

# Sector Reports

Doing Business in Chile Guide 2022





Chile's top three exporting partners are China, the United States and Japan while its main importers are China, the United States and Brazil. Chile has signed Free Trade Agreements (FTAs) with several important economies, notably the European Union, the United States, China and South Korea and has been a member of the Pacific Alliance since 2012 with Mexico, Colombia and Peru.

Its comparative economic advantages (revenue from mining, competitive and counter-seasonal agriculture sector) have given it access to the large markets of North America, Europe and the Asia-Pacific (and recently to other South American countries, especially Brazil). Chile also signed a trade continuity agreement with the UK, ensuring continued trade relations.

Although the UK has been trading with Chile for over 200 years, the current situation leaves the UK in 7th position and with a huge opportunity to compete with current incumbents. The sectors currently viewed as the most interesting for UK companies are:

AGRIBUSINESS

MINING

EDUCATION

CLEAN GROWTH

FINANCIAL SERVICES

INFRASTRUCTURE

LIFE SCIENCES

TECH AND CREATIVE INDUSTRIES

We have provided sector reports for each of these industries for you.



CÁMARA  
CHILENO BRITÁNICA  
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# Sector Reports

## Agriculture

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Chile is a leading producer and exporter of a wide range of high-value crops. Its Southern Hemisphere location, with five distinct climate zones, allows for the production of seasonal produce all year round when few regions of the world provide fresh supplies.

Thanks to its geographical composition, the country boasts one of the largest varieties of agricultural produce in the world. At the same time, these geographic characteristics (the Andes Mountain range to the east, the Pacific Ocean to the west, Patagonia to the south and the Atacama desert to the north) are the country's ally as, together with strict controls, they have effectively protected the country's agriculture from foreign diseases.







Within the last 50 years, the sector has evolved from traditional, extensive agriculture to intensive production with a heavy focus on fruit and vegetable produce. It is an extremely large industry and has an expected growth of 35% by 2030.

The fruit-growing sector accounts for the largest proportion of agribusiness, a massive 75% of its total value in 2018. The Agriculture sector comprises 3% of Chilean GDP, and 24% of exports, making it the country's second largest source of exports after copper with over two-thirds of Chilean fruit production being exported. When combined with food & beverage processing, agriculture accounts for 8% of the economy.

Fruits comprise 38% of farm production, followed by livestock at 21%. Production agriculture, excluding other portions of the value chain, employed 774,000 in 2019, 9% of Chilean employment. Including agribusiness, the employment total is closer to 20%, and agribusiness accounts for 57% of Chile's manufacturing output.

Compared with other Latin American countries Chile lags behind in the development of key crop and livestock segments, such as cereals and beef cattle breeding but it is mainly due to the distribution of weather and soil conditions. Chile, therefore, continues to rely on imports to satisfy domestic demand for wheat, maize and beef.

### Market Overview

Chile is an attractive destination for companies that require high-quality agricultural produce or can offer efficiency and technological solutions to make the most of expected growth. The sector's competitiveness benefits from three key factors: the natural composition of the Chilean territory; production technologies that have been adopted; and the tariff agreements that Chile has with its export destinations.

Fresh fruit and tree nut exports account for the largest category of exports, followed by wine, and processed fruits. Chile is the world's largest exporter of table grapes and cherries, and is a top 5 exporter of apples, walnuts and almonds.

The country's economy has been shaped by the open economic policies that have been a hallmark of the country since the 1980s – it has 30 international trade agreements with 65 economies that represent 87% of global GDP and 63% of the Earth's population; more agreements with other markets than any other country and is the only South American country in the OECD. For the agricultural sector, this has led to a drastic reduction in tariffs and resulted in a specialisation in fruit and vegetable production in order to remain competitive; a successful strategy given that Chile is either the Number 1 or within the Top 5 exporters globally for 31 different products within this category.

As a cause of the Chilean climate and oceanographic conditions, aquatic productions and exports have been extremely successful, seeing a production of 1.3 billion tonnes in 2019, up by 5.7% in 2018 (Invest Chile, 2021). Sector incentives such as technological investment and financing promote aquaculture as an innovative market in which to invest. Similarly, agrifood technology, also known as agtech, has witnessed several years of unprecedented growth of venture investment, growing by 250% in the last 5 years (Invest Chile, 2021). Many products replace traditional meat proteins for plant-based proteins. A number of start-ups have gone on to achieve great success, the most high profile being NotCo which achieved unicorn status in 2021.



Chilean agriculture has adopted increased soil conservation practices and increasingly certified cropland as organic, in a bid to meet increased demand for sustainably produced products. The country's Ministry of Agriculture administers a soil conservation and restoration financial incentive programme known as SIRDS-S.

Recent social trends have sparked major opportunities within certain sectors of agribusiness e.g. more health-conscious choices including non-GMO, lactose-free, and plant-based products. The sector presents both new and exciting opportunities to accommodate a shifting population.

## Market Profile

The sector is highly fragmented, dominated by micro, small and medium-sized companies, and it is increasingly competitive. The principal entry modes are brownfield investments, acquisitions and strategic partnerships with local companies, given the relatively high costs of land and machinery. Since early 2018, foreign investor interest in Chilean agriculture has been increasing, encouraged by growth in economic activity and strong foreign demand for key export products.

Main companies by size and origin (country):

1. Antarchile S.A. (Revenue: Thousands CLP 2018, 16,675,737,600 )-Origen: Chile
2. Empresas Copec S.A. (Revenue: Thousands CLP 2018, 16,675,737,600 )-Origen: Chile
3. Empresas CMPC S.A. (Revenue: Thousands CLP 2018, 4,365,087,232 )-Origen: Chile
4. Agrosuper S.A. (Revenue: Thousands CLP 2018, 1,654,751,872 )-Origen: Chile
5. Empresas Aquachile S.A. (Revenue: Thousands CLP 2018, 498,248,320 )-Origen: Chile

## Regulation

- Strict general sanitary and phytosanitary regulations
- Main sources of regulations for primary agriculture and primary food processors in Chile:
  - the Sanitary Code
  - the Food Health Regulations;
  - Decree No. 118/2015 on hazard analysis and critical control points in food establishments;
  - Pesticides for Sanitary and Domestic Use Regulation;
  - Resolution 33, which sets maximum permitted levels of pesticide residues in food;
  - Law No. 20,606, on the Nutritional Composition of Food and on Food Advertising;
  - Law No. 18,755, on the organisation and authority of the Agriculture and Livestock Service
  - Decree-law No. 3,557 on Agriculture Protection.
- Exporters require official certification to trade products of animal origin, which corresponds to an official document, entitled Export Animal Health Certificate, in which the official veterinarian attests that the product being exported meets the requirements of the importing country.
- Authorisation must be obtained from SAG (Chilean Agricultural and Livestock Service):
  - livestock production facilities;
  - Breeding;
  - slaughtering; and



- processing animals or animal products for export or import into Chile.
- All agricultural products imported into the country must meet all phytosanitary requirements set out by the law and governmental regulations for that specific product, which have to be verified by SAG (the government agency responsible for the development of agriculture, forests and livestock) to enter Chile.
- There is an online application created by the Ministry of Agriculture where you can check the phytosanitary import and export requirements established by SAG.

## Primary Business Opportunities

### Export Health Certificates

Since October 2020, the UK and Chile have been working on agreeing new Export Health Certificates (EHCs) for exports of animals and products of animal origin from the UK to Chile. This has been very successful with 16 EHCs approved to date. This creates a great potential opportunity for UK companies – opening up a total import market worth approximately £1.4BN (Facts and Figures for the Chile wins approved by CREST):

1. EHC for ovine/caprine semen
2. EHC for Ovine/Caprine ova/in vivo derived embryos
3. EHC for frozen bovine semen
4. EHC for milk and dairy products
5. EHC for Pet Food and dog chews
6. EHC for Equidae (definitive import)
7. EHC for bovine embryos
8. EHC for registered horses
9. EHC for Ready-made meals
10. EHC for Pig Fat or Lard
11. EHC for Bovine Meat
12. EHC for Blood Products
13. EHC for Collagen for Human Consumption
14. EHC for Chilled and Frozen Pork
15. EHC for lab rodents
16. EHC for equine semen

Following agreement of these EHC during 2021, DEFRA submitted during 2022 the following certificates for exports from the UK to Chile for SAG approval:

17. EHC for Casings from Sus Scrofa Domestica (Pig)
18. EHC for Processed Meat Products (Pork/Beef)
19. EHC for Gelatine for Human Consumption to Chile
20. EHC for Viscera meals, meat and bone meal and pure or mixed poultry, pig and equine oils or fats.



