



# COUNTRY ASSESSMENT REPORT Republic of Chile

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## Contents

|                                                         |   |
|---------------------------------------------------------|---|
| 1.1 Country Assessment Report Template                  | 4 |
| 1.2 Electrical Generation and Demand                    | 4 |
| 1.3 Electrical Interconnection and Import/Export        | 4 |
| 1.4 Market Structure                                    | 4 |
| 1.5 Responsible Government Department                   | 4 |
| 1.6 Existing/Planned Legislation                        | 5 |
| 1.7 Environmental and Renewable Electricity Legislation | 5 |
| 1.8 Existing/Planned Certificate or Support Systems     | 5 |
| 1.9 Extent of Engagement with Government                | 5 |
| 1.10 Expected Response from Government                  | 5 |
| 1.11 Proposed Restrictions                              | 5 |
| 1.12 Any Other Relevant Information                     | 6 |
| 1.13 Author                                             | 6 |

## 1.1 Country Assessment Report

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                     |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Country Name</b> | Republic of Chile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
| <b>Introduction</b> | <p>The Republic of Chile is located on the southwestern Edge of South America, bordered by Peru to the north, Bolivia and Argentina to the east and the Pacific Ocean to the west, covering an area of more than 4,300 km.</p> <p>Chilean territory extends from the northernmost point at 17° south latitude to the southernmost point at 56° south latitude, and from 66° west longitude to 75° west longitude.</p> <p>It has a population of 19.76 million and a GDP of 2.1% in 2024, according to World Bank data.</p> |  |

## 1.2 Electrical Generation and Demand

| Generation                                 | Technology                                   | Capacity (MW) |
|--------------------------------------------|----------------------------------------------|---------------|
| (National Energy Commission, October 2025) | Wind                                         | 6.342,9       |
|                                            | Hydro                                        | 7.551,1       |
|                                            | Fossil/Thermal                               | 8.210,1       |
|                                            | Biomass                                      | 448,3         |
|                                            | Solar                                        | 12.029        |
|                                            | Others                                       | 4.090,9       |
|                                            | Total                                        | 38.672,3      |
| Demand                                     | Sector                                       | Demand (GWh)  |
| (National Energy Balance, 2023)            | Commercial/Service/Public Sector/Residential | 26.231        |
|                                            | Transport                                    | 1.117         |
|                                            | Industrial                                   | 45.353        |
|                                            | Self-consumption                             | 2.266         |
|                                            | Total                                        | 74.967        |

Chile stands out in Latin America as a high-income country with a solid macroeconomic framework, an open trade regime and a Dynamic private sector. In recent decades, Chile has achieved sustained economic growth, a significant reduction in poverty and an expansion of the middle class. It was the first country in the region to join the OECD, and its poverty rate is among the lowest in Latin America.

Chile's main economic activities are mining (especially copper), agriculture (with an emphasis on fruit and wine), manufacturing (food processing, chemicals, wood) and the service sector (which accounts for most of the GDP). Mining is fundamental to the country's exports, while agriculture, forestry and tourism are other important sources of income and employment.

The growth of I-REC certification in the domestic market has been very interesting since its inception, and to date it has the highest penetration globally. This is particularly due to the export profile of Chilean companies seeking market instruments that allow them to demonstrate their decarbonization commitments under international certifications.

### 1.3 Electrical Interconnection and Import/Export

| Connected country      | Capacity (MW)                                                                                                                                                                           | Annual import from country (GWh) | Annual export to country (GWh) |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|
| Argentina (CAMESSA)    | 90,3456                                                                                                                                                                                 | 0                                | 59                             |
| Additional information | AES ANDES is currently the only authorised entity exporting electricity to Argentina. There is an energy export agreement in place with Peru, but no exports or imports have been made. |                                  |                                |

