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16 September 2024

Adaptation Fund Board
Project and Programme Review Committee
Thirty-fourth Meeting
Bonn, Germany, 8-9 October 2024

PROPOSAL FOR INNOVATION SMALL GRANT FOR CHILE

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Innovation Small Grant

Country/Region: Chile
Project Title: Sustainable Corridors. Adapting electricity transmission infrastructure to the climate crisis through nature-based solutions in the Antofagasta Region
Thematic Focal Area: Innovation/Nature-based solutions
Implementing Entity: Agencia Chilena de Cooperacion Internacional para el Desarrollo (AGCID)
AF Project ID: AFRDG00063
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): 249,600
Reviewer and contact person: Rywon Yang
Co-reviewer(s): Alyssa Gomes
IE Contact Person: Marco Ibarra, mibarra@agci.gob.cl

Technical Summary:	The project "Sustainable Corridors. Adapting electricity transmission infrastructure to the climate crisis through nature-based solutions in the Antofagasta Region" aims to implement a sustainable transmission pilot in the Antofagasta Region, which has been declared a "transmission development pole" according to the country's Long-Term Energy Planning. This will be done through the four components below: Component 1: Contributing to the development of an energy transition that is just, secure and resilient (USD 79,600); Component 2: Driving innovation in sustainable electricity transmission in Chile (USD 72,500); Component 3: Promoting local energy development (USD 37,000). Component 4: Empowering communities, with a focus on women, in energy management (USD 19,900). Requested financing overview: Project/Programme Execution Cost: USD 21,500 Total Project/Programme Cost: USD 230,500 Implementing Fee: USD 19,100

	Financing Requested: USD 249,600 The first technical review raised some issues, such as insufficient climate change adaptation rationale of the components, lack of clarity on the provisional list of activities, lack of beneficiary details and inadequately provisions for safeguard and monitoring measures as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. The second technical review found that the proposal needs to be improved substantially. Furthermore, the improvements made so far have insufficiently addressed the issues raised in the previous technical review. The second technical review raises several issues, such as a lack of clarity on the adaptation justification, and lack of potential beneficiary information as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. The third technical review found that while some of the CRs have been addressed, some issues remain pertaining to the lack of clarity on the details of the capacity building component, lack of potential beneficiary information related to vulnerable groups, safeguard measures in case of relocation of communities, indigenous groups and gender considerations, as discussed in the CRs and CARs raised in the review. The fourth technical review finds that while most of the CRs have been addressed, issues regarding adjustments of targets and indicators of the project result framework remain. Also, clarification provided on the safeguard measures of the potential relocation, while useful, should be reflected in the proposal document itself in sufficient detail as regards to the ESP and GP risk screening and management measures. The final technical review finds that all the CRs have been addressed.
Date:	00 September, 2024

Review Criteria	**Questions**	**Comments 1st Review**	**Comments 2nd Review**	**Comments 3rd Review**	**Comments 4th Review (July 29, 2024)**	**Comments 5th Review (Sept. 00, 2024)**
Country Eligibility	1. Is the country party to the Kyoto Protocol?	**Yes.**				

Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	**Yes.** As per the Endorsement letter dated 1st August 2022				
	2. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?[1]	**Not cleared.** The project aims to reduce the climate risk to electrical infrastructure in the Antofagasta region, which is one of the most vulnerable regional capitals to climate threats such as temperature increase, and heat waves, by adopting the	**CR1: Not cleared.** The objective of the proposed project is to develop a sustainable transmission pilot project in the Antofagasta Region to reduce the climate risk to electrical infrastructure in the Antofagasta region. While the Antofagasta	**CR1: Cleared, pages 7-8.** This project is designed to increase the resilience of the transmission system in the Antofagasta Region against climate change impacts, such as rising temperatures and heat waves, which could affect the	-	

[1] *A concrete adaptation project/programme is defined as a set of activities aimed at addressing the adverse impacts of and risks posed by climate change. The activities shall aim at producing visible and tangible results on the ground by reducing vulnerability and increasing the adaptive capacity of human and natural systems to respond to the impacts of climate change, including climate variability. Adaptation projects/programmes can be implemented at the community,*

		concept of a sustainable corridor (nature-based solution). A sustainable corridor is an infrastructure with a significant presence of vegetation that connects natural areas of a certain zone or area and an electricity transmission system. The project aims to implement a sustainable transmission pilot in the Antofagasta Region, which has been declared a "transmission development pole" in Chile's Long-Term Energy Planning strategy. The pilot	region is one of the most vulnerable regional capitals to climate threats such as temperature increase and heat waves, it has been declared a "transmission development pole" in Chile's Long-term Energy Planning Strategy. The project consists of a small-scale sustainable corridor and aims to increase the adaptive capacity of the transmission system to the negative effects of climate change. The proposal takes LIFE-ELIA project as a benchmark case for the pilot	integrity of the infrastructure and its operation and maintenance. Building sustainable corridors around the transmission line will also enhance the resilience of the local communities against floods, landslides, and thunderstorms, which are all climate hazards the region is facing. **CR2 and CR6: Not cleared.** The objective of Component 4 is to improve the communities' participation in	**CR 2 and CR 6: Not cleared.** The indicator for the outcome 4.2 should be revised from the number of trainings to the number of participants, as this better reflects the activity's impact. Additionally, outcome 3.1	**CR 2 and CR 6 : Cleared.**

national, regional and transboundary level. Projects/programmes concern activities with a specific objective(s) and concrete outcome(s) and output(s) that are measurable, monitorable, and verifiable. (Source: Operational Policies and Guidelines, amended October 2017)

		is expected to consist of a small-scale sustainable corridor to evaluate the solution, as a long-term adaptation strategy which could be replicate at the national scale. While the overall project objective presents an adaptation solution, the proposal has not sufficiently explained how the sustainable corridor is expected to build the adaptive capacity of communities and the ecosystem towards the ongoing climate impacts in Antofagasta i.e., floods, droughts etc., presented in figure 5.	project. Given the different environmental conditions, the adaptation reasoning of the two projects will be different. The proposal explains that the sustainable corridor, once established in the target region, will increase the adaptive capacity of the transmission system by alleviating heat waves and/or managing the risk of extreme weather events. The proposal builds the adaptation justification of the project around heat waves and temperature increases, which will be intensified with the construction of	the pilot project's decision-making process and enhance their capacity and understanding of climate risks in the context of energy management in general and for the pilot project. It is welcome that the project targets to strengthen gender equity and women's empowerment from project design to implementation. However, Component 4 provides a general description of gender gaps in the sector at the national level: lower representation of women in the	and 4.1 have selected the number of participants as the indicator. However, the targets are currently based on the number of events. Please adjust the targets to align with the selected indicator.	

		The proposal also does not make a strong argument of transferability of the intervention implemented under the LIFE-ELIA project, given the differences in the two ecosystems. Is the proposal suggesting that this intervention has a strong potential of lowering ambient temperature such that the transmission lines would be at reduced risk of overheating? Or does the proposal intend to implement biodiversity-enhancing intervention or enhancing livelihoods or food security (in which cases, adaptation reasoning still	transmission lines. <u>Please elaborate further on whether there are other climate risks that the transmission infrastructure or the communities face due to the climate crisis and how the sustainable corridor will address this issue(s).</u> **CR2 and CR6: Not cleared** While Component 1-3 aligns with the overall objective of the project, it is unclear how the objective and contents of Component 4 align with this overall goal. Component 4 of the proposed project aims to	energy sector and limited participation of women in the decision-making process of energy projects. The beneficiaries, objectives, and contents of the capacity building of Outcome 4.2 and how the contents of Outcome 4.2 will be different from Outcome 3.2, which aims to improve the general knowledge of the citizens in the region, are unclear. If providing this information is difficult at this stage as the project target area is unknown, please provide further		

		needs to be made)**.** **CR1:** Please explain how the sustainable corridor is expected to build adaptive capacity and resilience in the target areas. The activities of each Component are not sufficiently explained and developed to determine whether it aligns with the overall objective (i.e., implement a sustainable transmission pilot by building a sustainable corridor). **CR2:** Please provide a provisional list of activities for each Component while making sure that all the	empower communities with a focus on women in energy management. The proposal indicates that the beneficiaries will be identified during the project's initial study phase. Nonetheless, to establish the relevance and coherence of this Component with the overarching project objective, it is crucial to provide more comprehensive information about the potential beneficiaries' demographics and the climate-related challenges they face. Currently, this aspect of the proposal lacks the necessary	information on how this project will ensure the identification of gender barriers of the target area and incorporate this in designing the contents of the capacity building once the target area is identified. Some of these elements have been provided in the response. Please reflect this in the proposal. Also, please add the number of beneficiaries of Outcome 4.2 disaggregated by gender as an indicator in the project result framework. **CR3: Not cleared.**	**CR 3: Cleared.** **CR 4: Not cleared.**	**CR 4: Cleared.**

		components and activities align with the overall objective of enhancing the climate resilience of the transmission infrastructure and not just energy management. If the specific activities are expected to be finalized during implementation following assessments or additional consultations, then the process for identification should be explained in the project justification and components description section with clearly defined milestones. In the previous submission of the proposal, the project gave	context and detail. <u>Regarding Component 4, please provide further information on:</u> (1) Information on potential beneficiaries and their livelihood activities (2) What are the current challenges and needs that these beneficiaries are facing (3) How this Component will address the issues (4) How the contents of the capacity	The preliminary discussions with the relevant stakeholders regarding the property rights under and around the transmission line for the pilot project are ongoing. An agreement or MoU will be signed to secure the easement for the project site once it is identified. As the pilot project will cover a few meters, it has the flexibility to find an alternative site in case obtaining the easement of the initial site is not possible. Please reflect the responses in the proposal without providing	Clarification is requested in CR 2 and 6.	