### Ovine & Bovine Genetics

Following the recent approval of an export health certificate for ovine embryos, the UK is the only European country able to export such ovine genetic material to Chile. DIT/British Embassy Santiago has been working with breeders in the southern Chilean Patagonia region together with Chilean authorities and UKTAG (UK Technology for Agriculture and Genetics) to explore new opportunities for British genetics with a focus on sheep production. The UK is also keen to expand its exports to Chile to include equine and bovine genetics, apples, pork and dairy products (British cheeses, clotted cream and organic yoghurt), among others.

### Milk & Dairy

Following the approval of EHC for milk and dairy products in 2021, DIT/British Embassy Santiago has provided support to DEFRA and the Animal and Plant Health Agency (APHA) to register and list on SAG's website 6 UK establishments that wish to export dairy products to Chile.

### Pork

Following the approval of EHC for pork, 27 UK establishments have been authorised by the Agricultural and Livestock Service (SAG) to export pork to Chile. The doors to the Chilean market are open to UK pork for the first time. (Source: DEFRA/SAG, March 2022).

### Pet Food

DIT/British Embassy Santiago is supporting DEFRA for registration of UK establishments that wish to export pet foods to Chile. Noteworthy is the reduction to 2 months of the approval time for UK pet food manufacturers for exports to Chile. In addition, manufacturing approval of veterinary/pharmacologic products that require a sanitary registry has been reduced to 5 months if products are already registered in EU (EMA) and USA (FDA).

### Agribusiness Working Group

The UK-Chile Agribusiness Working Group was established at the Trade Dialogue 2020 with a view to support and promote trade and investment in agribusiness. DIT/British Embassy Santiago organised the first meeting, which took place on 8th September 2021, where novel foods, UK apple exports, Export Health Certificates, the approval of veterinary products and pet food imports, and phytosanitary certificates and their digitisation were discussed.

### References

- Castiella Bañales Simon, El sector agropecuario en Chile 2021, ICEX España Exportación e Inversiones, 2021
- US Department of Commerce (International Trade Administration), 2021
- USDA Production, Supply and Distribution
- Invest Chile, Food Industry in Chile Project & Opportunities in Chile, March 2021
- Paola Segovia Tamayo, Impacto del COVID-19 en la economía y agricultura, March 2020.
- COAGRA, El agro en tiempos de Coronavirus, 2020.
- GOV.UK, United Kingdom – Chile Trade Dialogue Ministerial Joint Statement, October 2021.
- ODEPA, Panorama de la Agricultura Chilena 2019.





CÁMARA  
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# Sector Reports

## Clean Growth

Doing Business in Chile Guide 2022







Chile's clean growth agenda has broadened and become more ambitious under successive governments since the beginning of President Michele Bachelet's second term in office in 2014, and has now further intensified due to the recovery needed after the Covid-19 pandemic.

Driven by both economic and climate imperatives, it now has a cohesive strategy to reduce reliance on imported fossil fuels, harness its almost limitless amounts of solar and wind energy, and incorporate global know-how to reduce consumption and pollution to create a cleaner and low carbon environment.





This report will cover the following components of the green growth agenda:

- Power Generation – the electricity business
- Consumption – transportation, construction, and mining
- Materials and waste management.

Sector	Main Targets
Energy	<p>70% of electricity from renewable sources by 2030 and 95% by 2050</p> <p>Retirement of all coal-fired power stations by 2040</p> <p>10% reduction in nationwide energy intensity by 2030</p> <p>Mandatory energy management systems for large energy consumers, within the framework of the Energy Efficiency Law</p> <p>5 GW of green hydrogen electrolysis capacity by 2025 and 25 GW by 2030</p> <p>The cheapest green hydrogen in the world by 2030</p> <p>Chile among the 3 biggest exporters of green H<sub>2</sub> by 2040</p>
Transport	<p>100% electric public transport by 2040</p> <p>40% electric private vehicles by 2050</p> <p>Promotion and strengthening of non-motorised modes of transport</p> <p>15% of freight transport via electric railway</p> <p>Energy efficiency standards for new vehicles</p>
Mining	<p>Use of hydrogen-fuelled trucks in the mining industry by 2028</p>
Construction	<p>Energy certification of new housing</p>
Materials and Waste Management	<p>30% of household organic waste recovered by 2030</p> <p>Maximum 10% of household waste sent to landfills by 2040</p> <p>30% co-processing of waste by 2030 (base level of 12% in 2014)</p> <p>Targets for recovery and reclamation of materials (tyres, containers and packaging) starting in 2024 and by 2030.</p>



## Energy

## Energy

Chile has achieved remarkable progress in recent years as it transitions towards a cleaner and more decentralised power supply system.

Installed renewable energy generation capacity has grown rapidly from just 2% in 2012 to 28% in March 2022. Chile has almost unlimited solar and wind resources, rapidly growing experience and know-how, and is consistently ranked globally as one of the best investment destinations for renewable energy projects. According to Bloomberg New Energy Finance's Climatescope 2020 ranking, Chile ranks first among the most attractive economies to invest in renewable energy, among 108 emerging and 29 developed countries. In 2018 electricity generation accounted for 30% of the total national greenhouse gas emissions.







## Overview

Since the privatisation of the Chilean electricity sector in 1980, all generation, transmission and distribution activities have been in private hands.

### Generation

Until recently Chile's generation matrix was dominated by large scale hydro electric dams, coal fired power plants, combined cycle gas plants and smaller diesel peak lopping plants. All of the fossil fuel burnt had to be imported, making Chile vulnerable to price fluctuations and supply risks.

More recently Chile has started to capitalise on its own significant renewable energy sources. Chile is estimated to have the potential energy sources from 1,800 GW solar, 37 GW wind, 14,6 GW hydro, 2 GW geothermal, and 2 GW biomass. To put this in perspective, the total installed generation capacity in July 2021 was approximately 28.4 GW.(Comisión Nacional de Energía – CNE)

### Transmission

Chile's high voltage transmission network is composed of a single interconnected grid known as the Sistema Eléctrico Nacional (SEN), and two small separate grids in Aysen and Magallanes in the far south.

### Distribution

Electricity is sold to the end customers by regional distribution companies, who bid for future supply contracts via auctions. Some of the larger commercial end users buy directly from the generating companies via future supply contracts. With the incorporation of renewable energy into the matrix, the winning bids for the 2021 auction were some of the lowest ever seen globally at under US\$24 per MWH.

### Supervision

The Superintendent of Electricity and Fuels (SEC) acts on behalf of the Energy Ministry to promote the industry and ensure safe quality services to the public. It supervises compliance with the laws and regulations relating to electricity and fuels.

The operation of the transmission system is controlled by the National Energy Commission (CNE), which is a decentralised public institution created in 1978. Its role is to ensure a safe and sufficient energy supply compatible with the most economic operation. It sets prices and tariffs, schedules grid inputs and defines the technical norms under which the generating and distribution companies within the system must comply.

### Green Hydrogen

Worthy of specific mention is the current focus on the emerging opportunity to convert Chile's rich renewable energy resources into green hydrogen, for many the fuel of the future for all mobile applications. It will also give Chile autonomy from imported fossil fuels, and with potential to export.

The government launched its National Green Hydrogen Strategy in November 2020, setting out its roadmap to become one of the world's top three exporters of green hydrogen by 2040. In 2021, it launched the first green hydrogen accelerator in the country, supported and co-financed ( US \$300 million) by the Energy Sustainability Agency. The accelerator will work within the National Green Hydrogen Strategy framework to promote hydrogen production and exports.



## Anticipated Investments

The demand for energy is expected to increase 3.3% per year until 2027, driven primarily from manufacturing and mining requirements.

To address this increase in the demand, the Cámara Chilena de la Construcción (CChC) developed an investment plan for critical electric infrastructure. It has settled investment requirements up to US \$8,900 million from 2018 to 2027, of which US \$6,619 million are targeted for spending in between 2018 and 2022 split between Generation 58.7 %; Distribution 21.7 %; and Transmission 20.1%.

