



Espejo
de **Tarapacá**

Chapter 12

Description of Relationship between Project and Strategically Evaluated Plans **EIA Espejo de Tarapacá** Region of Tarapacá, Chile

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12. DESCRIPTION OF PROJECT RELATIONSHIP AND STRATEGICALLY EVALUATED PLANS

12.1. Introduction

The project of hydro-electric pump With seawater "Espejo de Tarapacá" will be located in the communes of Iquique and Pozo Almonte, province of Iquique, region of Tarapacá, approximately 100 km south of the city of Iquique. The nearest towns are the Rio Seco Cove, next to a road of the project And 14 km further south, Caleta San Marcos To 500 m of the project.

The Project consists of the installation and operation of a reversible hydraulic power plant, i.e. the same machines function as pumps in a sense of water circulation or as turbines in the other direction, are modes pumping and generation respectively.

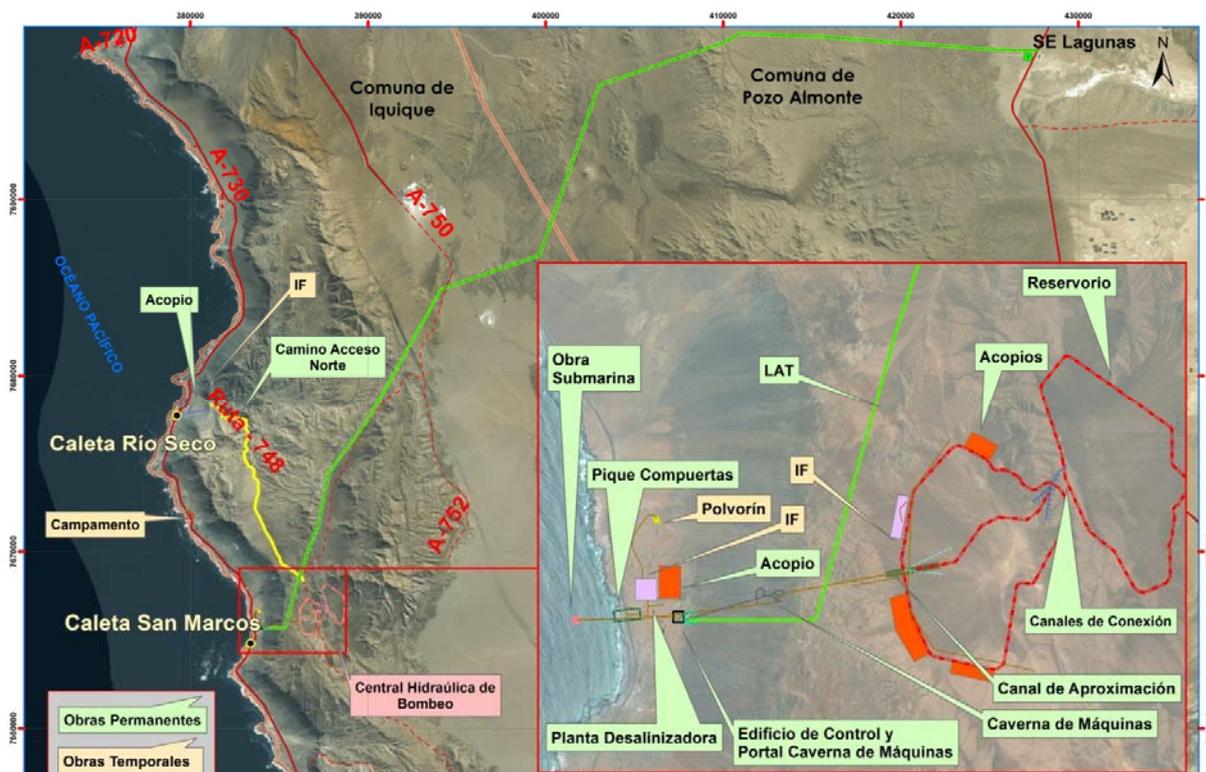
The installed power will be 300MW and will count With Reversible hydraulic turbines of the type Francis of 100 Mw of power Each one.

In its operation, during the day it will pump seawater through Pumping Equipment-generation, to Which will be taken to Through a tunnel to Natural Concavities Located at 585 M.A.S.L. These concavities will be covered by a membrane and the reservoir of seawater to be generated will have a surface of Approximately 375 has, at an approximate height of 609 M.A.S.L. In this reservoir Water will accumulate of sea pumped during the day. Then the night, the accumulated water will flow by gravity towards the sea, taking advantage of the height between the coastal edge and The Plateau, passing through the same pump-generation equipment To generate electricity. The point of taking and Of Water discharge in the sea is the same, as the plant is reversible and will use the same tunnels and machines for circulation of seawater in pumping mode and in generation mode. All these works are in the commune of Iquique.