		examples of the Green Corridors for Restoration of wildlife corridors under overhead lines implemented in Belgium and France, that the project aims to adapt to the Chilean context, which, being a coastal desert ecosystem, is considerably different. The current submission however does not that build on that idea and explain how the project aims to adapt this approach to the local context in Antofagasta, Chile. **CR3:** It is noted that strategically planned networks of natural and semi-natural areas are expected to	building would be different from Component 3 **CR3: Not cleared.** The proposal states that the property rights under and around the transmission lines could be private (of the transmission companies or a concession of fiscal land). In either case, please explain further on the following aspects: (1) Were preliminary discussions conducted with the landowners (governm	sensitive information. **CR4: Not cleared.** As requested in CR 2 and 6, please include an indicator that tracks the number of participants (disaggregated by gender) in the training for Outcome 4.2.		

		improve biodiversity, protect vulnerable species, and provide a wide range of ecosystem services. The proposal has good potential to be innovative and transformational. However, please elaborate further on the elements below: (1) Clarify if the power lines are transmission lines (approx.500 KV- 60 KV) or distribution lines (approx. 25-30KV). This information is important, as it will determine Right-of	ent, transmission companies)? (2) What specific measures are required to secure easements for the potential project sites? (3) How will these measures be put into action? (4) What potential risks might arise if easements for the project sites are not obtained? (5) What are the plans to mitigate			

		Way (including width and height) for planting trees and vegetation, which varies depending on the voltage of the electricity line. (2) The property rights under and around the electricity transmission lines. (3) The ecological engineering techniques or vegetation management system (e.g., integrated	these risks? **CR4: Not cleared** Please revise the results framework of Part III.C to better capture the results that this project will deliver by considering the following aspects: (1) Incorporate indicators in Outcome 1.1 that reflect the direct deliverables of this Component. (e.g., pre-study report, feasibility report, communication strategy, etc.)			

		vegetation management) that will be put in place. (4) The stakeholders that will be involved – technical service officers, environmental experts, community groups, local NGOs and CSOs, regulatory authorities, academic/research institutions etc. (5) Monitoring measures and management systems that will be put in	(2) Include indicators that track the number of participants (disaggregated by gender) in the training for both Outcome 3.1 and Outcome 4.2. (3) Include indicators that track the number of knowledge products that this project will produce in the relevant Component.			

		place in terms of environmental and social safeguards and monitoring project results. **CR4**: Please clarify what is the exact objective and scope of the pre-study of component 1. Please clarify if this pre-study is for designing the pilot project design (component 2). If this is the case, please explain what key results will be presented in the pre-study (e.g., location, scale, type of selected NbS solutions, analysis on the direct beneficiaries, etc.) and the	**CR5: Cleared**			

		implementation timeline. **CR5:** Please clarify how Component 3 aligns with the overall project objective (building a sustainable corridor) by specifying what are the capacities and technical knowledge that would be provided and to whom. Also, provide the indicative list of potential beneficiaries of Component 3. **CR6:** Regarding Component 4, please provide further information on: (1) Who will be providing the capacity building				

		and training, (2) Beneficiary details and their livelihood activities. (3) Contents of the training and education provided for the communities (with a focus on women) and how the contents of the capacity building would be different from Component 2, (4) How the maintenance and sustainability of nature-based				

		solutions would be incorporated in capacity-building work. Depending on the response, please revise the budget breakdown table, if necessary.				
	3. Does the project encourage or accelerate development of innovative adaptation practices, tools and technologies?	**Not cleared.** The implementation of the sustainable corridor as the first pilot case in Chile may provide an innovative adaptation measure to reduce climate change impacts in the electricity transmission sector. A sentence is included on	**CR7: Not cleared.** The implementation of the sustainable corridor as the first pilot case in Chile may provide an innovative adaptation measure to reduce climate change impacts in the electricity transmission sector.	**CR7: Cleared,** as the information provided on pages 10 and 11. The project will consider various NbS most suitable for the pilot area once it is identified, such as community gardens for local food production,		

		possible nature-based solution examples of green corridors under transmission lines such as edge zones, peat bogs, moorlands, orchards, grazing, native species, etc. However, no details on the proposed or potential NbS are provided at this time. **CR7:** Please provide details of the target areas, include a provisional list of NbS and justify the suitability of the interventions to the environmental conditions of the target area. **CR8:** The proposal provides an illustration of the LIFE-ELIA project. Please	The proposal provides information on the natural condition of the target region and common herbaceous species of the region. Please clarify whether the vegetation of native species would be the only NbS that this project will consider or if there would be other potential NbS solutions that would be considered during the initial study phase. **CR8: Not cleared.** Please share relevant lessons from the nature-based solutions for enhancing the climate resilience of the electricity	management of peat bogs, integrated water resources management, and establishment of animal grazing. **CR8: Cleared,** as per information provided on page 10. The Huertos en Linea project in Peru provides an example of how implementing and managing community gardens around the transmission lines has empowered women by generating income.		

		share relevant lessons from the nature-based solutions for enhancing the climate resilience of the electricity transmission system that the current project will learn from and adapt as relevant, to the local context.	transmission system that the current project will learn from and adapt as relevant, to the local context.			
	4. Does the project help generate evidence base of effective, efficient adaptation practices, products or technologies, as a basis for potential scaling up?	**Not cleared.** This project will be the first case to apply the concept of the sustainable corridor in Chile, which is facing diverse climate threats such as heat waves, extreme hydrometeorological events, temperature increases, etc., which jeopardize the energy infrastructure. Findings from the project, which will	**CR9: Not cleared.** The knowledge and information resulting from the project will be disseminated via dedicated web pages created for this purpose or existing web pages like the Ministry of Energy's strip studies. Nevertheless, there is a lack of clarity regarding the development process for the	**CR9: Cleared,** as per information provided in the project result framework. The knowledge products that will be provided throughout the project have been clarified and strengthened.		

		be generated in the target area, can be replicated, or scaled up at a national level as well as regional (Latin America) and international levels for a safe and resilient energy transition. The proposal has however not described the knowledge management system that will be relevant for creating an evidence base of best practice and lessons for future replication and scaling up of the concept. **CR9:** Please describe the KM system, taking into consideration the point raised above.	knowledge products to be distributed through the web platform. <u>Please provide a more detailed explanation of how the knowledge products will be created and specify the content they will encompass. If this entails extra budget expenses, please include these in the budget breakdown.</u>			
	5. Does the project engage, empower	**Not cleared.** This section is not developed.	**CR10: Not cleared** The proposal	**CR10: Not cleared.** If providing	**CR 10: Not cleared.**	**CR 10: Cleared. (pages 14-15)**

	and/or benefit the most vulnerable communities and social groups?	Beneficiary details are not provided, and the baseline situation is described. **CR10:** Please clarify the economic, social, and environmental benefits of the chosen solutions in the target areas from a resilience and climate change adaptation perspective. What is the baseline situation and what are the anticipated benefits?	mentions the participation of local communities in the design, implementation, and management of sustainable corridors. However, it is unclear what is the current situation of the local communities and how this project would be economically, socially, and/or environmentally beneficial to the local communities. Please explain further the direct beneficiaries of the sustainable corridor, their current situation(baseline), and the economic, social, and environmental benefits this project will provide these	information on beneficiaries and their economic, social, and environmental benefits is difficult at the proposal stage as the project target area is unknown, please provide further details in the proposal: 1) at what stage of the project the identification of baseline and analysis of benefits for the local communities will be carried out, and 2) how the project will ensure the consideration of vulnerable groups within communities in terms of benefits and/or negative impacts during this process.	Clarification related to the consideration of vulnerable communities is provided on page 14. Please incorporate the clarification related to the safeguard measures provided in the response sheet into the proposal. Furthermore, please elaborate in the proposal the ESS management measures and the process that will be put in place to ensure compliance with the AF requirements for unidentified subprojects (USPs).	

			beneficiaries.	<u>Safeguard measure related to potential relocation and indigenous groups:</u> The response sheet mentions the possibility of relocation and the likely presence of indigenous groups in the target areas. Please explain the safeguard measures that will be in put in place in the case of possible relocation and how the project will ensure that indigenous rights will not be violated in the target areas.		
	6. Does the project advance gender equality and	**Not cleared.** The project will provide capacity-building activities	**Not cleared.** Component 4 of the proposed project aims to	**Not cleared.** The clarification request regarding the	**Cleared.**	

	the empowerment of women and girls?	through Component 3 and 4. 30~50% of the beneficiaries will be women. However beneficiary data is unknown. Refer to CR3, CR6 and CR10.	empower communities with a focus on women in energy management. The proposal provides general information on the population in the Antofagasta region. However, it is unclear who would be the target women group that this project will focus on, what challenges these women are facing, and how their adaptive capacity to climate change will be strengthened through this project. <u>Please explain further the potential target women group, the needs of this women group with regard to the project objective,</u>	lack of identification of the target women group and their needs of Component 4 has been made in CR 2 and CR 6. Please address CR 2 and CR 6.		

			and how this Component will support women to strengthen their adaptive capacity. Please explain further the *Energy+Women* program and how this will increase the adaptive capacity of women in the target region.			
Resource Availability	1. Is the requested project funding within the parameters for small grants set by the Board?	**Yes.** (USD 250,000)	**-**	**-**		
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of	**Yes** (USD 12,500, equivalent to 5.26% of the total project budget before the fee (USD 237,500))	**-**	**-**		

	the total project budget before the fee?					
Implementation Arrangements	1. Is the project submitted through a National Implementing Entity accredited by the Board?	**Yes.** AGCID is an accredited National Implementing Entity.	**-**	**-**	**No. Accreditation Expiration Date was 23 May 2024. The IE is under reaccreditation .**	
	2. Is the timeframe for the proposed activities adequate?	**Cleared.** The project duration is 2 years.	**-**	**-**		
	3. Is a summary breakdown of the budget for the proposed activities included?	**Not cleared.** **CAR1:** Since the activities of each Component are not sufficiently developed, some of the budget items are not clear. After elaborating on the activities of each Component as per CR 1, please revise the	**CAR1: Not cleared.** The proposal provides a summary breakdown of the budget. However, it is not coherent with the activities explained in the other section and the resulting framework.	**CAR1: Not cleared.** With regard to the communication activities of Component 3, the indicators of the project result framework and the budget	**CAR 1: Cleared.**	

		breakdown of the budget. **CAR2:** The project execution costs amount to 63,800 USD (26%) which exceeds 9.5% of the total budget requested before the implementing entity fees. Please revise.	Component 1 does not mention communication activity in Part II. A. (pages 11-12). In the Result framework, deliverables related to communication activity are mentioned in Component 3. (page 25). On the other hand, the budget items related to communication (communication strategy, communication strategy implementation, journalist) are included in Component 1. (Page 27) <u>Please revise the budget table or the project justification section and the result framework</u>	table have been aligned. However, the budget of each Component of the current proposal does not match the proposal that underwent the second review. Please double-check the correct version of the proposal.		

			table to ensure coherence.			