Generation	Transmission	Distribution
AES Gener (US)	AES Corp. (US)	EEPA (Chile)
Colbún (Chile)	Colbún (Netherlands)	Chilquinta (China)
EDF (France)	ISA (Colombia)	CGE (China)
Enel (Italy)	Enel (Italy)	Enel-D (Italy)
Engie (France)	Engie (France)	Abengoa (Spain)
Latin America Power (Netherlands)	Transelec (Canada)	Saesa (Canada-CL)
GPG (Spain)	Abeinsa (Spain)	
Stratkraft (Norway)	Transnet (China)	
Pacifichydro (China)	Pacifichydro (China)	
Siemens Gamesa (Spain)	Transemel (China)	
AELA Energía (UK-Ireland)	Transchile (Brazil)	
Coihue Eólica		
Tamakaya Energy S.A (UK)		
Enfragen LLC (US)		
Cerro Dominador, EIG (US)		
The EDG Group (France)		
Inkia Energy (Perú)		
Grupo Ibereólica (Spain)		
WDP (Germany)		



## Transport

## Transport

Chile's various forms of private and public transport contribute approximately 26% of the greenhouse gas emissions in the country.

Along with emissions from local industries (roughly 6%), they are the cause of intense localised pollution, air quality contamination and the associated health issues such as asthma. Transport has many opportunities to target for Chile's clean growth recovery plan coming out of COVID at the start of 2022.





## Overview

Chile's biggest city by far is Santiago, which is located in the centre of the country. It is home to about 7 million people, and during the winter months of July and August has severe air quality problems due to some unusual atmospheric conditions. The city is bounded by the Andes mountains to the East and a coastal range of mountains to the west, which almost merge to the north and south of Santiago forming a basin where emissions are trapped and linger.

During these winter months a system of traffic control is imposed to restrict the number of vehicles entering the centre of the city in an attempt to avoid dangerous levels of toxic gases and particulates from diesel engines. The system has two levels called pre-emergency and emergency, and the severity of the restrictions depends on the levels of contamination on the day in question.

Chile's other bigger cities also have traffic and pollution problems, but not on the same scale as in Santiago. In the south, in Temuco for instance the air quality issues are more related to burning damp wood in crude heaters.

## Public Transport

Santiago's public transport system was modernised in 2007, which at the time was considered to be one of the most ambitious transport reforms undertaken by a developing country. It was named Transantiago and was influenced by Colombia's TransMilenio project in Bogotá. Its plan was to standardise bus routes and connect them with cities' metro system, and enable an integrated fare system which allowed passengers to make bus to bus, or bus to metro transfers for the price of one ticket using a contactless smart card.

The system was not well received by the fare paying customers due to lack of capacity and increased fares, and the name Transantiago was dropped in 2019. It is now known as the "[Red Metropolitana de Movilidad](#)".

Chile has continued to improve and modernise the public transport system in and around Santiago. Significant investment has been made in the Metro system, with two complete new lines incorporated since 2015. There are now 7 lines operating which carry some 260 million passengers in 2021 and reach most of greater Santiago. More lines and extensions are planned.

The bus fleet is being sequentially replaced with newer and more efficient, agile and comfortable buses, and now in March 2022 there are a significant number of electric buses entering the fleet. The bus network is split into seven different operating concessions, each of which operates in specific geographical territories. A tender process was initiated in 2017 in an attempt to attract new operators and improve the experience for the rider and the environment. This process was stalled and never completed. See [here](#).

The historically prominent overland train services in Chile fell into decline many years ago. More recently a number of new overland train lines have been either constructed or refurbished as feeder routes for commuters who travel into and out of the city every day, predominantly from San Fernando and Rancagua to the south. These services are operated by EFE – Trains of Chile.





### Commercial Transport

The majority of Chile's goods that arrive via the ports and airports are distributed around the country by road. The same applies to locally produced goods. The nature of Chile's geography means that it is 4,700 km long, and has one main highway which runs from the very north of the country to the central southern city of Puerto Montt. Attempts to convert some of the longer haul routes into either cargo train or sea transport have been largely frustrated by resistance from the truckers union.

### Private Transport

The number of cars on Chile's roads has been increasing at a staggering rate since the beginning of the century. At the end of 2021 sales of new cars reached an all time high, fueled by the liquidity in family incomes created by the government's pandemic related financial support mechanisms. Electric cars are still few and far between, as yet there is an insufficient charging point infrastructure and to date no feed in subsidies to encourage ownership.

However bicycles are more and more visible not only for sorting purposes, but also as a means to get to work. A new phenomenon on Chile's urban roads is the plethora of small motorbikes delivering e-commerce and fast foods.

### Supervision

Policy and compliance for transport comes under the authority of the Transport and Communications Ministry. The ministry has two sub secretariats, one for transport and one for communications. Within the transport authority there are a number of subdivisions responsible for the different components for defining policy, and making and enforcing the regulations.



## Construction

## Construction

In Chile, 90% of the population lives in urban areas, higher than the regional average in Latin America and the Caribbean of 80%. Santiago, the capital city, accounts for more than half this figure. This intense concentration, coupled with other factors (such as a growing middle class, an ageing population and the digital revolution), feeds a demand for the development of sustainable and connected cities to accommodate the lives of its citizens. Manufacturing and the building industry combined accounted for approximately 14% of the national ghg emissions in 2018.





The Ministry of Public Works (MOP) is responsible for planning, directing, controlling and building the public infrastructure.

CORFO – is Chile's economic development agency, and reports into the Economy Ministry. It promotes and funds initiatives such as Building Information Modelling (BIM) via Planbim and Smart Cities via Sé Santiago.

In May 2016 a Memorandum of Understanding was signed between the Department for Business, Innovation, and Skills (BIS) and UK BIM Task Group (BIMTG) with the Chilean Development Agency (CORFO), agreeing to the exchange of information on national strategies for the dissemination of BIM UK protocols in Chile. Already 6 new hospitals and Santiago's international airport (USD 800 million) have been all tendered under BIM protocols.

The Green Building Council (GBC) was incorporated in Chile in 2010 and along with the Technological Development Corporation (CDT) promotes sustainable building, buildings, and construction. The CDT is part of the Chilean Construction Chamber of Commerce (CChC). In 2017 Chile stood in ninth place in world rankings with 58 buildings with LEED certification, and another 182 projects under construction.

In March 2021, the government announced its plan to expand and improve on the country's infrastructure to contribute to Chile's future economic growth. The 2021-2025 five-year concessions programme, worth more than US\$15 billion, targets transport and healthcare projects as well as highways, orbital roads, airports, cable cars and more, presenting various opportunities for businesses. Please see the sector report dedicated to Infrastructure for more details.







## Mining

## Mining

From Chile's sodium nitrate boom of the 19th Century to its position today as the world's largest producer of copper (28% share) and second largest producer of lithium (22% share), Chile's mining sector has, quite literally, always been the bedrock of its economy.







The sector's contribution to GDP is 11% and today represents over 50% of the total exports, which in 2020 amounted to more than 37.5 billion U.S. dollars. Mining also accounts for 25% of investment received in Chile. Today the industry is focused on sustaining operations in a complicated environment, characterised by political and economic uncertainty.

On one hand mining is seen as a dirty industry that needs to clean up its act. In 2018 it contributed over 7% of the national ghg emissions. On the other it is known to be critical to the development of technology and equipment necessary for the rapidly growing clean growth economy. The use of copper, gold and lithium in the production of batteries and other components for electric vehicles is paramount.

Historically Copper mining in Chile had been done by open cast methods. As the huge open pits get deeper and deeper, the immense trucks that are used to bring the ore to the surface for processing are using more and more fossil fuels. The incorporation of Green Hydrogen to replace the conventional fuels provides an important opportunity to reduce the carbon emissions from this part of the process.

Another trend that is helping to reduce the particulate matter released from the open pit mines is to move the operations underground, where the different technology used produces less environmental issues.

For more details please see the sector specific report on Mining.





## Materials and Waste Management

## Materials and Waste Management

Chile's rapid and sustained economic growth since the beginning of the 21st century has been accompanied by an equally rapid increase in the amount of waste produced. The population has grown from 15 million in 2000 to nearly 20 million in 2022. At the same time the steep rise in disposable family incomes and greater availability of packaged goods has created a significant problem of how to dispose of the waste produced.

Historically, the country has focused on the appropriate final disposal of waste through sanitary landfill. Although landfill regulation has improved and the number of dumping sites reduced, the environmental problems generated by the hoarding of solid waste in landfills persist. Effects such as GHG emissions, water pollution, land erosion, and the rapid filling of the landfills, have shown that concentrating efforts on sanitary final disposal is not enough.

In 2020 it was estimated that 4.4 million tons of waste was generated, and that only 20% of the total waste produced was recycled. These waste dumps are the second biggest generator of methane in the country, and overall waste management produces nearly 5% of the national ghg emissions.

