

Appendix

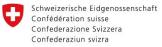
EPC / EPCM IN CHILE



OFFICIAL PROGRAM



IN COOPERATION WITH



Embassy of Switzerland
Swiss Business Hub Chile

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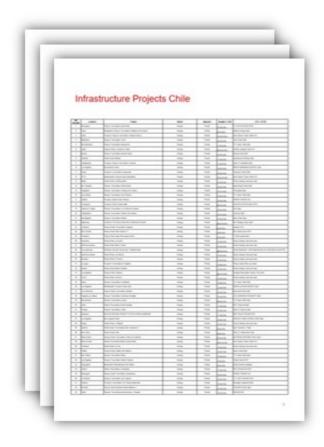


Scope of the appendix

As an additional document to the publication on "Cleantech opportunities in the Construction sector in Chile", the Swiss Business Hub Chile generated a short and precise guide on the projects promoted by the government with their "Chile recovers" program and the EPC / EPCM that will execute these projects.

The focus is on the transport (tunnels, trains, urban transport), energy (generation and distribution) as well as water and waste management sectors.

A **detailed list of public investment projects** and projects that are expedited by the government in the next two years; including the EPCs/EPCMs assigned to the projects can be obtained at the Swiss Business Hub Chile: santiago.sbhchile@eda.admin.ch



Construction and infrastructure in Chile

As a growing country, Chile has a high need for public and private infrastructure, so there are important opportunities in this area. In August 2020, the Chilean government announced an ambitious economic stimulus program of USD 34 billion of which USD 8 billion are dedicated to boost infrastructure projects until 2022. The focus will be on highways, hospitals, reservoirs and airports, but also on improving energy distribution, railroads, tunnels, roads and the metro network. Between 2022 and 2027, Chile plans to invest USD 174 billion into critical infrastructure.

| Currently submitted projects -2027 (USD) 21.3bn | Active EPCs (#) 383 |
|--|---------------------------|
| Transportation 3.7bn | 29 |
| Energy 11.1bn | 268 |
| Water and Waste Management* 2.6bn | 35 |
| Electricity, Transmission and Distribution 887m | 26 |
| Dams & Channels 657m | 5 |
| Tunneling 4.2bn | 8 |
| Health Infrastructure 706m | 12 |

Source: Projects Approved or Pending in the Environmental Impact Assessment System (SEA) of the Government of Chile, water projects include projected investment.

^{*} More details about the planned Water Management projects here: Plan de Inversión en Infraestructura y Gestión Hídrica 2020-2050

EPCs / EPCMs in Chile by sector

In Chile, large public projects are tendered through the official concession system. In this process, the Chilean state grants a private company the right to exploit, for a specified period, different public goods and services. In this way, the bidders are responsible for financing the works to be built. Below is a list of the main private companies that are builders of EPC projects in Chile:

| Name | Sector | Origin |
|------------------|---|--------|
| ASTALDI | Airports | Italy |
| FLUGHAFEN ZURICH | Airports | Swiss |
| GROUPE ADP | Airports | France |
| GRUPO AZVI | Airports | Spain |
| SACYR | Airports | Spain |
| VINCI | Airports | France |
| ABERTIS | Interurban Toll Roads | Spain |
| ACCIONA | Interurban Toll Roads | Spain |
| ISA | Interurban Toll Roads | Spain |
| GRUPO ROMERO | Ports | Spain |
| SSA MARINE | Ports | USA |
| ATLANTIA | Urban Toll Roll | Italy |
| BROOKFIELD | Urban Toll Roll | Canada |
| OHL | Urban Toll Roll / Interurban Toll Roads | Spain |
| ONTARIO TEACHERS | Urban Toll Roll / Water Utilities | Canada |
| INCJ | Water Utilities | Japan |
| MARUBENI | Water Utilities | Japan |
| SUEZ | Water Utilities | France |
| ACS | Others | Spain |
| BELFI | Others | Chile |
| CINTRA | Others | Spain |
| HEC | Others | China |
| ICAFAL | Others | Chile |
| SALINI IMPREGILO | Others | Italy |