An annual average generation of 1.75 GWh/day is estimated to inject electricity into the Lagunas substation Existing Of the large North interconnected system (SING), via a electrical transmission line High Voltage AC (LAT) of 65 KM in length. The final stretch of LAT is in the commune of Pozo Almonte.

In Figure 12.1 You can see the location of the works of the project.

Figure 121. Works of the project



Source: Own Elaboration.

This chapter responds to the requirement of Regulation of the environmental impact assessment system, updated through Supreme Decree No. 40 of the year 2012, indicates In its title III, paragraph 1 °, article 15 ° which "Projects or activities submitted to the environmental impact assessment system should always consider the policies and plans assessed *Estratégicamente* in accordance with the Law // . For this purpose, the proposer must identify the policies and plans evaluated strategically that are affable, as well as the compatibility of the project or activity with the use of the territory and the environmental objectives of such policies and plans ".

Additionally, EL Article 2 transitory of the D. S. n ° 40/2012, Indicates that "For the purposes of article 3 (g) and article 15 (2) of this Regulation, it shall be deemed strategically assessed, in accordance with the provisions of paragraph 1 bis, of title II of the Act, the plans qualified by The environmental impact assessment system prior to the entry into force of law n ° 20,417, as well as plans that are in effect before the dictation of Law n ° 19,300 ".

Then, and bearing in mind the project site area, are indicated The plans currently in force. In addition, it mentions those projects that have been approved environmentally but not in force, and those plans that have entered into strategic environmental assessment.

12.2. Current Plans

The regulatory plans Considered in force are those who Met All the evaluation stages (environmental, technical and social) were promulgated by the corresponding Regional government and published in the Official Journal as a decree.

The plans currently in force and regulating the region and the communes where project works are located are listed below In table 12-1.

Table 12-1 Current lanes in the Regions and project location

| Instrument | Administrative unit | Effect |
|--------------------------|----------------------|---|
| Communal regulatory Plan | Iquique Commune | 25-11-1981 Multiple subsequent modifications |
| Communal regulatory Plan | Pozo Almonte Commune | 15-05-1984 |

Source: Urban Observatory, MINVU.

Both plans seek to regulate their urban spaces and urban extension, leaving the rural territory without zoning regulated by each plan. According to the revised plans, LAs works of the project that fall respectively in each commune, are located on rural territory, far away from the regulated urban centers, so There would be no connection between the implementation of the project and the implementation of the existing instruments.

12.3. Lanes ToTested ToMbiencialmente, NOr Vigentes

We searched the environmentally approved plans for the communes and regions where there is site of project works, these are included in the Table 12-2.

It stands out, yes, that an environmentally approved plan is not indicative of a plan currently in place Since it requires compliance with more procedures to enter into force. In order for a plan to be considered in force it must be promulgated by the Regional government and published in the Official Journal as a decree. Without that, the plans have no legal validity or are of normative use.

Table 12-2 Lanes To Tested To Ambientalente, Region of Tarapacá, Communes of Iquique and Pozo Almonte

| environmentally evaluated regulatory plans | RCA Publication | Effect | Content | Relationship with the project |
|--|-----------------|-------------|--|---|
| Day Modification of the communal regulatory Plan of Pozo Almonte, Calle Arica Sector, Coliche, Humberstone and Pampa Germania, Via Article 50 ° General Law of urbanism and constructions modification | 25-02-2009 | No Existing | <p>The modification refers to the change in land use of a sector conformed by four land owned by SERVIU Region of Tarapacá, which total an approximate area of 9.6 ha., considering also the projected road that surrounds the grounds in commented.</p> <p>This sector is located in the area called Z. 5 E. U of Pozo Almonte's communal regulatory Plan. Article 17 of the planning instrument in commented indicates one of the uses of land prohibited in this area of housing.</p> <p>In this context, the amendment proposes to refer to the sector defined by the four land owned by SERVIU as Z. 5-1 E. U area, where residential land is allowed to be used.</p> | The project is inserted in a rural area of the commune, so it is not related to the instrument referred to. |