## Supervision

The environment ministry (MMA) is responsible for promoting reform in the circular economy, and for defining and policing the laws and regulations relating to waste management. It currently has many initiatives to encourage recycling and good practice. One of the most significant additions to the environmental laws recently was the introduction of the law of extended responsibility of the producer, known in Spanish as the Ley REP. In very simple terms it is an economic instrument that obliges producers of certain products to finance the disposal of their wastes in a sustainable way.



## Opportunities

### Summary of Business Opportunities

Sector	Opportunity	Estimated Market Size
Electric Power Generation	Power Storage	900 MW at US\$2,000/kw: US\$1.8 billion
Energy use in homes	Electric Heating	175,000 houses US\$547
	Replace wood burning	2 million wood stoves
	District wide heating	unknown
Mining indirect	Tailings material recovery	Just Copper US\$3.6 billion
Mining Circular economy	Tailings as construction material.	unknown
Mining energy efficiency	More efficient processes	US\$2.0 billion
Mining Fuel Substitution	Use of Green Hydrogen in ore moving trucks	US\$19.0 billion
Electric Transport	Buses for public transport	US\$850 million by 2030
	Electric taxis and shuttles	unknown
	Electric light vehicles	US\$200 million by 2030
Construction	Energy efficiency in homes	unknown



## References

## References

Invest Chile, Energy Projection & Opportunities in Chile, 2021

Invest Chile, Food Industry in Chile Projection & Opportunities in Chile, 2021

Mordor Intelligence, CHILE RENEWABLE ENERGY MARKET – GROWTH TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 – 2027), 2021

Reuters, In Chile's Atacama Desert, a cautionary tale for bold renewable energy vows, 2019

Generadoras de Chile, Generación Eléctrica en Chile, 2021

BCN, Efectos del COVID-19 en el Sector de Energía, 2021

Source: Mesa ERNC Energía 2050, Ministry of Energy, Chile

Green recovery recommendations report, British Embassy 2021.

British Embassy, IMPROVING TRADE & INVESTMENT DATA VISUALIZATION: UK-CHILE, 2021



# Sector Reports

## Education

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Chile's education system is ranked 48th globally (World Population Review, 2021) and is regarded as one of the best in Latin America.

The Ministry of education is in charge of regulating and administering the education of young people between the ages of 5 and 17. This education is divided into: preschool (under 5 years of age and not obligatory), basic education (6-13), middle school (14-17) and higher education. The Consejo Nacional de Educación (CNE) works in support of the Ministry's education policy activities. Meanwhile, the Consejo Nacional de Acreditación (CNA) is responsible for the institutional accreditation procedure and accreditation of higher education study programmes.







## Market Information

## Market Information

Chilean Schools can be divided as follows:

## State schools

Most Chileans enrol in State schools. As part of the new School Reforms (introduced in 2016), state schools are 100% financed by the state.

## Fully private schools

which receive no funds from the state and many are linked to religious organisations or other communities e.g. British Schools. Fees vary from US\$150 to US\$1,200+ a month.

Private schools that receive a government subsidy: at the primary level, 29% of the population attends this kind of school.

Private technical vocational schools – a small percentage of Chileans enrol in these schools which are run by industrial groups; most offer apprenticeships within five areas of specialisation – commercial, industrial, technical, agricultural and maritime.

Universities fall into two categories:

## Traditional Public

Universidad de Chile and Pontificia Universidad Católica de Chile are the two most recognised traditional public universities. Established prior to 1981, these are generally the most prestigious and have a standard comparable to international standards.

## Private

Established after 1981 and are less prestigious than the traditional universities.



Chile has relatively high access to education: universal coverage at primary school level was achieved in the mid-sixties; secondary education reached 90% in the late 80's. Primary and secondary education is available at both private and public schools. General literacy levels are at 99% for both men and women although equity remains an issue; the impact of socio-economic status on students' mathematics performance is one of the largest among OECD countries.

Public expenditure on primary to tertiary educational institutions per full-time student in Chile stood at USD 4 279 in 2018 compared to USD 10 000 on average across OECD countries. Chile has the highest share of private expenditure on all levels of education with 40% of education expenditure coming from private sources. Similarly, private funding also remains relatively high at primary, secondary and post-secondary non-tertiary level, at 21% of all expenditure, compared to the OECD average of 9%.

Over the past decade, Chile's government introduced education reforms aimed at raising student learning and reducing inequality. During his campaign trail, President Gabriel Boric promised to pardon student debt and increase investment in education, among other reforms.





## Opportunities

## Primary Business Opportunities

## Upskilling Technology &amp; Software Systems

As technology continues to rapidly transform the world, the equipment and skills required to make a contribution to society are also changing. Software in educational platforms has become a necessity in many educational institutions. Opportunities also exist for those companies who can upskill teaching staff and provide products and services that will enable school children to learn about algorithms, making applications, how the Internet works and other necessary skills.

## Innovative Collaborations

There is a considerable lack of support from businesses in Chile for innovation initiatives in higher education institutions and public research bodies, with only 9.47% of large businesses and 2.68% of SMEs collaborating. This creates subsequent opportunities for participation and investment from foreign parties into the Chilean education system which could encourage mutual development in the various innovative fields.

## Cultural Exchange

The BECAS CHILE program helps Chilean students to work and train professionally abroad. More specifically, they have certain grants designated for English teachers and those willing to receive Chilean exchange students in the UK, generating potential sources of income and potential areas for cultural exchange.

## English Learning Products &amp; Services

Chile's level of English proficiency is low and has been ranked as 45th out of 90 studied countries, according to Education First. Some 24+ British schools registered in the Association of British Schools Chile could be potential business partners for offering English lessons, developing teacher training or consultancy services. Teaching institutions are increasingly investing in online learning services and distance training for certification.



