTFOLIO Environmental and Social Action Plan (ESAP)

No.	Aspect	Action	Deliverable	Delivery date			
NO.	Aspect	Action	Deliverable	Delivery date			
PS 1: Assessment and Management of Environmental and Social Risks and Impacts							
1.1	Management System	Present a detailed management system for each of the Subprojects	Copies of the individual management systems for each Subproject	Before the notice to proceed of each Subproject			
1.2	Policy	 Present and individual Environmental, Social and Health and Safety Policy (ESHS) for each of the Subprojects. 	Copies of the individual ESHS policies for each Subproject	Before the notice to proceed of each Subproject			
1.3	Identification of Risks and Impacts	 Provide evidence that the Llanos del Viento and Pampa Tigre (both part of the Huemul Portfolio) and the Cerro Tigre project (part of the Condor Portfolio) are managed independently to prevent any possibility that the SMA can consider a project fractioning, under the Chilean legislation. 	Affidavit of any other prove of evidence.	Before Project's financial closing.			
	Organizational Capacity and Competency	Present the evidence that the environmental and social specialists have been contracted or appointed for each Subproject (one environmental and one social).	Copies of the contracts of administrative resolution appointing the specialists.	Before start of onsite works for each Subproject			
1.4	Emergency preparedness and response	 Present an Emergency Preparedness and Response Plan (EPRP) for each of the Subprojects. 	Copies of the EPRP for each Subproject.	Before the notice to proceed of each Subproject			
PS 2: Lal	oor and Working Conditions						
2.1	Working Conditions and Management of Worker Relationships	Present a Competence and Training Plan for each Subproject	Copies of the plans for each Subproject.	Before start of onsite works for each Subproject			
2.2	Retrenchment	Present a retrenchment plan for each of the Subprojects	Copies of the retrenchment plans.	60 days prior to the Project Completion Date for each Subproject.			
PS 3: Re	source Efficiency and Pollution F	revention					
3.1	Greenhouse gases	 For each Subproject present a calculation of the greenhouse gases released in the closing year. 	Greenhouse gases calculation for each Subproject.	Within 60 days after the closure of each the fiscal year.			
		For each Subproject present an estimation of the greenhouse gases to be released in the year that is going to begin.	Greenhouse gases estimation for each Subproject.	30 days before the closure of each the fiscal year.			
3.2	Closing Plan	 Systematize the closure measures included in the EIA in an Executive Closure Plan of the Project's construction fronts, production and camp areas. 	Copy of the Executive Closure Plan.	90 days before the completion of the construction phase.			
PS 4: Co	mmunity Health, Safety, and Sec	rity		•			
4.1	Community Health and Safety	 Provide an updated traffic management plan for the transportation of extra- long and extra-wide cargo through Antofagasta (Llanos del Viento), Calama and Chíu (Ckani), and Puerto Montt and Puerto Varas (Puelche Sur). 	Copies of the updated traffic management plan for Llanos del Viento, Ckani, and Puelche Sur	Before transport route works of each Subproject take place.			



No.	Aspect	Action	Deliverable	Delivery date				
4.2	Security personnel	For each Subproject, developed and adopt a safety program to protect it from external agents (such as terrorist threats or attacks) or robberies.	Safety program to protect each Subproject from external agents.	Before start of onsite works for each Subproject.				
		For each Subproject, define protocols for safety companies to be hired.	Protocols for safety companies to be hired for each Subproject.	Before start of onsite works for each Subproject				
		For each Subproject, prepare and adopt adopted a Code of Conduct for the security personnel.	Code of Conduct for the security personnel to be hired for each Subproject.	Before start of onsite works for each Subproject.				
		4. For each Subproject, prepare and a training program for the guards.	training program for the guards of the security companies that will be hired for each Subproject.	Before start of onsite works for each Subproject				
		inable Management of Living Natural Resources						
6.1	Protection and Conservation of Biodiversity	 Perform bird and bat monitoring to register any collisions with the wind turbines (Llanos del Viento, Ckani, and Puelche Sur) and the TL's. 	Bird and bat monitoring reports for each wind Project.	Twice a year after the wind farms have reached their operation phase.				
		Present a farm operation management plan should the number of bird and bat collisions begin to affect the corresponding bird and bat populations.	Farm operation management plan	30 days after it has been determined that number of collisions could jeopardize bird or bat populations.				
		3. Monitoring of the guanaco (Lama guanicoe) in Valle Escondido	Guanaco monitoring reports.	Twice a year for five consecutive years, starting from the date of Project financial closure.				
PS 7 Indigenous Peoples								
7.1	Indigenous Communities.	Develop specific provisions to include the Weichan Mapu community in the Indigenous Communities Action Plan.	Updated Indigenous Communities Action Plan.	Before start of onsite works for each Subproject.				