| environmentally evaluated regulatory plans | RCA Publication | Effect | Content | Relationship with the project |
|---|-------------------|---------------------|--|--|
| <p>Day Modification of the common regulatory Plan of Iquique, sectional plan area coastal Sector A-2.1 Adjoining lands of Sea Beach, subsector Punta el Morro</p> | <p>22-08-2006</p> | <p>Not in force</p> | <p>The Modification to the common regulatory Plan of Iquique – Sector A-2.1 adjoining land of Mar Beach, Punta El Morro subsector, Intended The remodeling and consolidation of a civic center in the area in front of the port of Iquique, where the public activity is preferred. The foregoing for having estimated that the planning instrument in force in the commune, does not allow the transformations of urban processes and the most priority to respond to the lack of urban areas capable of accommodating institutional growth, in A horizon of 30 years and more.</p> <p>Then, considering the policy of communal development, both at the level of the macro scale, and at different scales at city level, of neighborhood, it becomes necessary to promote the development of equipment of services of public use, therefore it is proposed the modification of the Municipal regulatory Plan of Iquique, Sector A-2.1 adjoining land of Mar Beach, Punta El Morro subsector; In order to consider the kind of equipment services for public use.</p> | <p>The project is inserted in a rural area of the commune, so it is not related to the instrument referred to.</p> |

| environmentally evaluated regulatory plans | RCA Publication | Effect | Content | Relationship with the project |
|---|-----------------|--------------|---|--|
| DIA La Tirana sectional Plan, Pozo Almonte commune | 02-04-2007 | No Existing | The proposed modification of Pozo Almonte's regulatory Plan aims to expand the urban space of the current Surface area of 60.9 ha, to 349.09 ha. Includes and defines areas and their respective zones, in addition to the restrictions of use. The areas defined are the following: urban, cultural heritage protection, risk and infrastructure protection. | The project is inserted in a distant area of La Tirana. So it's not related to the instrument concerned. |
| Day Regulatory Plan of Pozo Almonte, municipality of Pozo Almonte | 29-12-2006 | Not in force | Pozo Almonte's regulatory Plan proposes zoning urban areas, cultural heritage protection and infrastructure protection. The area currently covered by the urban boundary is 145.2 ha, increasing to 521.7 ha with this modification. | The project is located in a rural area of Pozo Almonte commune so it is not related to the instrument concerned. |

| environmentally evaluated regulatory plans | RCA Publication | Effect | Content | Relationship with the project |
|--|-----------------|-------------|---|--|
| Day Update Regional Plan for urban development | 01-12-2004 | No Existing | <p>To update the PRDU of the Rimea region, submitted to evaluation considering the old region of Tarapacá (which contained the current region of Arica and Parinacota). This Plan proposes populated areas in accordance with the community planning instruments and Urban extension of inter-communal planning instruments. Also It establishes potential centralities, which Responds Both to the generation of new roles to existing populated centers and to promote centers or current urban activities of the same, according to the analysis and conclusions of the diagnosis. Within the secondary centralities, they identify The Of the coastal Longitudinal subsystem, which Corresponds to the centres Towns located on the coastal border that have some degree of urbanization and/or productive destination of smaller scale and/or present potentials for To become urban centers; Where the Coves considered in the project fit.</p> | <p>A modification of this instrument is currently being processed because it originally included the current region of Arica and Parinacota.</p> |

| environmentally evaluated regulatory plans | RCA Publication | Effect | Content | Relationship with the project |
|--|-----------------|----------|--|--|
| Day modification of the communal regulatory Plan Iquique, Playa Blanca-Bahia Urban Center Chiquinata | 04-10-2004 | Existing | The modification of the regulatory Plan Playa Blanca-Bahia Chiquinata Includes an area of use and inhabited ex-ster And another of a projected surface comprising this amendment to the regulatory Plan, in LAll of its urban boundary Integrating the sectors of Playa Blanca-Bahía Chiquinata, Altos de Playa Blanca and Punta Coarse. | This is the inclusion of a distant area of the project, so it is not related to that instrument. |

Source: Seia.

As can be seen by the date of environmental assessments, They correspond to assessments prior to the entry into force of the law n ° 20,417, so What For the purposes of this EIA are on the list of plans that will be considered strategically evaluated according to the(I) Article 2 (transitional) of DS no 40/2012, mentioned above.

of the environmentally approved plans, only one is currently in force, The modification to the common regulatory Plan de Iquique, urban center Play A Blanca – Bahia Chiquinata, Being its promulgation published in the journal Official in December of the year 2011.