PROGRAMME ON INNOVATION: SMALL GRANTS PROJECTS THROUGH DIRECT ACCESS MODALITY

REQUEST FOR PROJECT FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project must be fully prepared when the request is submitted.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN P4-400
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org

ADAPTATION FUND

PROGRAMME ON INNOVATION: SMALL GRANT PROJECT PROPOSAL

PART I: PROJECT INFORMATION

Country:	Chile
Title of Project:	Sustainable Corridors. Adapting electricity transmission infrastructure to the climate crisis through nature-based solutions in the Antofagasta Region.
National Implementing Entity:	Agencia Chilena de Cooperación Internacional para el Desarrollo (AGCID)
Executing Entity/ies:	Ministry of Energy; Regional Ministerial Secretariat - Energy, Antofagasta; Antofagasta Regional Government.
Amount of Financing Requested:	249,600 (in U.S Dollars Equivalent)

Project Background and Context:

Chile is highly exposed and vulnerable to the effects of the climate crisis. Its geographic diversity, moreover, projects a significant variation among consequences from north to south. At a general level, science projects warmer days and higher average temperatures, less rainfall, more frequent droughts, and more frequent and intense extreme events.

The energy sector is affected by the impacts of climate change which has direct effects on the resilience, reliability, and proper functioning of the national energy system. The sector's main concerns at a national level are the low availability of water resources or prolonged droughts, rising temperatures and more frequent heatwaves, and the increase in the frequency and intensity of extreme events (Ministry of Energy, 2018). In addition, national and international experience shows that climate change will affect the availability of energy resources, generation infrastructure and the transportation of both electricity and fuels and their end use, including, for instance, increased variability in the availability of water for hydroelectric generation, effects on transmission lines and fuel logistics systems due to phenomena such as storm surges, floods and fires, among others.

A particular case of that is the vulnerability of electricity infrastructure to the negative effects of climate change at all stages (generation, transmission and distribution in the case of electricity or transportation in the case of fuels). Among the main impacts studied at the international level is the decrease in transmission capacity and efficiency in the face of an increase in temperature and a greater buckling of cables. In addition, transmission lines are especially vulnerable to extreme events that will be exacerbated

by climate change, such as winds, floods and floods, and that damage infrastructure, increase interruptions of electricity supply (generating energy insecurity in the population) and raise maintenance/operation costs, implying a possible increase in tariffs for final customers.

The energy sector in Chile is the largest emitter of greenhouse gases (77% of total GHG), so the decarbonization of this sector has special preponderance in meeting the carbon neutrality goal by 2050, mandated by the Framework Law on Climate Change, and other climate commitments, such as:

- Long-Term Climate Strategy (LTCS): By 2050, 100% of the energy produced for electricity generation in the country comes from zero-emission energy sources. By 2030, 80% of the energy produced for the country's electricity generation comes from renewable energy generation, emphasizing that the electrical systems must be prepared to achieve this.
- Nationally Determined Contribution (NDC): Retirement of 5,500 MW by 2040 from thermal power plants.
- National Energy Policy (NEP): 60% less annual GHG emissions in the energy sector by 2050, compared to 2018, which will allow reaching carbon neutrality before 2050.

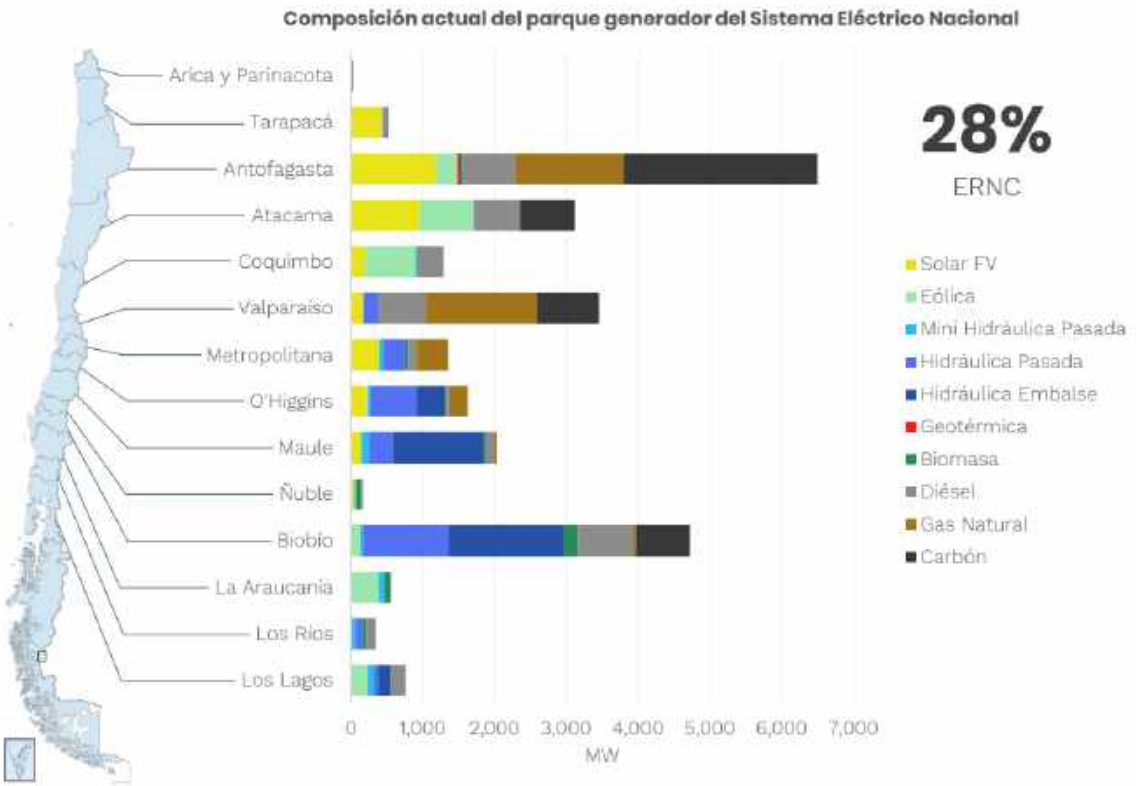


Figure 1. Current composition of the National Electric System's generating park (28% NCRE)

This vulnerability and responsibility are combined, in addition, with the fact that currently and worldwide, there is a paradox regarding the energy transition, since the greater the impulse and growth of renewable energies -necessary for the decarbonization of the matrices- the greater the requirement for the expansion of the transmission system. Chile has more than 35,000 km of transmission lines (as of March 31, 2020)[1] and, as of 2021, 44 transmission expansion works have been identified.[2]

However, the construction and operation of transmission lines are not exempt from impacts and potential conflicts. Some of the impacts of the lines include landscape disturbance; negative effects on agriculture; archaeological damage and losses at historical sites; cultural conflicts; impact on native or protected species of flora and fauna, as well as water resources; noise; problems with landowners (individuals or communities); fragmentation and edge effect; risk of fires, among others.

In Chile, an energy planning process is being developed that provides the possibility of identifying in advance those territories that will have an important development of renewable projects over time, known as "Development Poles", where -through a Strategic Environmental Assessment- the best sustainable solutions for the connection of these projects to the National Electric System are defined. To identify these zones, criteria are used that respond to social, environmental, technological and territorial criteria, as well as economic and technological ones. Through the 2023-2027 planning process, carried out by the Ministry of Energy, the provinces of Antofagasta and Tocopilla, located in the north of the country in the Antofagasta region, were identified.

Additionally, Chile's National Green Hydrogen Strategy[3] identifies the Antofagasta region as one of the possible green hydrogen generation poles, where the country has positioned itself as one of the most competitive in this new industry, due to the low levelized cost of renewable electricity (See Figure 1). This challenge will undoubtedly stress the electric transmission system (and other sectors), so having a sustainable management also becomes imperative from the point of view of a new resilient development model.

