

Frontera Project in Chile

Implementation of Clean Energies in Tierra del Fuego

The challenge

Located in Tierra del Fuego, the Frontera Project aims to develop a green ammonia production plant using hydrogen generated from wind power. The area has unique conditions for renewable generation.

The ammonia produced will be exported while also driving new economic activity in the region, through skills development, quality job creation, and infrastructure improvement.

From its design, the project considers the ecological sensitivity of the environment, incorporating detailed environmental studies and continuous dialogue with local stakeholders to ensure harmonious and respectful development with the territory. The initiative is currently in the pre-feasibility stage, advancing in the collection of information and early participation processes with local communities.

Despite its strong potential, the large-scale Frontera Project faces key challenges due to its remote location, logistical complexity, and fragile natural environment. Addressing these issues requires early, integrated planning that goes beyond conventional project development. To support this, a Public-Private Partnership (PPP) is being implemented through the H2Uppp programme to strengthen the project's technical design, territorial integration, and sustainability from the outset.

The solution

The public-private partnership (PPP) collaboration between GIZ and Acciona Norden Green Hydrogen (ANGH) company, focuses on providing strategic value to the development of the Frontera Project. The objective is to complement the project's overall process with technical analysis, support in territorial engagement and stakeholder alignment, and knowledge generation to help consolidate it as a sustainable initiative integrated with its environment.



View of Cerro Sombrero, Tierra del Fuego, in the south of Chile.

One of the central aspects of the work will be optimising the project design for the production and transport of either electricity or hydrogen, up to the point of ammonia synthesis. The analysis will compare different alternatives, such as producing hydrogen near the renewable plant or closer to the port, taking into account technical, economic, and environmental perspective.

In parallel, a circular economy approach will be incorporated into the project's life cycle analysis. This includes identifying opportunities for waste recovery during the construction and operation phases.

Additionally, the PPP includes activities aimed at strengthening local capacities. Through participatory processes, workshops, and training spaces, the goal is to facilitate a greater understanding of the industry and establish a stronger relationship between communities, local authorities, and stakeholders.

How it will be done

The implementation of the PPP between GIZ and ANGH is structured as a strategic collaboration that complements existing efforts within for the Frontera Project, with specific actions aimed at strengthening its development from a technical, environmental, and territorial perspective. Through specific studies, participatory sessions, comparative analyses, and joint workspaces, inputs will be generated that can be directly applied to the project's planning decisions.

The work will be carried out in parallel with the project's progress, allowing for the dynamic integration of results throughout its different phases. This ensures that the PPP's contributions address current needs while anticipating future challenges, promoting a preventive and adaptable approach.

Expected Impact

The PPP is a concrete contribution to the sustainable development of the Frontera Project, offering tools and knowledge for better decision-making. Its technical focus supports defining infrastructure and logistics alternatives that balance economic viability, efficiency, and territorial compatibility.

By applying circular economy principles, the PPP will identify ways to reduce waste, optimize resources, and strengthen environmental coherence from the start.

Socially, the initiative promotes engagement with communities and local authorities through training,

listening, and participation—enhancing understanding and integrating local insights. By sharing results, the PPP aims to benefit similar projects in Chile.

Ultimately, this collaboration seeks to strengthen both the specific project and broader approaches to developing a more integrated and responsible green hydrogen industry.

The project at a glance

Duration	March 2025 – September 2026
Country	Chile
Objectives	Develop a comprehensive framework for the implementation of a sustainable green hydrogen and ammonia project in Tierra del Fuego, Magallanes region, integrating optimal energy transport solutions with technical viability, economic feasibility, and socio-environmental impact considerations.
Partners	GIZ, ANGH
Outputs	<p>Techno-economic analysis of hydrogen and ammonia transport alternatives, and conceptual project design considering the infrastructure required for production and export.</p> <p>Identification of circular economy opportunities for valorising waste generated during construction and operation.</p> <p>Carbon and water footprint analysis focusing on the environmental benefits of implementing circular practices from early stages.</p> <ul style="list-style-type: none">• Actions to strengthen territorial links and respond to local needs through training, participation, and data collection in collaboration with communities.• Outreach and engagement activities with key stakeholders.

ACCIONA & Nordex Green Hydrogen is a joint venture created by ACCIONA and Nordex, two global companies with extensive experience in the energy sector. On this occasion, they are bringing all their knowledge and expertise to support the development of the green hydrogen industry and boost its growth, with a strong commitment to promoting a greener future by fostering a balance between environmental regeneration and the planet's social progress.

The International Hydrogen Ramp-up Programme (H2Uppp) of the German Federal Ministry for Economic Affairs and Energy (BMWE) promotes projects and market development for green hydrogen in selected developing and emerging countries as part of the National Hydrogen Strategy.

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