Swiss infrastructure companies in Chile

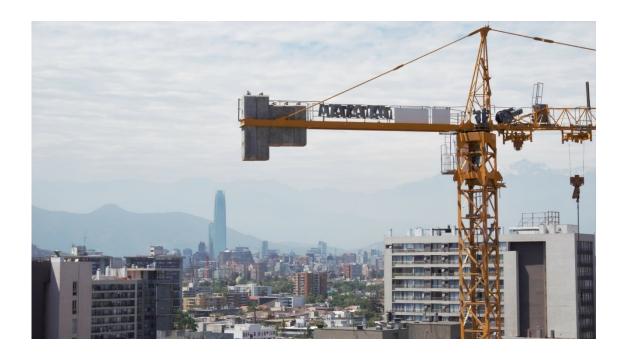
| Name | Sector |
|---------------------------|---|
| ABB | Construction Solutions |
| AFRY | Energy Engineering |
| CLARIANT | Industry Solutions |
| EBP | Energy, Natural Resources |
| GEOBRUGG | Mining Infrastructure |
| GLENCORE | Mining |
| HILTI | Construction Solutions |
| IST GROUP / AQUA4D | Industry Solutions |
| KUPFER | Steels and Tools for Construction |
| LEICA GEOSYSTEM | Mining, IT |
| LOMBARDI | Infrastructure Engineering |
| MARTI | Construction |
| | Construction |
| SCHINDLER | Construction Solutions |
| SCHINDLER SECURITON | |
| | Construction Solutions |
| SECURITON | Construction Solutions Security Solutions |
| SECURITON SGS | Construction Solutions Security Solutions Technical Inspection |
| SECURITON SGS SICPA | Construction Solutions Security Solutions Technical Inspection Telecom Services |



Possible clients in Chile for Swiss companies

The following list shows the main companies that are the owners of infrastructure projects, of which the Ministry of Public Works (MOP) is the largest. These companies normally tender their projects in the EPC modality.

| Name | Sector |
|--------------------------------|--|
| AES GENER | Energy |
| AGUAS ANDINAS | Water and Waste Management |
| BESALCO ENERGÍA RENOVABLE | Energy Generation |
| COLBUN | Energy Generation |
| ECOMAULE | Energy Generation |
| EFE | Transport |
| ENEL GREEN POWER | Energy Generation |
| METRO DE SANTIAGO | Transport |
| MINISTRY OF PUBLIC WORKS (MOP) | Dams & Channels / Tunnelling |
| MINISTRY OF TRANSPORTATION AND | |
| TELECOMMUNICATIONS | Energy / Electricity Transmission and Distribution |
| PACIFIC HYDRO | Energy Generation |
| TRANSELEC | Electricity Transmission and Distribution |



Green hydrogen strategy in Chile

Green hydrogen (H2V) —produced from renewable sources such as solar energy, wind energy, geothermal energy, among others— has become one of the most promising energy alternatives to achieve the climate reduction objectives of greenhouse gas emissions from the Paris Agreement. Its potential to de-fossilize the energy system—and other economic activities— is mainly based on three key aspects: it can be produced without emitting greenhouse effect gases or pollutants; its production can be sustained as long as renewable energy sources are available; and it can be used in all sectors that consume energy and, as a raw material, in various industries such as refineries, food, agriculture, glass, of metals, among others.

Given its enormous wealth in renewable energy, Chile has the potential to be one of the most efficient and competitive producers of green hydrogen in the world. According to estimates by the Ministry of Energy, green hydrogen is expected to contribute to an emission reduction of between 25% and 27% by 2050.

Currently in Chile, hydrogen, mostly blue, is produced in only two companies and is used mainly for processes in oil refineries. In a smaller volume, it is used in the food industry to manufacture oils and margarines, in the glass industry to polish glass articles and in other special processes such as coolant and in heat treatments.

However, according to the National H2V Strategy (Ministry of Energy, 2020), it is planned to use it to activate domestic applications and develop exports. Among the first, for 2030 is contemplated: replacing the hydrogen currently used in oil refineries; produce green ammonia to replace it with imported; use it in long-range buses, mining and road trucks, and long-range buses and reinject it into gas networks.

The government intends act in a decisive and effective manner to create an industry that shall be a hub for growth and development in Chile. If even only a fraction of the full potential for green hydrogen is deployed in Chile, tens of billions of USD of investment will generate growth and local value in our regions, as well as creating up to 100.000 new sophisticated and satisfactory jobs, during the next few decades.

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