



INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update April 2022: Chile

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1. New Initiatives, Programs, and Policies on Hydrogen and Fuel Cells

Funding

- The Ministry of Energy, in coordination with the Budget Office, created a new public program for 2022, the "Program to Promote Green Hydrogen in Chile" with \$2.044M (Chilean Peso, CLP), to promote the development of the nascent industry in the country with regards to the local demand. (http://www.dipres.cl/597/articles-244772_doc_pdf.pdf).

Assessments

- The Ministry of Energy released two studies that were financed by the Interamerican Development Bank. The first study, entitled: "Pre-feasibility assessment for the production of e-fuels in the Magallanes region" was conducted by the consortium comprised by EDF Andes and ImplementaSur and identified several actions that must be taken into account for the deployment of green hydrogen projects. The second study, entitled: "Development pathways for "hydrogen hubs" in Chile", was conducted by LBSG and ILF companies, and highlights the roadmap to accelerate and streamline the deployment of hydrogen hubs in Chile taking into account social, environmental, technical and territory issues.

Power Systems

- The Ministry of Energy released the [Preliminary Report for the Long-Term Energy Planning Process](#) including the targets and impact of the Green Hydrogen Strategy goals on the electrical transmission and distribution system. This will become an input for the Transmission Planning Process, which later defines the construction of transmission lines and electrical infrastructure.

Transport

- Chile released its [National Electromobility Strategy](#), which includes goals on green hydrogen and fuel cells applications such as i) Chile will sell only electric vehicles in 2035, and ii) 100% of the sales of public transport (buses and taxis) will be zero emissions.

Overarching policies

- The Ministry of Energy submitted a project for "Hydrogen promotion", including hydrogen blending in gas networks and a new role for the oil-and-gas-state-owned company ENAP, which would be able to participate in other sectors of the hydrogen's value chain.
- The Framework Law for Climate Change was approved in March, 2022, which establishes, among others initiatives, the aim for carbon neutrality by 2050.



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- The Ministry of Energy released the [preliminary document](#) for the overarching “National Energy Policy”, including goals such as i) increase the carbon price from US\$5 to US\$35/tonCO₂ by 2030, ii) increase the participation of zero emission fuels (such as green hydrogen) to 15% by 2035, and iii) 80% of electricity generation will come from renewable sources by 2030.
- The Environment, Science, and Energy Ministries released the “[Long-term climate strategy](#)” which seeks to give a long-term vision of Chile in the transition to sustainable and inclusive development no later than 2050. This strategy is based on science and 4 pillars that are: 1) Climate governance, 2) Cost / effectiveness of solutions, 3) Nature-based solutions, 4) a social pillar.

2. Hydrogen and Fuel Cell R&D Update

The Energy Ministry is working in collaboration with the Ministry of Science, Technology, Knowledge and Innovation in a number of initiatives pointing towards scaling up R&D in hydrogen-technologies, including:

- Conducting a mapping of all R&D efforts being conducted by local universities in green-hydrogen related topics through ANID’s Database (the National Agency for Research and Development), to set up a network with researchers and universities, building on their current efforts.
- Submitted application on DC-DC coupling topologies to improve efficiency on the production side was selected to secure funding in the “Public Challenges” platform which will be part of an auction process to promote the deployment of this technology (Co-funding is up to 400M CLP per solution).

3. Demonstration, Deployments, and Workforce Developments Update

- The hydrogen production pilot project of 3 MW, [Haru Oni](#), is under construction and also signed collaboration agreements with the public “Magallanes University” and “Magallanes Professional Technical Training Center” (CFT Magallanes). The agreements seek to evaluate and upskill labor, undertake R&D actions, and share knowledge.
- Two green hydrogen production projects entered the environmental evaluation process, representing more than US\$75M in investment.
- To disseminate and educate the community on green hydrogen issues, the first illustrated manual was launched that summarizes through graphics, maps and infographics, the basic fundamental components of producing green hydrogen. This manual is a public resource for free download (available at <https://www.ah2vbiobio.cl/>) that was prepared within the framework of the project “Green Hydrogen Strategic Alliance for the Biobío”, financed by the regional government and executed by the University of Concepción.