#### References

#### References

World Population Review, Education Rankings by Country, 2021

OECD, Education at a Glance 2021: OECD Indicators, 2021

CognosChile, 2021

ChileEducation, 2021

UniRank, 2021

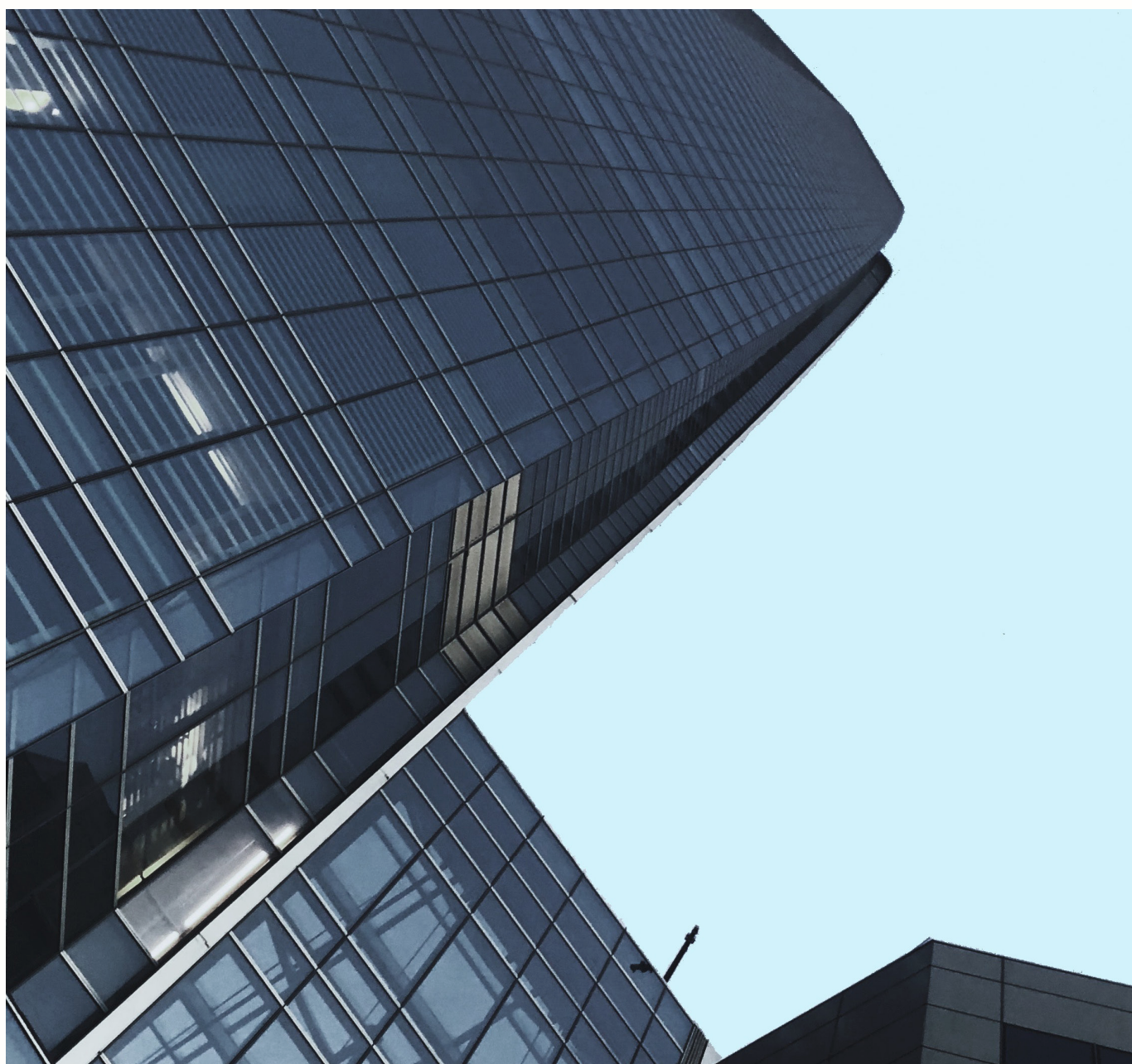




# Sector Reports

## Financial Markets

Doing Business in Chile Guide 2022





Compared to other emerging markets, Chile's financial markets are open and deep, supported by a free-floating currency and a sound fiscal and monetary policy framework.

The Productivity Law, passed in 2016, made Chile's financial sector even more accessible by easing funding for SMEs, increasing the participation of foreign investors in the fixed income market and allowing pension funds and insurance companies to invest in alternative assets. Moreover, there is a Fintech Law Project that will improve the fintech and banking ecosystem for new businesses in Chile when approved.

#### Key Reforms & Developments

Over the last 30 years the Chilean financial system has undergone many developments and important reforms. From the liberalisation of interest rates in the second half of the 1970s, pension system reform in 1980, new laws governing the securities market and openly-traded corporations in 1981, the 1984 tax reform, the new Banking Law of 1986, broad privatisation, and the integration into the international financial community after the return of democracy and the establishment of the autonomy of the central bank in the 1990s.

In 2017 a new bill was proposed to Congress for a new banking law that would implement Basel III standards and give greater powers to the banking regulator, which will modernise the banking ecosystem. Banks will have until 2024 to comply with the new capital requirements.

A new law on payment systems by non banking institutions entered into force in 2017. It allowed the issuing of prepaid cards by non banking institutions, increasing the reach of cards as the payment method for traditional users of cash, and opening the way for fintech companies providing creative solutions with different degrees of technology.





## Sector Overview

## Sector overview

## Banking System

Chile's banking system is stable and well regulated. The soundness of Chilean banks ranked 5th in the latest WEF Competitiveness Ranking[1]. Banks are well capitalised and profitable, characterised by a high liquidity position and a cautious approach to lending. Regulation by the Financial Market Commission (CMF, in Spanish) and the Finance Ministry is considered sound despite the public debt rising to 31.1% of GDP in June 2021.

A new banking law will prepare the industry for Basel III compliance and give greater powers to the banking regulator, which will modernise the banking ecosystem. Banks earnings grew by 189.93% in 2021, reinforced by the help packages of the government and consumer and mortgage lending. Corporate and export borrowing is expected to recover in the years ahead as economic performance stabilises.

Chile's banking system is largely privately owned, except for Banco Estado. Foreign subsidiaries account for 11 out of 20 banks. The largest players, in consolidated placements, are Banco de Credito e Inversiones (local), 17,8%; Banco Santander (Spanish), 17,3%; Banco de Chile (local), 15%; Banco del Estado (state-owned) 13%; Scotiabank 12% (Canadian); and, Itau Corpbanca (Brazilian) 11% [2].

Canada's Bank of Nova Scotia acquired the Chilean subsidiary of the Spanish bank BBVA, which it plans to merge with its operations in Chile to create the country's fifth largest bank. Meanwhile, Banco de Chile and Scotiabank combined to create a micro transactions application for mobile phones.

Over recent years, Chile has exhibited significant progress in financial inclusion. As of 2017, 98% of Chileans over 15 years old had at least one financial product to manage cash, save money or access credit. Moreover, according to a study by Credicorp Ltd, Chile is the second highest in financial inclusion in the region after Panama. According to this index, 80% of the Chilean population has a debit card, 41% has a bank account, and 60% of the people that have a bank account use a bank application to make transactions[3].

[1] World Economic Forum. 2017. Soundness of banks sub-index in Global Competitiveness Index 2017/2018.

[2] Bice Inversiones. 2021. Corporate Presentation Banco BICE. Page 7.

[3] Financial Inclusion. Bloomberg Chile Financial Inclusion



## Stock Exchange

Chile has three main exchanges, the Santiago Stock Exchange, the Electronic Exchange and the Valparaiso Stock Exchange. Santiago is the main one, with its share index, the IPSA, comprising the 40 most traded stocks. The Santiago Stock Exchange has experienced a volatile period, marked by the social unrest, political uncertainty, COVID-19 crisis and inflation. Despite these factors, the IPSA closed 3.0% higher in 2021 compared to the previous year.

In 2010, the Pacific Alliance countries (Chile, Mexico, Peru and Colombia) merged their stock exchanges to create the Integrated Latin American Market (MILA). By July 2017, the joint stock exchange had a market capitalisation of USD 868.1 billion, growing 10% from the beginning of the year. It is the biggest stock market in the region.

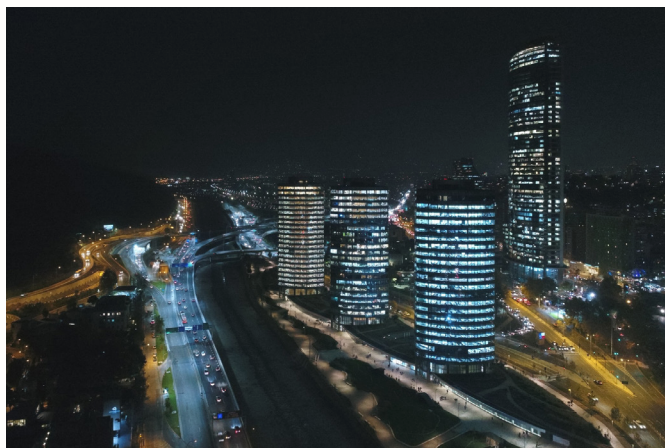
## Pension Funds

Chile's pension funds are managed by eight companies called the Administradoras de Fondos de Pensiones in Spanish, or AFP for short. They are under the supervision of the Superintendent of Pension Fund Administrators. By law, all permanently employed citizens are required to contribute 10% of their wages to their selected AFP. As a percentage of GDP, the funds represented more than 69% in 2021, more than US \$174 billion in total. Chilean pension funds provide one of the largest institutional savings pool in the region. Currently, they only invest 53.7% of funds abroad well within the 80% limit allowed by law.

British companies manage more than 15% of the funds invested abroad. By September 2021, Schroder Investment Management Limited managed 7.8%, Veritas Asset Management LLP 2.1%, HSBC Holdings Plc 2.0%, Invesco UK Limited 1.4%, and Standard Life Aberdeen Plc 1.4%. However, many non-British fund managers also administer Chilean pension fund money in London.

The Chilean government allowed people to withdraw funds from their pensions to weather the coronavirus crisis, but the decision has left millions without sufficient funds in their retirement accounts.

In 2023, the country's Finance Minister, Mario Marcel, is due to deliver a bill to congress to reform the country's private pension system. As yet it is not known whether this will result in the elimination of the private system in favour of a public one.





## Insurance

The country has the highest insurance penetration/density in the region, at 4.56% in 2020. This makes Chile the 5th largest insurance market in Latin America. Per capita spending on insurance products was US\$566, in the same year<sup>[4]</sup>.

The insurance sector had an annual growth in 2020 of 7.0%, and it is expected to rise to 8.7% by 2025. Property insurance is the largest segment in the Chilean general insurance industry, accounting for 52.2% in 2020. In addition, the natural conditions of Chile and the social outbreak in 2019 has driven up Fire and Natural Hazards insurance, which grew over 25% in 2020.

Currently, there are 70 registered insurance companies in Chile: 34 general insurance companies and 36 life insurance companies. In the country, insurance companies and related businesses (brokers, agents, etc.) are supervised and regulated by the Financial Markets Commission. The Commission also administers the register of foreign reinsurers and the registry of national and foreign reinsurance brokers.