[1] 2020 Yearbook, National Energy Commission
[2] Final technical report. Annual Transmission Expansion Plan 2021, National Energy Commission.
[3] Available here: https://energia.gob.cl/sites/default/files/national_green_hydrogen_strategy_-_chile.pdf

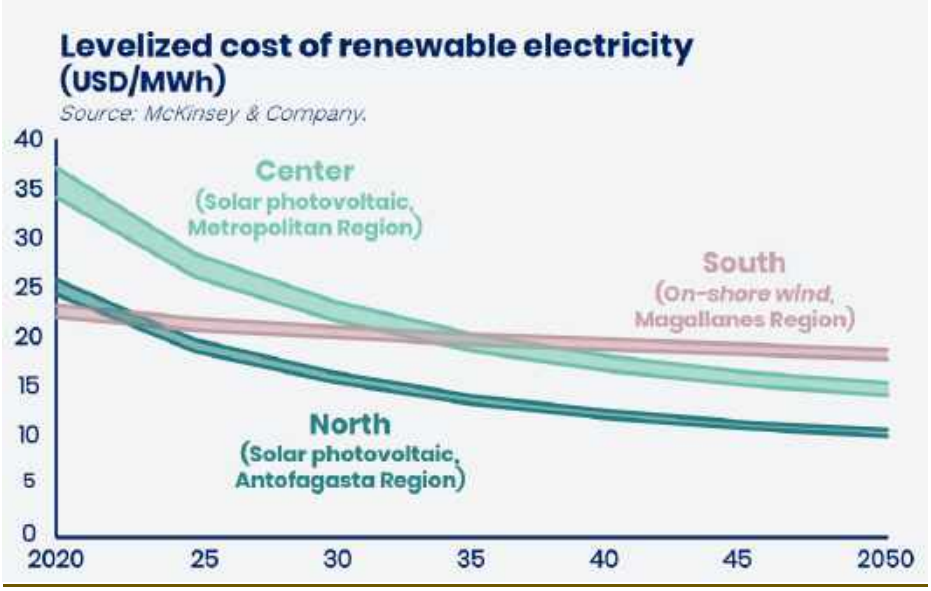


Figure 2. Levelized cost in Chile (National Green Hydrogen Strategy)

Given all this, it is relevant to move towards sustainable management of electricity transmission, which allows compliance with carbon neutrality, decarbonization, and renewable electricity matrix, while increasing the social legitimacy currently enjoyed by the transmission lines, necessary for this change, and building relationships of trust between the communities or inhabitants of the territories of the lines with companies, local governments, and central government through participatory processes around sustainable management.

Antofagasta is a region located in northern Chile. It is the second largest in surface area and ninth in population. It is the region with the highest GDP per capita, because its main economic activity is mining. It is internationally known for being located in the driest desert in the world (Atacama Desert), but also its geographical conditions make it diverse in flora, fauna and vegetation. Figure 2 presents a map of the region along with a summary table of its main characteristics.

Antofagasta Province, where particularly the project will be located, is one of the 3 provinces of Antofagasta Region, located to the west of it in the coastal zone. It has an area of 65,987 km² (the largest in the Antofagasta Region), has a population of 318,779 inhabitants and its provincial capital is the port of Antofagasta.

Region	Antofagasta
Capital	Antofagasta
Coordenadas	23°38'39"S 70°24'39"O
Weather	Arid/Desert/Coast desert
Main economic activities	Mining
Energy	It is the region with the highest energy generation in the country. It has the largest number of coal plants, but also a large presence of NCRE (especially solar, as shown in Figure 1).
Surface area	126,049.1 km²
Population	607,534 hab
Density	4,8 hab/km²
Vegetation and hydrogeography	There are 11 vegetation levels in the region. The most representative floors in the study area are the low Andean tropical scrub of *Mulinum crassifolium* and *Urbania pappigera* with 24% of the occupied surface. +40,000 ha of wetlands and the largest river in Chile (Loa).
Flora and fauna	The region is characterized by marked endemism of flora and fauna species, especially vascular plants and reptiles. Approx 224 species of fauna. The region has 17 areas with some degree of official protection.

Figure 2. Antofagasta Region, map and main characteristics

As for its climatic characteristics, the region has a cloudy coastal desert climate (BWn) in which its average annual rainfall exceeds 3 mm, and is concentrated mainly in the winter months (June-August). The average temperature is lower than in the regional capitals located further north, with a maximum of 20°C in summer and a minimum of 14°C in winter. As expected, extreme temperatures have the same behaviour, with average maximum temperatures decreasing to 24°C in summer and 16°C in summer, while minimum temperatures are 16°C and 11°C, respectively[4].

Regarding climate threats in the Antofagasta region, according to the Climate Risk Atlas (ARClim[5]) of Chile, the region will be the most affected in terms of the increase in the average daily maximum temperature (See Figure 3), it will also be the region that will experience the most heat waves, having the least encouraging projections in the country, as well as negative impacts in most of the risks analyzed in the atlas.

[4] Barton et al., 2014. Adptación urbana al cambio climático: Propuesta para la Adaptación Urbana al Cambio Climático en Capitales Regionales de Chile.
[5] Available here: https://arclim.mma.gob.cl/

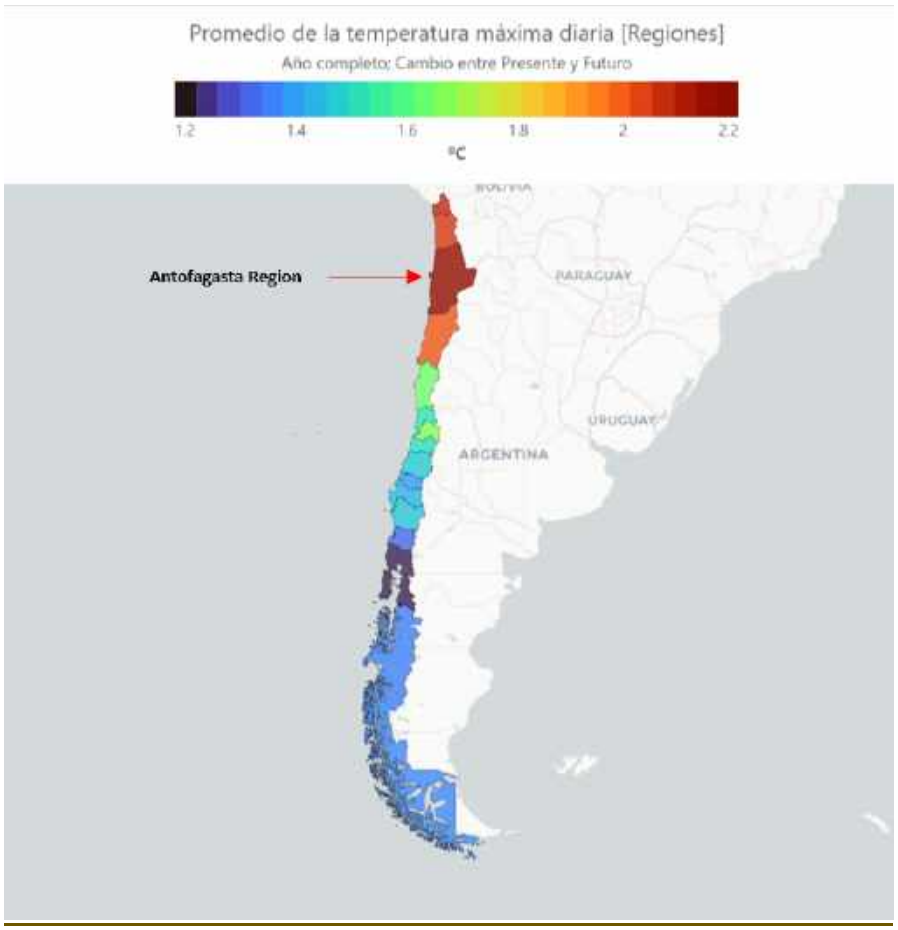
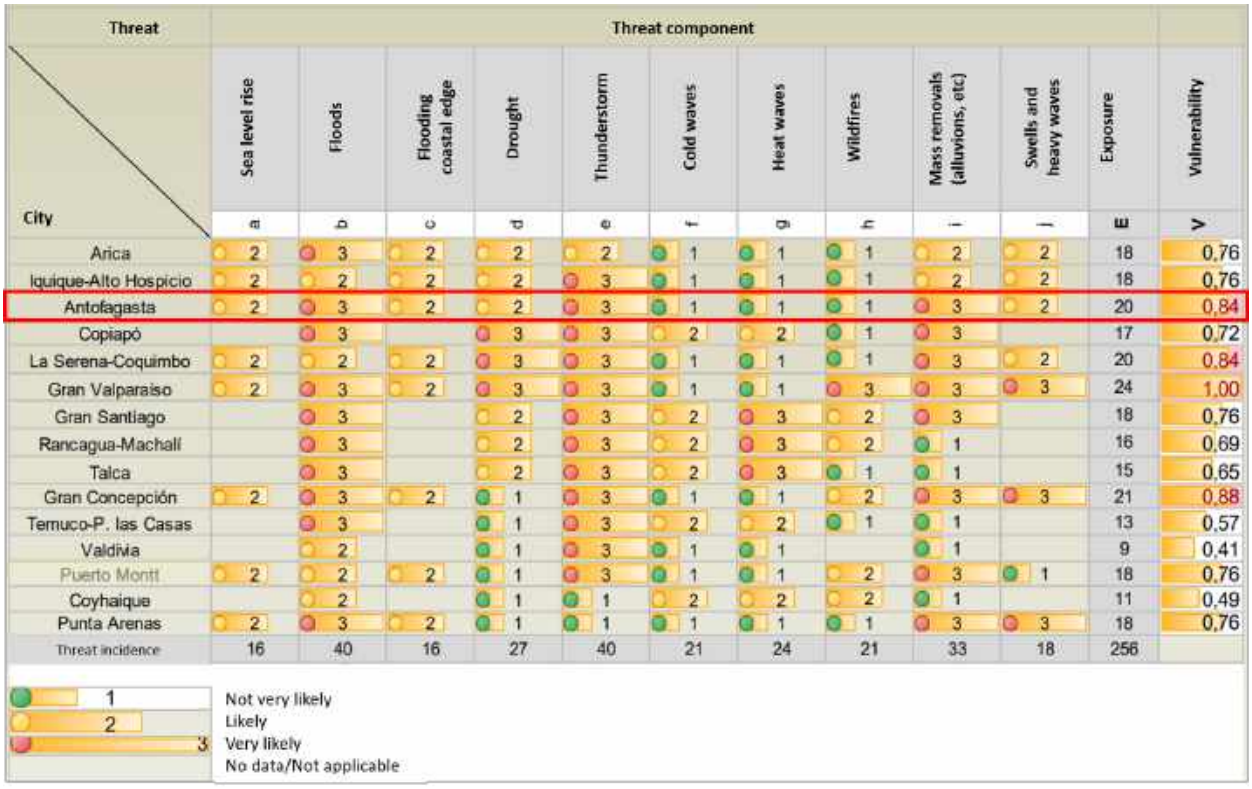


Figure 3. Average daily maximum temperature by region of Chile (Reference: ARClim)

In fact, the city of Antofagasta (regional and provincial capital) has been classified by national studies as one of the regional capitals most vulnerable to the effects of climate crisis impacts, as detailed and compared in the table in Figure 4. This is due to a combination of multiple factors, such as climate, geography, economic activities, among others. Therefore, it is essential that the region can advance in concrete solutions that allow it to make adjustments in the different systems present (ecological, social, human, infrastructure, economic) to respond correctly to the stimuli or negative effects that climate change will present, briefly stated in this postulation, but that undoubtedly can be deepened and better analyzed in the short term (For example, through the development of the Regional Action Plan on Climate Change that is currently being developed in the region of Antofagasta, and where the Ministry of Energy is actively participating).