4. Events and Solicitations

Nothing new to report.

5. Investments: Government and Collaborative Hydrogen and Fuel Cell Funding

Ongoing

- The Ministry of Energy closed the Call for a funding round of US\$50M with CORFO for large scale (>=10 MW) green hydrogen production projects. The funding Call received



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10 applications, out of which 6 will receive co-funding. The companies are: Air Liquide Chile S.A.; CAP S.A.; Copenhagen Infrastructure Energy Transition Fund I K/S; Enel Green Power Chile S.A.; Engie SA; GNL Quintero S.A.; Imelsa Energía SpA.; Linde GmbH; Hydrogène de France S.A.; y Sociedad de Inversiones Albatros Ltda. The process is currently in the contract evaluation stage.

- The Ministry of Energy awarded €300,000 for co-funding prefeasibility studies and accelerate the implementation of green hydrogen production, storage, transport and use projects in the country with the collaboration of the Agencia Chilena de Cooperación Internacional para el Desarrollo (Chilean Agency for International Cooperation for Development) (AGCID) and CORFO. The funds were assigned to 7 projects including companies RWE, Cerro Dominador, CVE, Statkraft, MOWI, Free Power, Antuko. The amount of the budget that was not spent will be used for a technical visit to Madrid in the context of the “Green Hydrogen Energy Conference”.
- The Ministry of Energy recently closed the Calls for a Green Hydrogen Accelerator with the Chilean Agency for Energy Sustainability, to deliver 300M CLP for aiding in the implementation of demand side projects. The Call received 28 applications, out of which 10 were selected for funding, including companies Melón, Free Power, AxxaChemicals, Farías y Farías, FCAB, COPEC, CNP, Abastible, Puerto Ventanas and Terminal Pacífico Sur. Out of those 10, two will be awarded with the co-financing.

New

- The Ministry of Energy received approval from La Dirección de Presupuestos (the Budget Office) (DIPRES) to implement a public programme to provide public funds to demand-side projects for \$CLP1.444M.
- The Ministry of Energy is working with several multilateral organizations (such as Inter-America Development Bank, World Bank, European Union, KfW, among others) to deploy further funding vehicles to accelerate the development of the green hydrogen economy.

6. Regulations, Codes & Standards, and Safety Update

- The Ministry of Energy has developed the General regulation of hydrogen installations for production, conditioning, storage and consumption systems. The development of this regulation began in September 2020 and is mainly based on NFPA 2. In the future, the regulation will most likely be updated to include liquefied hydrogen.
- For the short-term, the Ministry aims to develop the following regulations:
 - H2 Fuelling stations Regulation
 - The modification of the existing Gas fitters Regulation
- Sernageomin launched the “Guide for the Piloting of Green Hydrogen in Mining” https://www.sernageomin.cl/wp-content/uploads/2021/10/Gui%CC%81a-de-Hidro%CC%81geno_web.pdf



Summary Country Update April 2022: Chile

H ₂ Production	Target ¹	Current Status	Partnerships, Strategic Approach	Support Mechanism
Water Electrolysis ² (PEM, Alkaline, SOEC)	200kt by 2025	First tons	Part of the Green Hydrogen National Strategy	Enabling environment with regards to regulation, standards and incentives
Energy Storage from Renewables	Target ³	Current Status	Partnership, Strategic Approach	Support Mechanism
Installed Electrolyser Capacity	5 GW by 2025	First MWs	Part of the Green Hydrogen National Strategy	Enabling environment with regards to regulation, standards and incentives
Installed Electrolyser Capacity	25 GW by 2030	First MWs	Part of the Green Hydrogen National Strategy	Enabling environment with regards to regulation, standards and incentives

¹ Target can be by quantity (Nm³, kg, t) and by percentage of total production; also, reference to efficiency capabilities can be a target

² Please indicate if targets relate to a specific technology (PEM, Alkaline, SOEC)

³ Can be expressed in MW of Installed Capacity to use the electricity from renewable energy generation, and Annual MWh of stored energy capacity