### 1.4 Market Structure

The electricity system operates mainly under a liberalized generation model through the National Electricity System (SEN), which is the country's main interconnected grid and concentrates most of Chile's installed capacity and electricity demand. Real-time operation and economic dispatch of the SEN are the responsibility of the National Electricity Coordinator, an independent operator whose role is to preserve system security, ensure the most economical operation of facilities and guarantee open access to transmission networks, based on marginal costs. In addition to the SEN, Chile has several Medium-Sized Electricity Systems (*Sistemas Medianos*, SSMM), which are not interconnected to the main grid and supply remote or geographically isolated areas, mainly in the regions of Aysén, Magallanes and Los Lagos. These systems include Aysén, Palena, General Carrera, Puerto Cisnes, Punta Arenas, Puerto Natales, Porvenir, Puerto Williams, Cochamó and Hornopirén, and operate under a specific regulatory framework for planning and tariff-setting, with some cases involving vertically integrated generation, transmission and distribution activities.

There are three distinct segments in the market structure: generation, transmission and distribution. Generation is competitive and consists mainly of private companies that participate in the wholesale market and sign supply contracts with free customers and distribution companies. Transmission and distribution operate under regulated regimes, with tariffs set periodically. The end-customer market is divided into regulated customers (residential consumption and small businesses) and free customers, who have the right to choose their supplier and freely agree on price conditions through PPAs, which have currently been reduced to 300 kW since 2025.

Currently, electricity accounts for approximately a quarter of the country's energy supply. The Long-Term Energy Planning process (Planificación Energética de Largo Plazo, PELP), a strategic planning instrument prepared by the Ministry of Energy to project the evolution of Chile's energy system and guide energy policy decisions, notes that electricity "contributes only a fraction of the energy supply, close to 26% of the total," although projections show that it will exceed 40% by 2050, driven by the electrification of new uses —transport, heating, air conditioning, thermal processes— and by the production of green hydrogen.

Long-term planning and sectoral studies show sustained expansion of renewable energies, particularly solar and wind power. The PELP 2023–2027 describes how the installed capacity of the National Electricity System reflects sustained development of renewable energy sources, mainly wind and solar power, consistent with the accelerated roll-out of projects under construction and in operation.

Regarding markets for environmental attributes, Chile has both a mandatory and a voluntary scheme. At the regulatory level, Law 20,257 and its amendment through Law 20,698 establish the obligation for suppliers to certify a minimum percentage of energy from non-conventional renewable sources through 'NCRE attributes'. These attributes are accounted for and verified through a public registry managed by the National Electricity Coordinator, which produces monthly reports and an annual compliance balance sheet for each suppliers. At the same time, the international I-REC (International Renewable Energy Certificate) standard operates in Chile 'on a totally voluntary basis,' with the Santiago Climate Exchange (SCX) as the local issuer. (PELP, dic2024)

## 1.5 Responsible Government Department

### *Institutional Framework*

Ministry of Energy: responsible for designing and coordinating national energy policy. Its role encompasses the strategic definition of the energy matrix, long-term planning through the Long-Term Energy Planning (PELP) process, and the coordination of criteria to ensure the harmonious development of the electricity market and the integration of renewable energies into the system.

National Electricity Commission: technical body responsible for regulating the energy sector. In the field of electricity, it coordinates, sets electricity tariffs for regulated consumers, designs long-term energy policies, supervises the quality of electricity service and ensures compliance with laws promoting Non-Conventional Renewable Energy (NCRE).

### *Regulatory Framework*

National Electricity Coordinator: a technical and autonomous body that operates the National Electricity System (SEN). Its function is to guarantee the continuity, safety and economic efficiency of electricity operations in real time. Its responsibilities include coordinating the economic dispatch of generation, preserving the stability of the system and ensuring open access to transmission networks for all market participants.

Superintendency of Electricity and Fuels: regulatory body responsible for ensuring compliance with technical and safety standards in the electricity, fuel and gas sectors. Its functions include supervising the quality of service provided by distribution companies, monitoring compliance with technical standards in generation and transmission facilities, investigating failures, applying sanctions and instructing improvements.