Among the main effects of climate change that affect transmission lines and, therefore, the operation of the electricity system and the supply of energy to people, are heat waves. Warmer temperatures lead to increased losses in transmission lines and the extension of transmission line cables. Capacity decreases by 10% in overhead lines, 4% in subway cables and 7.5% in distribution network transformers. The increase in electricity losses due to temperature rise is estimated at 0.4%/°C for aluminum and copper conductors (IAEA, 2019).

On the other hand, floods, mass removals and thunderstorms are of special concern, causing immediate damage to transmission and distribution facilities, whose losses and damages can be quantified at the level of structural engineering damage, but also the cost (economic and social) of having people without access to electricity supply. These three are the most relevant when analyzing the impacts of climate change in the Antofagasta region, according to Figure 4. Therefore, it is urgent to implement adaptation measures to increase the resilience of the system.



Threat / City	Threat component: Sea level rise (a)	Floods (b)	Flooding coastal edge (c)	Drought (d)	Thunderstorm (e)	Cold waves (f)	Heat waves (g)	Wildfires (h)	Mass removals (alluvions, etc) (i)	Swells and heavy waves (j)	Exposure E	Vulnerability V
Arica	2	3	2	2	2	1	1	1	2	2	18	0,76
Iquique-Alto Hospicio	2	2	2	2	3	1	1	1	2	2	18	0,76
Antofagasta	2	3	2	2	3	1	1	1	3	2	20	0,84
Copiapó		3		3	3	2	2	1	3		17	0,72
La Serena-Coquimbo	2	2	2	3	3	1	1	1	3	2	20	0,84
Gran Valparaíso	2	3	2	3	3	1	1	3	3	3	24	1,00
Gran Santiago		3		2	3	2	3	2	3		18	0,76
Rancagua-Machalí		3		2	3	2	3	2	1		16	0,69
Talca		3		2	3	2	3	1	1		15	0,65
Gran Concepción	2	3	2	1	3	1	1	2	3	3	21	0,88
Temuco-P. las Casas		3		1	3	2	2	1	1		13	0,57
Valdivia		2		1	3	1	1		1		9	0,41
Puerto Montt	2	2	2	1	3	1	1	2	3	1	18	0,76
Coyhaique		2		1	1	2	2	2	1		11	0,49
Punta Arenas	2	3	2	1	1	1	1	1	3	3	18	0,76
Threat incidence	16	40	16	27	40	21	24	21	33	18	256	

1 Not very likely
2 Likely
3 Very likely
No data/Not applicable

Figure 4. Vulnerability of regional capitals to climate hazards (Reference: Romero, 2016)

Project Objectives:

The main objective of the project is to implement a sustainable transmission pilot in the Antofagasta Province (Antofagasta Region), which has been declared a “generation (of electricity) development pole” according to the country's Long-Term Energy Planning. This also reflects the gap between mitigation and adaptation. Antofagasta is a perfect case to demonstrate that, currently, energy planning and mitigation measures do not take into account the effects and impacts of climate change, as well as adaptation and resilience.

This sustainable transmission pilot will consist of a small-scale sustainable corridor that allows evaluation of this solution, with a focus on adapting it to the long-term and national scale.

To achieve this, the following components are proposed to be developed during the execution of the fund:

- Contributing to the development of an energy transition that is just, secure, and resilient
- Driving innovation in sustainable electricity transmission in Chile
- Promoting local energy development
- Empowering communities, with a focus on women, in energy management

Project Components and Financing:

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Contributing to the development of an energy transition that is just, secure, and resilient	Implement a solution for better management of transmission lines	Increase resilience and adaptive capacity of transmission systems	79,600
2. Driving innovation in sustainable electricity transmission in Chile	Develop an innovative sustainable corridor pilot	Decrease the negative impacts of transmission lines once the innovation is scaled up nationally	72,500
3. Promoting local energy development	Develop localized information on the transmission sector in the region (Antofagasta)	Increase participation of local governments and entities in the public policy-making process	37,000
4. Empowering communities, with a focus on women, in energy management	Involve communities living in the area of the transmission lines in the pilot project	Advance community participation in the energy projects	19,900
6. Project Execution cost			21,500
7. Total Project Cost			230,500
8. Project Cycle Management Fee charged by the Implementing Entity (if applicable)			19,100
Amount of Financing Requested			249,600

Projected Calendar:

Milestones	Expected Dates
Start of Project Implementation	01 December 2024
Project Closing	01 June 2026
Terminal Evaluation	01 December 2026

PART II: PROJECT JUSTIFICATION

A. Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience.

Sustainable (or green) corridors are linear elements of the landscape, planned or unplanned, that allow multiple uses of an ecological, social, cultural and any other compatible with sustainable land use (Jack Aher, 1995). Ahern's work raises the possibility of transforming them into corridors that are components of the natural landscape, such as natural watercourses or disused railroad tracks, among others, through restoration or construction processes. International experience has shown the possibility of creating green corridors under overhead power lines (Belgium and France) where various innovative actions are carried out to enhance biodiversity and raise public awareness of natural habitats and species linked to this linear context.

In general terms, it can be said that the objective of a green corridor is to link important natural areas of territory by means of a strip or corridor characterized by extensive vegetation. In this way, a sort of skeleton is created, capable of articulating cities or greener and healthier spaces (See Figure 3 below). In its interior, recreational areas, cultural spaces, sports facilities or urban gardens can be developed.

Some of the restoration actions that have been carried out, according to international experience, in green corridors in transmission lines are: edge zones, peat bogs, moorlands, orchards, grazing, and native species (flora and fauna), among others.

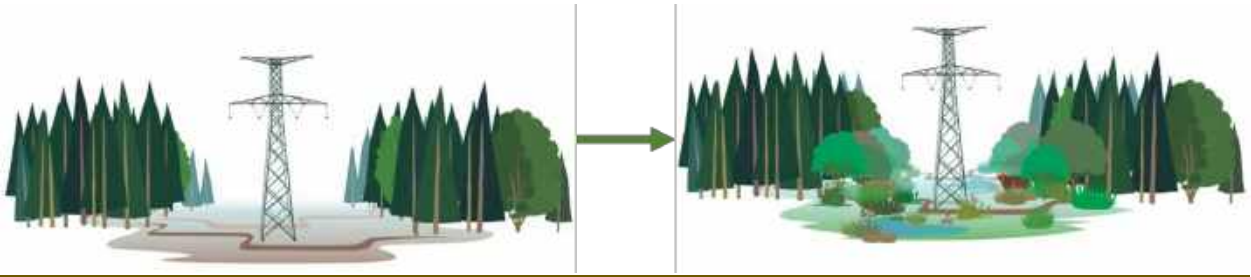


Figure 3. Scheme of a green corridor in transmission lines (Reference: LIFE-ELIA)

In addition to LIFE-ELIA, another success story is the project 'Huertos en Línea' (Orchards in Line, in English) initiative by ISA REP in Peru stands as a compelling example. These are community gardens managed by women situated on land beneath transmission lines or towers. Through these gardens, women are empowered, and their economic autonomy is enhanced by engaging in agroecological activities[6].

The components of the project are:

[6] More information here: https://www.youtube.com/watch?v=zWeOa0LBBfM

- **Contributing to the development of an energy transition that is just, secure, and resilient.**

Currently, the vulnerability of transmission lines is a growing problem (in Chile and the world) due to the fact that it has not been possible to incorporate concrete solutions for multiple reasons, such as information gaps, lack of financing, the regulatory inability of countries to include the cost of solutions in the bidding processes, increase in the cost of tariffs for the incorporation of solutions, lack of coordination between the public, regulatory and private sectors, among others. For this reason, particularly in Chile, there is a need to advance toward solutions so that the electricity transmission sector can make the necessary adjustments in the system (technical, economic, social, and environmental) to be able to respond to the negative changes that are expected in the country due to the climate crisis. Improved transmission is vital for the decarbonization of Chile because the renewable generation points are not in the poles of highest consumption given the geography and demography of the country, so advancing in solutions that allow adapting this sector to the climate crisis will ensure the reduction of GHG while reducing the exposure, risk and vulnerability of the lines against imminent negative effects (mainly temperature rises and extreme events).

Thus, sustainable corridors are presented as a solution because they could allow a natural or planned protection (through vegetation, ecosystems and collaborative work with the community) of the infrastructure against these impacts. For example, a correct, planned and regulated increase of vegetation around the lines could act as a buffer against heat waves or protect the soil against alluvium/rainfall, prevent fires, etc. On the other hand, a correctly planned management together with the community could allow avoiding risks that today occur due to lack of security (for example, illegal houses around the high-tension towers, which put people and infrastructure at risk).