However this Plan, does not exert any kind of regulation on the area of site of the project, because it concentrates its attention in an urban area very far from the project.

12.4. Lanes In the process of strategic environmental assessment, not in force

There is a public cadastre of strategic Environmental Assessment (EAE) in the virtual portal of the Ministry of the Environment¹, which contains the administrative acts of The processing of Different plans.

Specifically, the cadastre was revised looking for plans to apply to the region of Tarapacá and the communes of Iquique and Pozo Almonte, which is where they will be located The works of the project. This search is not Obtained record of No communal plan applicable to the project, but two instruments were found Regional and intercommunal scope Whose income processing is processed and accepted, these are:

- Regional Plan of Terr orderingitorial PROT Of the region of Tarapacá.
- Coastal inter-communal regulatory Plan (PRICOST) Of the region of Tarapacá, communes of Iquique, Alto Hospice and Huara.

12.4.1 Regional Plan of Territorial Ordering (PROT) of the region of Tarapacá

Regarding the PROT, Entered to EAE through the ordinary N ° 1326 in August of the 2013, In its Strategic Environmental diagnostics report, a criterion of environmental sustainability is established, which must respond to the environmental, Social and economic equilibrium of the region of Tarapacá, this is:

"The region of Tarapacá fosters urban development with growth Polycentric, balanced and empowering its smaller populated centers, valuing and integrating rural localities to regional development; Improving its productive potential, with respect to agro-alimentary functionality in the Altiplano, Quebradas Precordilleran, foothills and Pampa del Tamarugal; Metal Mining in the Foothills and Altiplano, and non-metallic mining in the intermediate depression and at the same time valuing its maritime and terrestrial wealth, incorporating the protection of water resources and ecosystems Fragile regions of the region "

¹ Proyecto Apoyo a la Evaluación Ambiental Estratégica en Chile. Portal virtual:
<http://www.mma.gob.cl/eae/1315/w3-channel.html>

According to the foregoing, the PROT has defined the following environmental objectives:

- Improve the quality of life in the communities of Iquique Alto Hospice through the targeting of public investment to improve the provision of services in the communities of Pozo Almonte and Pica, recognizing the particularities of the territory and its resources.
- Improve the quality of life of rural locations in the Altiplánico sector, Quebradas Precordilleran, foothills and Pampa del Tamarugal, through a portfolio of public investment focused on basic services, which recognizes the relationship of people with the Territory and strengthening the sustainable use of existing natural resources.
- To protect the areas of high environmental fragility and aquifer recharge zones by identifying exclusion zones that allow the protection of the ecosystem services they provide.

In Table 12-3 establishes the relationship between the environmental objectives of the PROT And the project Espejo de Tarapacá.

Table 12-3 Relation of environmental objectives of the PROT with Project Espejo de Tarapacá

| Name Plan | Strategic objective | Relationship with the project |
|--|--|--|
| Regional Plan of Territorial Ordering (PROT) of the region of Tarapacá | Improve the quality of life in the communities of Iquique Alto Hospice through the targeting of public investment to improve the provision of services in the communities of Pozo Almonte and Pica, recognizing the particularities of the territory and its resources. | The project is not linked to this objective, as it is not Of Its competence the generation of public policies. |
| | Improve the quality of life of rural locations in the Altiplánico sector, Quebradas Precordilleran, foothills and Pampa del Tamarugal, through a portfolio of public investment focused on basic services, which recognizes the relationship of people with the Territory and strengthening the sustainable use of existing natural resources. | The project is not linked to this objective, as it is not Of Its competence the generation of public policies. |
| | Protect areas of high environmental fragility and recharging areas of Aquifer by means of the identification of zones of | It is important to mention that the project considers the Construction and operation of a LHigh Voltage |

| Name Plan | Strategic objective | Relationship with the project |
|-----------|--|---|
| | exclusion, that allow to protect the ecosystem services that they provide. | <p>online, LA_t, whose path passes in a small portion by the Pampa del Tamarugal, commune of Pozo Almonte, since there is connected with the substation Lagunas (existing).</p> <p>However, in that sector The works are limited To Surface use, are located in an area that already has human interventions and There are no underground works that could affect the Aquifer of the Pampa del Tamarugal nor the Area in environmental and ecosystem terms.</p> |

Source: Self-elaboration

12.4.2 Coastal intercommunal Regulatory Plan (PRICOST) of the region of Tarapacá, Communes of Iquique, Alto Hospice and Huara.