## 1.6 Existing/Planned Legislation

In terms of climate and decarbonization policies, Framework Law No. 21,455 on Climate Change establishes a framework for achieving and maintaining greenhouse gas emissions neutrality by 2050 at the latest, setting carbon neutrality and adaptation to climate change as explicit national objectives. This law is linked to the Long-Term Climate Strategy (ECLP), which stipulates that at least 80% of the country's electricity generation must come from renewable sources by 2030 and 100% by 2050. Although these regulations and policies do not directly regulate environmental attribute certificates, they support the expansion of renewable energy, which in practice facilitate the demand and supply of certification instruments.

On the other hand, Law 20,571 on Net Billing, subsequently amended by Law 21,118, recognizes the right of regulated customers to generate their own energy from non-conventional renewable sources or efficient cogeneration and to feed their surplus into the distribution network, receiving a payment or discount on their bill for the energy supplied, thus creating an incentive for the construction of small photovoltaic systems.

Carbon Tax, approved in 2017 to levy \$5 per tonne of CO<sub>2</sub> on emitters with an installed capacity equal to or greater than 50 MW, excluding those that use biomass as raw material. (ECLP, 2021)

## 1.7 Environmental and Renewable Electricity Legislation

Framework Law on Climate Change No. 21,455 (2022) is now the cornerstone of climate policy. Its objective is to 'address the challenges posed by climate change and transition to low-emission development until greenhouse gas emissions neutrality is achieved and maintained by 2050,' establishing the goal of Chile becoming a carbon-neutral country, with a review of the goal every five years. The law creates a governance architecture that includes the Long-Term Climate Strategy (ECLP), carbon emission budgets, sectoral mitigation and adaptation plans, and monitoring, reporting and verification obligations.

Specific electricity legislation on renewable energy focuses on Law 20,257 (2008) and its amendment by Law 20,698 (2013). Law 20,257 requires suppliers companies that sell energy in the main systems to prove that a percentage of the energy sold comes from non-conventional renewable energy sources (NCRE) or from hydroelectric power plants smaller than 40 MW. Law 20,698 progressively increases this quota from the 10% originally set for 2024 to 20% in 2025.

In addition to the NCRE obligation established under Law 20,257 and its amendment through Law 20,698, Chile's Energy Policy 2050 sets long-term policy targets to increase the share of renewable energy in national electricity generation. It establishes that at least 60% of electricity generation should come from renewable sources by 2035 and at least 70% by 2050.

## 1.8 Existing/Planned Certificate or Support Systems

The starting point is the Non-Conventional Renewable Energy (NCRE) legislation. Law 20,257 and its amendment 20,698 ('Law 20/25') introduce an obligation for suppliers companies to prove that an increasingly higher percentage of their contracted energy comes from NCRE, rising from 5% in 2010 to 10% in 2024 and 20% in 2025. To meet this obligation, the concept of 'NCRE attributes' was created, managed by the National Electricity Coordinator, which maintains a public record of NCRE injections, withdrawals and obligations for each suppliers and issues an Annual NCRE Balance Sheet. These attributes are tradable between generators to close compliance gaps and can be stored from one year to the next, but their legal purpose is exclusive: to demonstrate compliance with NCRE quotas to the authority, not to serve as backup for end customers' renewable consumption declarations.

I-REC operates in Chile as a voluntary market, with no specific regulations limiting the issuance of I-RECs. The main distinction is to preserve the separation between attributes used for legal compliance obligations and attributes used for voluntary renewable electricity consumption claims, in accordance with the rules of the I-REC(E) standard and the climate reporting initiatives that recognize these certificates.

A local initiative for renewable energy attributes in Chile is RENOVA, it is defined as a National Registry of Renewable Energy Traceability developed by the National Electricity Coordinator. RENOVA is defined as a unique and comprehensive registry of renewable energy generation and consumption at the country level, based on blockchain technology that assigns an identifier to each renewable MWh in the National Electrical System, with no associated cost, with limited access only to the SEN, not including Medium Systems.