- **Driving innovation in sustainable electricity transmission in Chile.**

At the international level, advances in sustainable transmission are becoming more and more relevant, as they allow addressing a wide range of problems from an innovative perspective. A sustainable corridor is an infrastructure with a significant presence of vegetation that connects natural areas of a certain zone or area and, in the particular case of electricity transmission, it can help reduce the fragmentation of ecosystems where a line is located, as well as reduce the edge effect on forests, recover native flora and fauna, promote ecosystem conservation, among other more specific issues depending on the territory where they are implemented.

This is a highly innovative solution because it presents a new way of thinking about the transmission system in the energy sector. In particular, at the national level, a sustainable corridor has never been implemented and transmission lines have been historically opposed by communities, civil society, and academia. Thus, implementing a sustainable corridor in Chile will be understood as a nature-based solution to mitigate GHGs in the energy sector through the contribution to decarbonization, while increasing the adaptive capacity of the sector.

On the other hand, more sustainable management of transmission makes it possible to promote productive uses that are relevant to local stakeholders, as well as to protect biodiversity and promote the conservation of ecosystems in the territories.

It will also contribute to the biodiversity gain in the areas where it is located, contributing to the food sovereignty of the communities and the promotion of wildlife.

- **Promoting local energy development.**

This proposal is focused on the direct participation of local stakeholders (from the Antofagasta Province) in the execution of the project, which allows the development of capacities and technical knowledge in professionals working in different sectors linked to energy issues (public, private, academia, civil society, etc.).

This allows the implementation of a bottom-up approach to energy management in the region, where those directly involved will participate in the different processes and developments of the project. The success of the project may set a precedent on the importance of addressing the challenges of the electricity sector from a local perspective, which will allow institutions, such as the executing institutions, to advance in these solutions and scale up the project to the national level.

All this considering a crosscutting process focused on outreach of results and the pilot, but in the main challenges related to adaptation and resilience in Antofagasta Province, Chile and the energy sector in general. The basis of this is to develop a common knowledge in citizens related to the role of adaptation in the energy sector and how a resilient management of the electricity can drive us to a better solutions and mitigation of the climate risks.

- **Empowering communities, with a focus on women, in energy management.**

The project strengthens its social and environmental legitimacy mechanisms, where citizens can participate in decision-making processes by considering early transparent information on projects that will be key to the country's energy transition.

This is achieved through the development of training and education instances, participatory workshops to learn the opinions and proposals, and the inclusion of the communities that live and develop in the chosen territory in the design and implementation of the pilot, with a special focus on vulnerable sectors (homeless people living in illegal camps near the transmission lines) and women.

Finally, adaptation to climate change is addressed by the project through risk management on transmission lines, while climate resilience is achieved through the following points:

- Capacity-building in communities and local governments to increase adaptation to undesired events, especially linked to climate crisis effects

- Gathering information on climate risks in the energy sector, focusing on the Antofagasta Province, to provide inputs to local decision-makers for better management
- Manage risks associated with transmission lines, such as fires, through preparation and work with the communities living around this infrastructure

Incorporating women into projects like this pilot aimed at enhancing resilience and climate adaptation in the energy sector is crucial for several reasons, highlighting current disparities and emphasizing the pivotal roles they can play. Women often face existing gender gaps, both in terms of representation and access to opportunities within the energy sector. Addressing and bridging these gaps is essential for achieving comprehensive and effective climate resilience strategies.

Current gaps in the energy sector often implies a limited representation and participation of women in decision-making processes or other kind of them (e.g. consultations). Incorporating women into climate adaptation projects in the energy sector helps address these imbalances, fostering diversity and ensuring a more inclusive approach to tackling climate challenges.

In the other hand, women bring perspectives and experiences to the table, enriching the overall understanding and approach to resilience and adaptation initiatives. Their inclusion ensures a broader range of insights, considering the varied ways in which climate change impacts different communities and individuals (IEA, n/d[7]).

Empowering women through training and capacity-building programs in clean energy technologies, adaptation pilots and resilience in the electricity sector is key because they can play fundamental roles in the implementation and management of sustainable energy initiatives, boosting good practices and contributing to the success of projects that promote environmental integrity. This is an important point to made, because is the fundamental pillar in the women participation in the pilot regards the need not only to address important challenges, as energy transition, but to maintain the different initiatives or solutions that could be developed.

In summary, incorporating women into climate adaptation projects within the energy sector is not only a matter of gender equality but a strategic imperative for fostering resilience, driving sustainable practices, and ensuring a just and inclusive transition to a more climate-resilient future.

Although the background information gathered for the application may seem general at this stage, it is expected that during the first three months of project implementation it will become clearer about the gaps that exist in the region and province of Antofagasta in terms of gender and energy, as well as the state of community involvement and

[7] More information in: https://www.iea.org/topics/energy-and-gender

participation. The former will be carried out with the support of the Antofagasta Regional Round Table "Energy Plus Women"[8] led by the Regional Ministerial Secretary, Dafne Pino, while the latter will be worked on, in particular, with the Division of Participation and Social Dialogue that leads these issues in the Ministry of Energy.

B. Describe how the project provides economic, social, and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project will avoid or mitigate negative impacts, in line with the Environmental and Social Policy of the Adaptation Fund.

Although at this stage it is difficult to identify the baseline in terms of communities and vulnerable groups because there is no exact location, information is available at the regional and provincial levels. However, the Ministry of Energy has specific data by territory both through its Participation and Social Dialogue Division and the Projects Division (which oversees transmission line studies). In this line, the definition of the specific territory will be carried out during the first three months of execution and a detail will be provided that analyzes and identifies vulnerable groups, communities and their characteristics, indigenous population present, socioeconomic levels, among others. The Ministry of Energy will ensure the project will consider vulnerable groups within the communities in terms of benefits through direct involvement in project activities. On the other hand, during the period and activities of information gathering, special consideration will be given to the analysis of the negative impacts that the project could have on these communities and vulnerable groups. This will be included in the reports and different products, as well as in training and dissemination activities.

Economic benefits: more sustainable management of the ecosystems where transmission lines are located could translate into a reduction of maintenance costs in the transmission companies' easements, as well as a reduction of inaction costs for public entities (related to adaptation and risk management).

Social benefits: empowerment of communities, capacity building around the energy sector and with a focus on women, employment insertion of marginalized groups through work or obtaining benefits from sustainable corridors (for example, through work and generation of economic activity from community gardens that function as sustainable corridors).

Environmental benefits: reduction of the impacts presented by the construction and operation of transmission lines, such as fragmentation, edge effect, loss of ecosystems and biodiversity, deterioration, and change of land use, among others.

In addition, both the positive impacts/results and the lessons learned from the project will be shared through a nurturing exchange of knowledge and best practices with CPDAE. It may be of special interest for international cooperation that the Chilean pilot

[8] https://energia.gob.cl/noticias/antofagasta/mesa-regional-energia-mas-mujer-sesiona-para-proyectar-el-trabajo-desarrollar-en-2023

will seek to have multisectoral participation, including not only the public sector and communities but also the private sector, through companies and associations related to the subject and with whom the Ministry of Energy has previously worked in this line.

C. Describe how the project encourages or accelerates the development of innovative adaptation practices, tools or technologies and/or describe how the project helps generate evidence base of effective, efficient adaptation practices, products or technologies, as a basis for potential scaling up.

The implementation of the first sustainable corridor pilot in Chile means a concrete innovative adaptation measure to address the challenge of climate change impacts in the electricity transmission sector. This, being a nature-based solution, is an existing development to solve a different problem, focused on increasing the resilience of the energy sector and promoting local energy development through capacity building and knowledge in professionals in the field, and communities, with a focus on the most vulnerable and women living in the territories where the transmission lines are located.

The objective of this being a sustainable corridor pilot is to test on a small scale whether this solution will open the possibility and public discussion on sustainable corridors at a national level and as a state policy, promoted by public entities linked to energy. Thus, one of the long-term objectives of the project is to lay the foundations (technical inputs, studies, concrete results, good practices, lessons learned, etc.), systematized in the different products that will emerge from the process to deliver a sustainable solution to electricity transmission that can be led and promoted by Chilean institutions related to energy and climate change, being also an example at regional (Latin America) and international level in the field, in terms of the safe and resilient energy transition.

The International Union for Conservation of Nature (IUCN) defines nature-based solutions as "actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges in an effective and adaptive manner, while simultaneously providing benefits for human well-being and biodiversity".

A sustainable corridor can take different concrete forms as a project, for example, some of the ideas that have been analyzed for Chile is integrated vegetation management, which is a strategy designed to minimize the existence of tall vegetation, through the establishment of stable communities of low stature plants on transmission lines, by using complementary methods of control that maximize public health and safety, cost-effectiveness and environmental protection (Brockbank, R.).

Another form that a green corridor, such as the one proposed in this postulation, can take is the planting of orchards on transmission line towers or easements. Here, in forested areas, interventions are implemented with the same logic: planting low vegetation, and therefore safe, that will prevent the growth of trees that could endanger the lines, but where at the same time local species are used, which have a conservation

value because they are protected, and allow the proliferation of local and economic activities around production.

Alternative forms, which also have positive results at the international level but which are identified as a more complex application for this project (due to the endemic vegetation and flora of the Antofagasta Region) are the planting and restoration of forest edges that can favor biodiversity, help integrate the lines into the landscape and protect the trees from the wind. However, this option cannot be ruled out if a correct analysis makes it feasible or if it could be evaluated for future projects or scaling up in other areas of the country, such as the south of Chile, which has significant vegetation and forests that are fragmented by the presence of transmission lines, consolidating the option of scaling up this project in the future.

D. Please confirm whether the project meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and is in line with the Environmental and Social Policy of the Adaptation Fund.

Yes, the project is aligned with the following regional, national, and international plans, policies or laws:

- (Regional) Regional Climate Change Action Plan, Antofagasta: Under development, and where the Ministry of Energy is actively participating.