For the case of the PRICOST, Entered to EAE through the ordinary N ° 0538 in June of 2011, it has by Main objective to promote the proper use of coastal coastline and potential areas of urban development, Focusing on the formation of An inter-communal urban unit that includes HUara, Alto Hospice and Iquique.

Environmental objectives Proposed² Seek to orient the process of Rating of the plan within Of The Strategic environmental assessment. These are:

² Dichos objetivos corresponden a los finales y aprobados mediante Informe Consolidado de Observaciones a la segunda versión del Informe Ambiental del PRICOST comunas de Iquique, Alto Hospicio y respuesta y Huara. Ordinario N°120126, Enero de 2012.

- Restriction of activities in areas of environmental value without official protection.
- To recognise within the urban conditions the singular elements of coastal landscape value.
- To recognise within the urban conditions the patrimonial and cultural elements.
- To generate alternatives for the localization of activities intercommunal impact, outside of the urban areas of mixed use to industrial zones of exclusive use.

In the following table, the relationship between environmental objectives is established PRICOST and the project Espejo de Tarapacá.

Table 12-4 Relation among the Objectives ToMbiales of the PRICOST and the Project

| Name Plan | Strategic objective | Relationship with the project |
|--|---|---|
| PRICOST region of Tarapacá, communes of Iquique, Alto Hospice and Huara. | Restriction of activities in areas of environmental value without official protection. | <p>Specifically, the PRICOST considers the Salar Grande an area of environmental value, where the use of soil with scientific, cult, cultural or educational equipment should be favoured. The only work of the project that is located on the Salar is the line of electric transmission of high tension, in a stretch of about 5 km.</p> <p>However It should be mentioned here that The regulation stipulated in article 2.1.29 of the General Law of Urbanism and Constructions (LGUC), indicates the following: <i>"Distribution networks, communication networks and home services and in general Infrastructure paths will always be understood to be supported and shall be subject to the provisions established by the competent bodies. The territorial planning instrument shall recognise the strips or zones of protection determined by the current regulations and allocate them to green areas, roadways or to the uses determined by that regulation "</i>. Having said that, and considering that an electrical transmission line constitutes energy infrastructure as a network or route intended for distribution of energy, this work of the project is considered compatible with the binding legislation of the instruments of Territorial planning and, therefore, with the PRICOST, if it reaches its promulgation and is declared in force.</p> |
| | To recognise within the urban conditions the singular elements of coastal landscape value | The project is not related to this objective, because it is not located in urban area. |
| | To recognise within the urban conditions the patrimonial and cultural elements. | The project is not related to this objective, because it is not located in urban area. |
| | Generate alternatives for locating inter-communal impact activities outside of mixed-use urban areas to exclusive-use industrial areas. | The project is not related to this objective, because it is not located in urban area. |

Source: Self-elaboration

12.5. Conclusions

Of the revision of the background relating to instruments of territorial regulation, nor is there currently an existing normative instrument that be applicable to the Project area. The current plans applicable to the communes of Iquique and Pozo Almonte where the project works are located, are urban in nature and do not present regulation of your rural area which is where you located this project.

As for the environmental assessment of these instruments, well exist other environmentally approved plans for the same communes as well as, for the region of Tarapacá, the majority of them are not in force, but may qualify as strategically evaluated plans even though prior to the entry into force of Law No. 20,417. The only one of these plans that have been promulgated and therefore, is in force, is the Plan Common Regulator de Iquique, urban center Playa Blanca – Bahía Chiquinata, equally of an urban character and what it does not present any regulation on the Project site area.

At last in the region of Tarapacá there are two plans that have initiated their regional and inter-communal strategic environmental assessment process, respectively. The Regional Plan for land management, PROT and the Coastal intercommunal Regulatory Plan, PRICOST. Regarding the PROT, the project is linked by located within the Pampa del Tamarugal, however, by not presenting underground works, is estimated does not intervene with their fundamental objectives to protect aquifer recharge zones.

The PRICOST, on the other hand, seeks to restrict activities in areas of environmental protection, although these have no official protection. The project stretch of its electric line over the large salar, but this work is favored by the Article 2.1.29 in the LGUC, which indicates the paths of electrical infrastructure as always admitted in the context of the territorial planning.

It is important to mention that the plans who have undergone strategic environmental assessment evaluated strategically just indicated no they are currently in force, so there are no established regulatory restrictions on the part of these instruments that can be associated with the installation of the project.