Insurance technology<sup>[5]</sup> will continue to develop, particularly via joint ventures between insurers and brokers and retail chains. For large and mid-sized companies, the appetite for cyber insurance is projected to increase.

## Sovereign Wealth Funds

The Law of Fiscal Responsibility of 2006 created two sovereign wealth funds composed of the annual contributions made by the government when running effective fiscal surpluses. The Economic and Social Stabilisation (FEES) was established in 2007 and reached US \$2.4 billion in December 2021. The FEES seeks to finance public debt payments and temporary deficit spending, on the negative part of the economic cycle, thereby sustaining a counter-cyclical fiscal policy <sup>[6]</sup>. The Pension Reserve Fund (FRP) reached US \$7.4 billion in December 2021. The purpose of this fund is to anticipate future needs for payments from the government to pensioners whose contributions to the private pension system fall below the minimum required by the State. Chile's policy is to invest the total in sovereign wealth funds located abroad.

[4] Asociación de Aseguradores de Chile. 2020. GDP Per Capita in insurance

[5] Lexology, Sahurie & Asociados. 2017. Insurance and Reinsurance in Chile.

[6] Ministry of Finance. 2021. Monthly report December 2021 Economic and social stabilization fund



## Major Trends

## Major Trends

## Green Finance

There is growing interest from Chilean companies in issuing green bonds. At the end of March 2017, CMPC, the largest forestry and wood pulp company in the region, issued the first green bond for a Chilean company, in the US market.

From 2017 to 2022, Chile has positioned itself as the regional LATAM green finance leader, in 2019 the Chilean Ministry of Finance formed a Public-Private Green Finance Roundtable and launched a Climate Finance Strategy, and also signed the “Green Agreement”.

The “Green Agreement” is a voluntary commitment between the Chilean financial sector, Government and regulators that outlines concrete climate related actions from the financial sector in the areas of governance, strategy and opportunities, objectives, metrics and risk management in line with the TCFD (Task Force on Climate-related Financial Disclosures) recommendations and objectives from COP26. As part of the implementation of the “Green Agreement”, Chile’s Financial Markets Commission (CMF) published a Climate Change Strategy in 2020. The third phase of this strategy will focus on developing the green finance market in Chile via, “collaboration with other national authorities to develop a classification of economic activities consistent with international standards, and to develop a study on both international standards and the local market to detect potential gaps and trends.”

In Green Finance, former President Piñera’s state of the nation address (31st July 2020) announced a ‘step-by-step recovery plan for Chile’, with climate action featuring as a priority within its economic stimulus elements (consisting of an additional US \$4.5 billion of government spending for 2020-2022). Since June 2019, the Government of Chile has issued over US \$7.7 billion Green Sovereign Bonds and recently issued a US \$4 billion Sustainable Sovereign Bond (January 2022) via the London Stock Exchange.





## Fintech

The Chilean fintech ecosystem has recorded stable growth since 2016, having achieved 60% growth since July 2019 to March 2021. 72% of these fintech companies are trying to expand internationally, and 47% of the Chilean fintech companies have a presence abroad.

In 2020, the fintech industry generated US \$267 million in revenues, only surpassed by Mexico with US \$114.2 million (Brazil ranked third with US \$64.4 million). The industry has grown by 250% since 2015.

The largest sector in the fintech market is marketplace/P2P business lending which represent 23% of the fintech companies in Chile, followed by Enterprise Financial Management that consist of 20% of fintech companies.

The Chilean ecosystem is one of the most mature in the region, 66% of the Chilean fintechs have 3 or more years of existence, while it is estimated that just 8% of all Latin American start-ups have more than 3 years of existence.



## UK Presence in Chile

## UK presence in Chile

The UK's presence in the Chilean financial system is important in the reinsurance sector through reinsurers such as Price Forbes (Lloyd's of London) which represents 10% of ceded premiums. However, the category has a strong presence of US, Spanish (Mapfre) and German (Munchener Ruck) companies. The UK occupies 4th place as origin of reinsurers (16.8%), with the top occupied by US (33.2%), German (20.2%) and Spanish (19.6%) firms.

British companies manage 15% of funds invested abroad by AFPs. Notable companies include Schroders Investment Management Limited, who manage nearly 7.8% of assets. However, only a small amount is invested in the UK market (1.1%), compared to 3.0% for Germany and 1.4% in France. In banking, HSBC has a small presence focused on corporate banking, international trade, and treasury and securities intermediation. In terms of consolidated placements, it amounts to 0.10% of the total.





## Opportunities

## Opportunities

## Pension (AFP) Assets

UK companies could seek to increase the amount of AFP assets managed in London, particularly since investments in alternative assets, real estate and foreign private equity funds were relaxed by law to increase by 5-10%. Intermediate Capital Group is perusing this opportunity and has registered with the regulator to manage such types of assets.

## Reinsurance

Reinsurance will continue growing particularly for Chile's high catastrophe exposure and events derived from the C19 crisis. Insurance companies will seek to offer more products for the ageing population, and insurance technology will become more advanced via joint ventures between insurers, brokers and retail chains.

## Sovereign Wealth Funds

Securing management of Chile's sovereign wealth funds is an opportunity, as both funds will increase in size in the years ahead particularly due to the recovery of economic performance and fiscal restraint. Sovereign bonds and banking assets managed in the UK for the FEES[7], is low. Taking advantage of the new FRP[8] investment policy that increased exposure to shares from 15% to 40% is also an area of potential.

[7] Sovereign Wealth Fund for Economic and Social Stabilization, FEES in Spanish.

[8] Sovereign Wealth Fund for Reserve Pensions, FRP in Spanish.





CÁMARA  
CHILENO BRITÁNICA  
DE COMERCIO

# Sector Reports

## Infrastructure

Doing Business in Chile Guide 2022



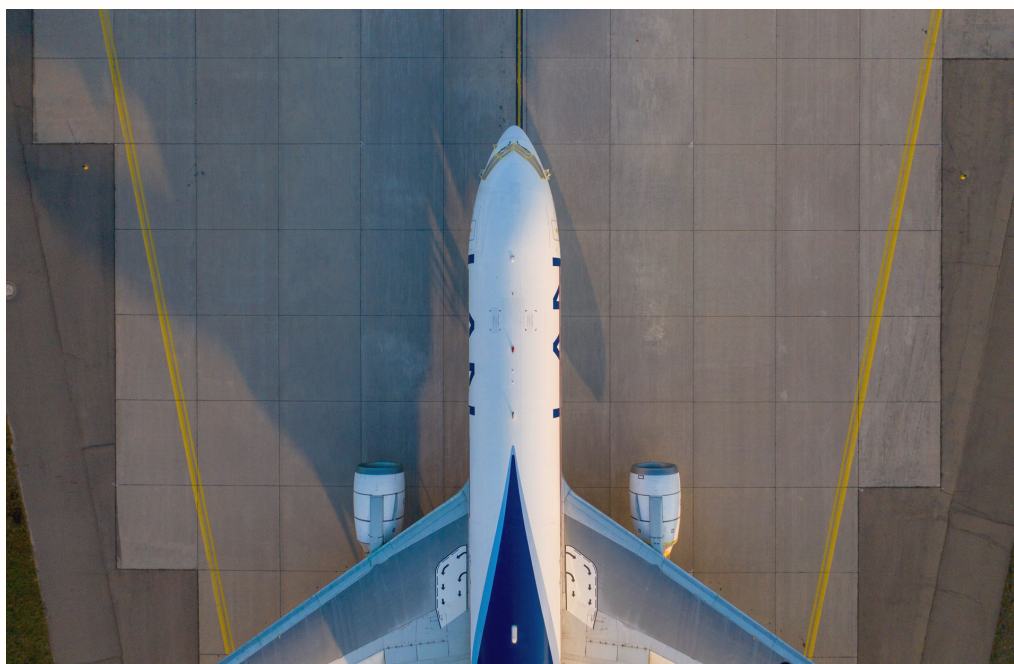




Over the last 25 years, Chile's investment in infrastructure has delivered impressive improvements in the built environment and living standards for Chilean people. Vital transport and health services have been established and jobs created, stimulating the economy and contributing to Chile's overall growth.

The 2021-2025 concessions programme, worth more than US\$15 billion, targets new transport and healthcare projects as well as highways, orbital roads, airports and more.

At the beginning of April 2022, and looking to the future, we await the outcome from the ongoing constitutional reform, and proposals from the new administration, to see how the existing development plan will be affected.