- (National) Climate Change Framework Law: The Law mandates the elaboration of Sectoral Mitigation and Adaptation Plans by 2024. The Ministry of Energy is initiating these processes for the energy sector; therefore, this pilot will be aligned with them and will contribute to the measures included in them. In addition, this project would contribute to the Law's goal of achieving carbon neutrality by 2050 at the latest and increase the country's adaptive capacity and resilience.

- (National) Nationally Determined Contribution and Long-Term Climate Strategy: Through the contribution to the fulfilment of Chile's international commitments regarding GHG reduction, decarbonization, and carbon neutrality.

- (National) National Energy Policy 2050: The project contributes to the fulfilment of the goals of the guiding policy of the energy sector, which seeks to make it a resilient and efficient sector, as well as a protagonist of climate ambition.

- (International) Escazu Agreement: The project implementation processes will be governed by the guidelines of the Regional Agreement on Access to Information, Public Participation, and Access to Justice in Environmental Matters in Latin America and the Caribbean, which was signed in March 2022 by Chilean Government.

- (International) Environmental and Social Policy, Adaptation Fund: as detailed in section F, the project is aligned with different components of the ESP.

E. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

Knowledge management will be carried out from different aspects:

- Systematization of the progress of the project, with special focus on lessons learned, to be incorporated in the final report that will be publicly available.
- Dedicated workshops and other capacity-building activities with interested stakeholders.
- Elaboration of a guide for the development of sustainable transmission projects with a clear focus on climate resilient and adapted transmission infrastructure, together with the Chilean Environmental Assessment Service, which will be made public for the correct development of future projects such as the proposed pilot project.
- Incorporation of international knowledge and experiences in the development of the project, which will be collected from the CPDAE based on other energy projects or nature-based solutions that have been implemented under the Adaptation Fund.
- Along the same lines, all information, progress, lessons learned, and best practices will be presented to the CPDAE community through reports, guidelines, presentations, webinars, and other products or formats. Also, all the material will be available for use by other members of the groups, their teams and any other person who may be interested.

F. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project. Describe how the project will engage, empower and/or benefit the most vulnerable communities and social groups, including gender considerations, in line with the Environmental and Social Policy of the Adaptation Fund.

Checklist	Assessment carried out	Potential impacts and risks
Compliance with the Law	The project complies with and is under the eaves of the laws, norms, regulations, and policies, both subnational, national, and international. It will comply, at all times, with Chile's legal framework, making correct and efficient use of natural resources, environment and people protection, as well as local development from different	**Risk: Low** **Potential Impact: High** There are no identified risks to legal compliance during project implementation. We will work with the Superintendence of Electricity and Fuels, which is the entity in charge of regulating the

	perspectives	spaces for transmission lines.
Human Rights	The project will have unrestricted respect for the fundamental rights of the people living in the area where the pilot project will be located and of any other person in general who may be involved. Through the participatory processes of the project and the joint work with the Gender and Human Rights Office of the Ministry of Energy, the protection and avoidance of any impact on the basic rights of people will be ensured.	**Risk: Very low** **Potential Impact: Very high** The project is aligned with national, regional, and international human rights standards, and will be advised by professional experts.
Marginalized and Vulnerable Groups	The program seeks to work with marginalized and vulnerable groups (for example, illegal camps in the areas where the transmission lines are located) and aims to contribute to improving their conditions in two ways: - Safety: currently the communities put their safety at risk by living around high voltage pylons. This project will also work with them to educate, raise awareness and improve their quality of life. - Local community development: The pilot corridor will allow the development of economic activities around an area that currently lacks them, for example, through small-scale agriculture, food cultivation, seed preservation, local trade, etc. The program will have no negative impacts on these groups.	**Risk: Very low** **Potential impact: High** The project's participatory process will focus on implementing socio-environmental safeguards, as well as identifying risks, needs, and potential conflicts, among others. The participatory process will be governed by the highest national, regional, and international standards. The project will consider a contingency plan, if necessary, after the process.
Gender Equity and Women's Empowerment	The project seeks to have a positive impact on gender equity and empowerment by working with women during its execution. This will be done from two perspectives: - Women in the energy sector: currently only 23% of the sector's workforce at the national level are women. For this reason, the project will seek that the teams are formed by +50% of women in the different stages and processes. The professional teams of the participating institutions must also include women, and gender criteria	**Risk: Very low** **Potential impact: Very high** The project will have gender equity and women's empowerment as a fundamental pillar, ensuring it from project design to implementation, and with the professional support of experts in the field.

	will be used for team selection. - Women in the beneficiaries: in the work carried out with the communities through the participatory process or the insertion of the groups in the project, there will be a special focus on incorporating women and gender criteria in the process, contributing to the development of capacities in the women of the communities, contributing to their economic development and empowering them as fundamental actors in the adaptation to climate change. All of the above will be designed and implemented together with the Gender and Human Rights Office of the Ministry of Energy	
Protection of Natural Habitats	One component of the project aims to protect ecosystems, biodiversity, and natural habitats through conservation and the implementation of a nature-based solution.	**Risk: Very low** **Potential impact: Very high** The project team will include professionals dedicated to this issue, as well as previous studies to ensure the protection of ecosystems and, as mentioned in previous items, a large part of the efforts will be made to meet the objective of sustainable management of electricity transmission to reduce the negative impacts of this activity on the natural environment.
Climate Change	The project will not mean, in any case, and under any circumstances, an increase in greenhouse gas emissions. On the contrary, one of the consequences of the development of the project will be an increase in native flora and fauna, which in turn will create the conditions to become a carbon sink. This, added to the intrinsic component of adaptation to climate change, transforms the project into a multidimensional solution to the problem of the climate crisis.	**Risk: Very low** **Potential impact: Very high** The project, being a nature-based solution, combines the absorption of GHG emissions with adaptation to the climate crisis, in line with the objectives of the Paris Agreement.

G. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

The effects of the climate crisis jeopardize the decarbonization of the energy matrix and climate commitments, the security of supply and the resilience of the sector to different types of negative impacts. Currently, the preparedness of the energy sector is not sufficient in a country like Chile, which meets 7 of the 9 UNFCCC criteria of vulnerability to climate change. Thus, advancing concrete solutions to increase the adaptive capacity, while reducing vulnerability and strengthening resilience of the energy systems is urgent and imperative for the sector to be properly prepared for the challenge of facing the adverse and undesired effects presented by climate change and which are of special interest for energy (heat waves, drought, extreme hydrometeorological events, sea level rise, changes in seasonal patterns, increased demand, among others). This will allow the sector to adapt to the climate crisis, while at the same time achieving a low-emission, fair, safe and responsible energy transition.

In this line, the project proposes the implementation of a sustainable corridor in an area of special relevance for electricity transmission, which would allow testing of long-term solutions to adapt the infrastructure to the impacts of the climate crisis, while obtaining other positive results, such as an improvement in local energy management, incident participation, and empowerment of local communities along with the development of information and capacities of the territory from an energy perspective. This pilot will also have the ultimate goal of evaluating the scaling up of the project too, in case of success, scale it up to regional, macro zonal and, eventually, national levels.

A project of this type requires that the Ministry of Energy and other public institutions can articulate the different actors (local governments, private sector, academia, communities, etc.) and the funding needed to develop a first pilot of these characteristics, which is currently unavailable. So, the Adaptation Fund solves this funding need by allowing the development of a nature-based solution to address the impacts of climate change in the energy sector and increase resilience to adverse effects that the country or the energy sector would be unable to address in the short term. Particular benefits of the fund include:

- Information gathering and capacity building around sustainable transmission at a multi-sectoral level.
- Reducing public investment costs in adaptation measures for the transmission sector
- Promote new nature-based solutions to increase the adaptive capacity of the energy sector and the country through tangible pilots.
- Develop participation, empowerment, and capacity-building programs for the most vulnerable communities that inhabit the territories where transmission lines are located, as well as for energy professionals in the region.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project/programme implementation.

The project will be implemented over 24 months, starting in 2024. The National Implementing Entity (NIE) will be the Chilean Agency for International Development Cooperation (AGCID, for its acronym in Spanish).

AGCID will work in conjunction with the Ministry of Energy (central level and Antofagasta Ministerial Secretariat) and the Regional Government of Antofagasta. AGCID's role under the project is fully in line with its institutional leadership role as a National Cooperation Agency, supporting the implementation of development programs at the national and international levels.

The Project Coordinator will be responsible for the coordination and monitoring of the project and will report to the Climate Change Unit of the Energy and Environmental Policies and Studies Division. Among the tasks led by the coordinator are:

- Articulation of the different actors involved in the project
- Monitoring and follow-up of the development of the project, its components, and activities
- Technical counterpart, together with the Ministry of Energy, of studies and other consultancies derived from the project
- Coordination with the external audit unit

AGCID will ensure performance improvement; and together with the Ministry of Energy, will approve the work plan and the procurement plan. In addition, both entities will closely monitor the work plan execution, led by the coordinator.

In addition, project implementation will occur in harmony with the private sector (companies and transmission associations) and academia/education sector (higher education institutions and schools) with a participatory process involving the communities and civil society of the territory. In particular, the Ministry of Energy has had conversations with companies that own transmission lines in the Antofagasta to develop this project jointly. Once the fund is awarded, the Ministry of Energy and the company will sign a memorandum of understanding (MoU) to facilitate cooperation and provide certainty to the Adaptation Fund. Also, as the pilot project will cover a few meters, it has the flexibility to find an alternative site in case obtaining the easement of the initial site is not possible.

AGCID will provide the following implementation services for the project:

- Portfolio implementation monitoring and reporting on budget execution
- Quality assurance and accountability for results and outputs in the development phase of the project, during implementation, and at the completion

- Receipt, management, and disbursement of AF funds by financial rules and regulations
- Oversight and quality assurance of project results evaluation processes and assurance that lessons learned/best practices are incorporated to improve future projects

B. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

The project contemplates the development of a monitoring plan, which will include evaluation and will allow for monitoring compliance and success throughout the implementation period and -with special emphasis- at project closure to be incorporated into the final evaluation along with good practices and lessons learned from the final report.