NCRE attributes are created exclusively so that suppliers companies can comply with the legal renewable energy quotas imposed by law, ensuring that their value is not duplicated. On the other hand, the voluntary market is intended for end consumers who wish to demonstrate their use of renewable energy. This separation ensures that NCRE attributes are not used to support end customer consumption and prevents double counting of the same energy.

## 1.9 Extent of Engagement with Government

Both SCX as a local issuer and I-Track through the Latin American Directorate have always been willing to collaborate in the development of public policy guidelines. Since 2018, they have participated in various working groups with the Ministries of Energy and Environment and, most recently, with the National Electricity Coordinator.

## 1.10 Expected Response from Government

The government has shown interest in supporting certification systems, strengthening current systems for carbon and water. It is hoped that the next administration will continue along the lines set out in 2018, moving towards renewable energy and seeking to develop a National Metaregistry to include all existing certifications in the country.

## 1.11 Proposed Restrictions

At present, there are no country-specific exclusions by technology, product, or participant are proposed for I-REC(E) issuance in Chile. The issuance process includes contractual, procedural, and declaration-based safeguards to preserve the environmental integrity of the tracking system and to avoid double issuance, double claiming, or double counting of environmental attributes.

From the prospecting phase onwards, companies are informed that they must choose between I-REC(E) certification and RENOVA for the same electricity generation, in order to avoid the same renewable energy attribute being registered or claimed under more than one tracking system. In addition, the SCX's adherence agreement includes specific clauses regarding double counting and the consequences, including penalties, in case of misrepresentation or malpractice.

Furthermore, for each issuance request, the counterparty must sign a declaration confirming that the electricity for which I-REC(E) certificates are requested has not been, and will not be, submitted under any other energy attribute tracking methodology, emissions reduction certificate scheme, or carbon offset mechanism. These mechanisms aim to ensure that I-REC(E) issuance in Chile remains separated from legal compliance instruments and other voluntary environmental claims, thereby safeguarding the credibility and integrity of the system.

## 1.12 Any Other Relevant Information

Per capita emissions have been decreasing: 4.79 tCO<sub>2</sub> in 2021, 4.74tCO<sub>2</sub> in 2022 and 4.45tCO<sub>2</sub> in 2023, and a slight decrease is estimated for 2024 compared to 2023.

Chile has the aspiration of achieving GHG neutrality by 2050 and meeting an emissions budget of 1,100 MtCO<sub>2</sub>eq between 2020 and 2030 has become a national strategic objective. This commitment reflects not only environmental responsibility, but also an opportunity to transform the economy towards a more sustainable, resilient and competitive model.

The Chilean electricity sector is strategic for its ambition. This has undergone a profound transformation in recent years, positioning itself as a central pillar in the transition towards low-emission development that is resilient to climate change. Since 2019, the country has made progress in the progressive retirement of coal-fired plants, with the aim of achieving a coal-free electricity matrix by 2040 at the latest. This process has been accompanied by a notable increase in the participation of non-conventional renewable energies (NCRE) in the energy matrix. As of May 2025, the installed capacity of ERNC reached 48.4%<sup>51</sup> of the national total, and its contribution to electricity generation represented 40% in 2024. (NDC 2025).

At the same time, Chile promotes innovative solutions to decarbonize high energy intensity sectors. The development of green hydrogen stands out, with the potential to decarbonize activities that are difficult to electrify in transport and industry. In the field of urban transportation, Santiago has the largest fleet of electric buses in the world outside of China, with 2,550 zero-emission units<sup>54</sup>, and its implementation has begun in other regions of the country. These efforts reflect the national commitment to a deep energy transition, where technological innovation and changes in energy consumption patterns play an essential role in achieving carbon neutrality by 2050.

These guidelines have intense market potential for electrification, and thus also open the market to other market solutions such as biogas and hydrogen, which SCX hopes to pilot in the coming years as a local issuer.

### 1.13 Author

|                       |    |                               |      |
|-----------------------|----|-------------------------------|------|
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| DATE                  | 30 | 03                            | 2026 |