## Background

## Background

Over the past two decades the country has taken a decisive leap forward in public infrastructure. Numerous public-private partnerships have opened the way to investments worth over US\$23 billion, which have changed the face of the country. Thanks to a stable regulatory framework and a supportive business environment, Chile possesses one of the most developed transport systems and highways network in Latin America.

The energy sector has been transformed with impressive levels of renewable power coming onstream, and new transmission lines which have joined up the previously disparate national grid. Its ports and airports have been modernised and given increased capacity to accommodate the increased and anticipated traffic.

But despite this significant progress over recent years, Chile lags behind other OECD countries. This leaves the door open for new infrastructure investment to play an important part in Chile's economic recovery post pandemic. The 2020-2022 pandemic and social crisis recovery plan considers US \$34 billion public spending. Of this 19.3% is directly targeted toward new infrastructure.

## Market Overview

In 2020 the Ministry of Public Works ([MOP](#)) launched an ambitious infrastructure plan paving the way for Chile's future economic growth. The 2050 National Infrastructure Plan for Mobility ([Plan Nacional de Infraestructura para la Movilidad 2050](#), in Spanish), is designed to further promote and accelerate public infrastructure projects. It plans investments worth US\$50 billion over the next 30 years, allocated to roads (68%), trains (14%), ports (10%) and airports (8%). The portfolio presents significant opportunities for international investors and companies. It includes a mix of government initiatives, public-private partnerships (PPP) and longer-term concession projects.

The government's investment [portfolio](#) for 2022 includes tenders for 12 contracts involving around US\$4.7 billion. Although lower than the US\$6.1 billion that was scheduled for 2021, it is still well above the annual average seen between 2010 and 2018.



## Opportunities

## Opportunities

## Urban Roadways

Chile has about 41,000km of paved roads and 38,800 unpaved. Intercity buses are the main means of long-distance transportation. The need for more and better infrastructure in urban areas is pressing. In 2019 the government announced a plan to spend US\$10 billion building and widening about 17,000km of roads over a five year period.

According to the Institute of National Statistics ([INE](#)), the total car fleet in the city of Santiago is expected to grow from 2.1 million in 2020 to 2.7 million by 2025. COVID-19 rapidly accelerated the demand for cars. This increased demand coupled with increased purchasing power (as a result of pension withdrawals) saw a flood of vehicles enter the already congested network.

In March 2022, MOP awarded Spanish company Sacyr Concessions a project to extend Route 78, a strategic axis for freight transport between Santiago and the Port of San Antonio, as well as urban areas in the vicinity of its trajectory. The project includes an extension of 133.8 kilometres, benefiting a population of about 1.7 million people a year.

There are more than 730 kilometres of dedicated bike lanes in Chile ([Conaset 2021](#)), a figure which increases year-on-year as the passion for biking increases. People recognise cycling to be a healthier form of transport, which also helps to reduce local pollution and global warming. In 2020 alone the demand for bikes grew over 10%.



## Electric Mobility

The recent incorporation of e-buses in Chile makes it one of the pioneers of urban electric mobility, serving as a role model for other markets in Latin America. In 2018 Chile commissioned Chinese electric vehicle (EV) manufacturer BYD to provide 100 K9FE fully-electric buses. At the time it was the largest order ever made in the Americas. The buses carry the latest technology in BYD batteries and their operation is being supported by international energy distributor Enel.

Chile boasts several public and private sector partnerships to quickly develop the EV sector. It is among the most competitive, attractive, and fastest growing markets, according to a study by international consultancy firm Frost & Sullivan called “Analysis of the Latin American Electric Vehicle Market, Forecast to 2025.”

## Trains

Despite boasting better conditions than many of its South American neighbours, Chile’s 7,300km-long rail network has been in steady decline over the past few years and lags far behind average OECD standards. It was ranked 70th out of 103 for quality of railroad infrastructure in the 2019 World Economic Forum’s Global Competitiveness Report, and awarded 61st place for the efficiency of train services. The country’s railways have been losing their appeal due to ageing infrastructure and long travel times resulting in a ridership of just over 50 million passengers per year.

The majority of Chile’s trains are used for freight rather than passenger operations. But currently only 10% of Chile’s total freight is transported by rail. EFE’s goal is to increase it to 20%. The organisation hopes to achieve this through investments such as the improvement of the full Santiago-San Antonio corridor and the implementation of the Ferroportuaria platform, which includes the complete renovation of the Barrancas intermodal terminal.

Also there is growing interest in investments for the development of intercity connections between major cities, such as Santiago-Valparaíso or Santiago-Concepción, although several approved projects for these high speed connections are on hold due to the pandemic.

Chile’s state-owned rail company EFE (Empresa de los Ferrocarriles del Estado) has a US\$5.5 billion investment plan through 2027 called Chile on Rails (Chile Sobre Rieles, in Spanish), of which several projects are already underway. It is one of the largest railway development plans in the country’s history, with the aim of tripling ridership and boosting rail freight across the country.

## Ports

Chile’s foreign trade depends almost exclusively on maritime transport given its remote geographic location, distant from its main trading partners. Some 88% of Chile’s exports and 92% of imports pass through its ports.

Of the 33 main port facilities, the biggest are San Antonio, Valparaíso and Quinteros in the 5th region, mostly serving Santiago and the central regions. Arica and Iquique in the North, and Talcahuano (Concepcion) and Punta Arenas in the South are strategically important. There is a plan to expand the port in San Antonio, tripling its current capacity to create a state-of-the-art port that caters for the demands of the coming decades, and bringing it in line with its European counterparts.





## Airports

Chile's main International Airport is called Arturo Merino Benítez Airport (SCL). In 2019, before the impact of the pandemic, it handled 24,654,705 passengers. It is 15km to the Northwest of downtown Santiago, and is a hub for Latam, Sky and Jetsmart airlines. Latam operates 82% of the airport's commercial operations. In February 2022 After 5 years of construction and an investment of US\$1 billion, Terminal 2 of Santiago de Chile's International Airport (SCL) was put into service.

The domestic flight network is supported by an additional 16 airports and airfields, of which four had already surpassed their capacity in 2018 (Easter Island, Valdivia, Castro and Balmaceda) and another three were about to reach maximum capacity (Copiapó, La Serena y Osorno). Before the pandemic, demand in the Chilean air transport market was growing between 10% and 15% annually.

This scenario will continue to push the demand for new large investments in airport infrastructure, estimated at US\$1,659 million.

## Water Management

Chile is suffering from a severe water crisis generated from more than a decade of droughts, brought on by climate change and additional demand. This is almost certainly going to continue and get worse, and is the biggest crisis that Chile faces in terms of natural disasters. Opportunities exist for companies that can bring innovation and knowhow to design and implement infrastructure to maximise efficiencies in water storage, transport and supply.

The Chilean Government will invest US\$5 billion in tender projects to increase efficiency in the use of water in order to lower consumption, especially in the agricultural sector. Overall investment requirements are expected to add up to US\$18 billion.

## Hospitals

Chile has a rapidly ageing population. By 2027, almost 34% will be over the age of 50. In 2018, Chile had an average of 2.2 clinical beds per thousand habitants, way below OECD average of 4.9, and the WHO standard of a minimum of 3.

The government's investment plan aims to strengthen the health network, generating a timely and concrete change to the multiple needs of the population through the construction, replacement, maintenance and improvement of health infrastructure.

Between 2018 and 2027 overall investment requirements add up to US\$10 billion.



## Santiago 2023 Pan American and Parapan American Games

Around 7,000 athletes are due to participate in the Games which are scheduled to take place from October 20 to November 5 2023. It is hoped the Games will play a small but important role in Chile's post pandemic economic recovery.

The former government's draft 2022 budget focused on investments relating to the games included housing, public works and sports infrastructure. Many of the facilities due to be used during the Games are pre-existing, but US\$170 million (£130 million/€153 million) has been budgeted for the construction, adaptation and improvement of sports venues.

The event will feature 10 new venues and the refurbishment of another six. The National Stadium and surrounding sports park will be the focal point, with stadiums for both hockey and combat sports due to be added in advance of the Games.

Panam Sports and the Chilean Olympic Committee (COCH) have expressed confidence the new administration will not significantly change the planned investments.