The monitoring plan will incorporate indicators to quantify progress as implementation progresses, as well as its success. It will be prepared by an external consultant and approved by AGCID and the Ministry of Energy, while monitoring and evaluation will be carried out by the project coordinator.

Upon completion of project implementation, an external audit will be developed to assess the proper functioning, as well as to incorporate transparency as a fundamental principle of project implementation.

The following reports derived from the monitoring plan will be considered and all must be approved by the NIE and the Ministry of Energy:

- Monitoring plan: a strategy for follow-up that will be available before the execution of activities.
- Bimonthly reports: progress reports on compliance with the indicators identified in the monitoring plan for each of the component activities.
- Final report: consolidated report on the follow-up of the process, with special focus on the closure of activities, lessons learned, and recommendations for future implementation of similar projects.
- External audit report: based on the periodic financial statements, an external audit report will be prepared by the regulations established by the executing agency.

C. Include a simple results framework for the project proposal, including milestones, targets, and indicators.

Outcome	Indicator	Baseline	Milestone	Means of verification
Component 1: Contributing to the development of an energy transition that is just, secure and resilient				
Outcome 1.1: Increase the resilience of electricity transmission	Tool with an analysis that allows to quantify the number of risks mitigated or eliminated with the pilot implementation *(Knowledge product #1)*	Project analysis will concretely identify and quantify baseline risks	1	Develop of a tool, with its report, that shows the results of the pilot comparing final and baseline scenarios
Component 2: Driving innovation in sustainable electricity transmission in Chile				
Outcome 2.1: Build a sustainable corridor pilot	Number of pilots built	No sustainable corridors exist in Chile	1	Built infrastructure Intermediate and final reports with results
	Number of people benefiting from new infrastructure	0	1,000	
Component 3: Promoting local energy development				
Outcome 3.1: Increase the capacities of the energy sector in the Antofagasta Province	Number of participants in trainings/workshops to professionals of the energy sector in the region. *Beneficiaries: energy professionals, i.e. people currently working on this issue. Objective: training focused on energy transition and climate resilience (technical specialization).*	0	5 trainings or wokshops developed. +30% of participants are women	Participatory activities carried out Photographs and videos Attendance list with a column to indicate gender for each public activity
	Number of reports with guidelines to adapt to climate change in the energy sector (state of art,		1 guide for how to adapt to climate change in the energy sector, with	Public guide with technical language aimed at professionals in the energy sector

	recommendations, pilots, projects, etc.) *(Knowledge product #2)*		focus on Antofagasta Region	
Outcome 3.2.: Increase the knowledge of the region's citizens on energy issues	Number of communication campaigns and communication strategy focused on the region *(Knowledge product #3)* *Beneficiaries: general audience in Antofagasta Province. Objective: disseminate climate change impacts in the region and individual actions to increase energy resilience through videos on social networks, advertisements on local radio stations, graphic material, among others.*	0	1	Number of campaigns launched Graphic and audio-visual records A document containing the communication strategy
Component 4: Empowering communities, with a focus on women, in energy management				
Outcome 4.1: Increase instances of participation and advocacy on energy issues with the communities in the project area	Number of people in the participatory activities carried out	0	5 participatory activities +50% of participants are women	Participatory activities carried out Photographs and videos Attendance list with a column to indicate gender for each public activity.
Outcome 4.2: Increase the involvement of women from vulnerable and marginalized social groups in energy and climate change issues	Number of trainings, focused on women, climate change, and energy. *Beneficiaries: general audience in Antofagasta Province (considering parity). Objective: to train people in the province to develop knowledge and expertise on climate change, adaptation, energy resilience and, in particular, on the*	0	3 trainings +50% of participants are women 1	Training activities and workshop conducted and verified with photographs, attendance list with a column to indicate gender for each public activity, and videos. Public guide with simple language and easy access and understanding

	project and sustainable corridors through theoretical-practical workshops. Number of a report with guidelines to adapt to climate change from a citizen and communitarian energy perspective *(Knowledge product #4)*			

D. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. Contributing to the development of an energy transition that is just, secure and resilient	Number of risks mitigated or eliminated with pilot implementation	Outcome 1: Reduced exposure to climate-related hazards and threats	1. Relevant threat and hazard information generated and outreach trough a tool to stakeholders on a timely basis	79,600
2. Driving innovation in sustainable electricity transmission in Chile	Number of people benefiting from the new infrastructure	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	72,500
3. Promoting local energy development	Number of trainings for energy professionals in the region	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses Outcome 8: Support the development and diffusion of innovative adaptation practices, tools, and technologies	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased 8. Innovative adaptation practices are rolled out, scaled up, encouraged, and/or accelerated at regional, national and/or subnational levels.	37,000

4. Empowering communities, focusing on women, in energy management	Number of participatory activities carried out (With +50% participation of women)	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at a local level	3.1. Percentage of the targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	19,900
Project Outcome(s)	**Project Outcome Indicator (s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Outcome 1.1: Increase the resilience of electricity transmission	Tool with an analysis that allows to quantify the number of risks mitigated or eliminated with the pilot implementation	Output 1.1: Risk and vulnerability assessments conducted and updated	1.1. No. of projects or programmes that conduct and update risk and vulnerability assessments (by sector and scale)	51,700
Outcome 3.1: Increase the capacities of the energy sector of the Antofagasta Province	Number of trainings for professionals of the energy sector of the region	Output 2.1: Strengthened capacity of national and sub-national centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	4,000
Outcome 3.2: Increase the knowledge of the region's citizens on energy issues	Number of communication campaigns focused on the region	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	50,000
Outcome 2.1: Construct a sustainable corridor	Number of pilots constructed	Output 8: Viable innovations are rolled out, scaled up, encouraged, and/or accelerated	8.2. No. of key findings on effective, efficient adaptation practices, products and technologies generated	51,700

Include a budget, including a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

Category	Item	Unit price	Quantity	Total USD	Total USD
IE FEE	AGCID	$ 19,100	1	$ 19,100	$ 19,100
Execution	Project Coordinator	$ 1,100	12	$ 13,200	$ 21,500
	External audit	$ 8,300	1	$ 8,300	
Component 1 Contributing to the development of an energy transition that is just, secure and resilient	Tool with climate risks in the energy sector mitigated because the pilot	$ 30,000	1	$ 30,000	$ 79,600
	Energy and NbS expert	$ 1,600	12	$ 19,200	
	Journalist	$ 800	18	$ 14,400	
	Final analysis/report	$ 16,000	1	$ 16,000	
Component 2 Driving innovation in sustainable electricity transmission in Chile	Support Ecologist	$ 1,100	8	$ 8,800	$ 72,500
	Support Engineer or Architect	$ 1,500	8	$ 12,000	
	Construction of 10 km corridor	$ 51,700	1	$ 51,700	
Component 3 Promoting local energy development	Sustainable Corridors Guide Antofagasta	$ 20,000	1	$ 20,000	$ 37,000
	Communication strategy and its implementation	$ 12,000	1	$ 12,000	
	Follow-up plan. External consultancy	$ 5,000	1	$ 5,000	
Component 4 Empowering communities, with a focus on women, in energy management.	Participatory workshops with the community	$ 500	15	$ 7,500	$ 19,900
	SCL-Antofagasta team trips	$ 700	12	$ 8,400	
	Workshops	$ 800	5	$ 4,000	
TOTAL				**$**	**249,600**

E. Include a disbursement schedule with time-bound milestones.

Schedule disbursement	Upon signing agreement	Inception workshop:	1 year after projects start	Grand Total (USD)
Schedule date	December 2024	March 2025	December 2025	
Project funds (Components 1-4)	69,667	69,667	69,663	209,000
Project Implementing Entity Fee			19,100	19,100
Project Execution Cost	4,400	4,400	12,700	21,500

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

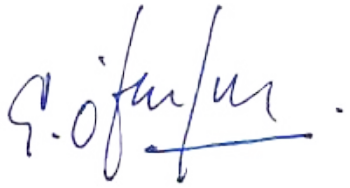
A. Record of endorsement on behalf of the government[9] *Provide the name and position of the government official and indicate the date of endorsement. If this is a regional project/programme, list the endorsing officials of all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

Maritza Jadrijevic Girardi, Head of Adaptation Department. Climate Change Division. Ministry of Environment, Chile.	Date*: July, 18, 2024*

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number, and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans in accordance with Chile's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by Climate Change and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

6. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.



ENRIQUE O'FARRILL-JULIEN
Executive Director
Chilean International Cooperation Agency for Development (AGCID)
Implementing Entity Coordinator

Date: *July, 19, 2024*	Tel. and email: +56228275754 / eofarrill@agci.gob.cl
Project Contact Person: Marco Ibarra, Policy Analyst.	
Tel. And Email: +56228275759 / mibarra@agci.gob.cl	

Ministerio del Medio Ambiente

Gobierno de Chile

Letter of Endorsement by Government

Santiago, 18-07-2024

To: The Adaptation Fund Boardc/o
Adaptation Fund Board
SecretariatEmail:
afbsec@adaptation-fund.org Fax:
202 522 3240/5

I am writing to you as the designated authority for the Adaptation Fund in Chile, in relation to the project "Sustainable lines. Adapting electricity transmission infrastructure to the climate crisis through naturebased solutions in Antofagasta Region". I would like to inform you that this project aligns with the Chilean government's focus on adaptation efforts to reduce adverse impacts of, and risks, posed by climate change

Accordingly, I am pleased to endorse the above project proposal with support from the AdaptationFund. If approved, the project will be implemented by AGCID and executed by the Ministry of Energy.

Sincerely

Maritza Jadrijevic Girardi
Head of Adaptation Department
Climate Change Division
Ministry of Environment
Designated Authority of Chile