## Tendering Process 2022

The 2020-2022 pandemic and social crisis recovery plan considers US\$34 billion on public investments, where 19.3% are directly targeted toward public infrastructure:

- Concession Airport and Seaport Network: Tepual (5a),
- Cañal Bajo and Mocopull (US\$110 million)
- Second Concession Regional Airport of Atacama (US\$42 million)
- Concession of Electric Lightweight Public Transport
- System Subway Interconnection-AMB Airport (Trolley Car Pajaritos-AMB) (US \$425 million)
- Concession Cableway Alto Hospicio, Iquique (US \$84 million)
- Second Second Concession Route 5 Santiago-Los Vilos (US \$768 million)
- Second Concession North Access to Concepción (US\$460 million)
- Second Concession Route 5: Section Temuco-Río Bueno and Access to Valdivia (US\$734 million)
- Concession Route 5 Caldera-Antofagasta (US\$628 million)
- Concession Route 5 Iquique-Antofagasta (US\$402million)
- Concession Zapallar Reservoir (US\$357 million)
- Concession Copiulemu-Hualqui-Puerto Coronel Road Interconnection (US\$144 million)
- Concession Villarrica Routes (US\$512 million)



#### Plan 2023

- Concession Central Costanera Highway Vespucio-Las Vizcachas Section (US\$1,257.5 million)
- Concession Puerto Montt Metropolitan Highway (US\$396.5 million)
- Second Concession Route 57 Santiago-Colina-Los Andes (US\$375 million)
- Second Concession Parque O'Higgins Roofed Stadium (US\$31 million)
- Concession Catemu Reservoir (US\$465.5 million)
- Concession Valparaíso Cableway (US\$84 million)
- Concession Road on the Interlakes Border Route (US\$149 million)
- Improvement of Connectivity Coquimbo-La Serena via public transport (US\$320 million)
- Second Concession Route 5 Section Collipulli-Temuco (US\$250 million)
- Concession Road on the Interlakes Border Route (US\$149 million)
- Improvement of Connectivity Coquimbo-La Serena via public transport (US\$320 million)
- Second Concession Route 5 Section Collipulli-Temuco (US\$250 million)

A more in-depth and broader perspective of Chile's infrastructure status can be found in the Chamber of Construction's "Critical infrastructure for development" report which outlines 14 key areas for investment in infrastructure for the period 2018-2027.



# Sector Reports

## Life Sciences

Doing Business in Chile Guide 2022







Chile's life sciences industries are emerging, underpinned by a rich academic base, ample funding, and a wealth of low-cost laboratory space.

It also has a connected and collaborative global research environment offering investment opportunities in different sectors. With nearly 17,000 specialists working in the industry, and a reputation for rigorous legislation on matters of property and intellectual rights, Chile has become a leading FDI recipient for this sector in Latin America ([InvestChile](#)).





## Market Overview

## Market Overview

An estimated 93.7 % of the population in Chile is covered by health insurance. Chile spends 9.14% of GDP on health spending, one of the highest rates in Latin America. For comparison, the U.K spends 12% of GDP on healthcare.

The OECD average number of doctors and nurses is 3.6 per 1,000 population and 8.8 per 1,000 population, respectively. Chile lags behind this with 2.6 physicians and 2.9 nurses per 1,000 population (OECD, 2019).

As of January 2021, Chile was home to 21 start-up companies operating in the health sector, out of which more than half (57 percent) belonged to the healthcare category (Governmental health insurance coverage in Chile 2019, Statista) .

The Latin American med tech market is evolving rapidly. The growth rate of robotic surgeries conducted in Chile between 2010 and 2018 increased by 674%. One reason for that change is the fact that purchasing large capital equipment is becoming easier.

Chile ranks 53rd among the 132 economies featured in the Global Innovation Index 2021. And 1st among the 18 economies in Latin America and the Caribbean.

## R&amp;D Spending by Sector

Universities 45.8%

Business 34.2%

Government 13.1%

Private non profit 6.8%



#### Gender Distribution: researchers (OECD data)

Male 65 %

Female 35 %

#### R&D Statistics

0.4% R&D spending as % GDP

US \$1.6 billion R&D spending adjusted by purchasing power parity \$ (2018)

#### Background

Public policy advocating research & innovation, coupled with funding injections from CORFO (the Production Development Corporation) and the National Research and Development agency (ANID) have paved the way for life sciences to make a positive contribution to the diversification of Chile's production matrix.

Over time Chile has developed a highly qualified scientific community. The country boasts several prestigious universities around which research centre clusters have emerged which now act as keystones to the industry.

Tech companies are expecting to pay out more than US\$4,500 million on FDI in Chile in the next five years (InvestChile). These investments are driven by the potential of health care and foodtech, with a targeted focus on diagnostics and the development of alternative proteins for human and animal consumption.

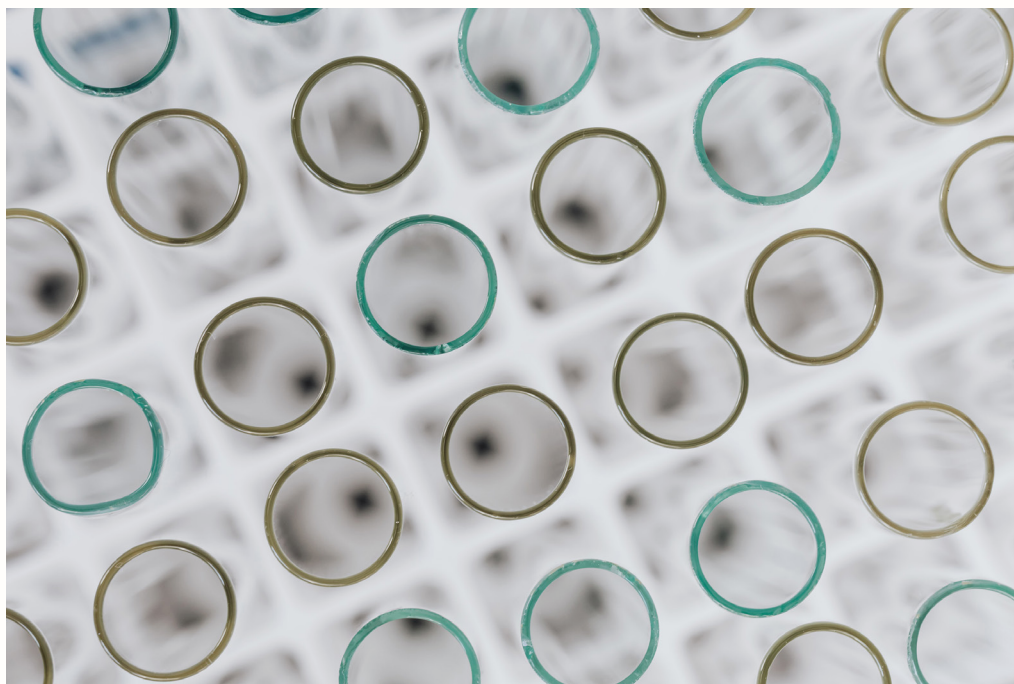
#### Funding

The Ministry of Science and Innovation, together with ANID, provided economic support for 63 research projects related to COVID-19. These were distributed as 46% on medicine and health science, 32% on social science and the remainder 22% along various other focuses, like engineering and agritech. In 2019 alone, patent applications by resident researchers increased over 8%, explained by the 75,6% of PhDs working at universities (World Bank, 2019).

ANID, responsible for promoting knowledge, technological development and innovation, offers R&D funding for innovative solutions with local research companies. In January 2022, the application period began for the 2023 Research Initiation Project Contest, carried out by the Agency. The maximum annual funding (for projects of two or three years) is CLP\$30 million (US\$38,000).

Those researchers who need to change region / country to develop their projects will receive a further three million pesos to cover travel expenses. This applies to UK residents moving to Chile. Further funds are available for support staff e.g. scholarships for undergraduate, bachelor's, master's and/or doctorate thesis students; Technical and support staff.

A complete list of ANID's funds, benefits and application process can be found on their [website](#).



#### Private Funds: Venture Capital

The VC industry has been growing systematically in Latin America. During 2019, it reached a record of US\$4,6 million in 440 deals, twice the amount of 2018 (Zentynel, 2020). Most of the life sciences industry remains mainly backed by the public sector. According to international rankings, the life sciences industry faces financing barriers in Chile e.g. the lack of specialisation, the relative small size of the Chilean market, and the lack of deal flow, among others.

Since the life sciences industry is a risky and CapEx intensive one, inability to access funding poses a threat to development. Currently, there are 21 venture capital firms in the country, although few of them are currently financing or have in the past financed biotech projects. Five initiatives that do are worth highlighting:

[Aurus Capital](#)

[Austral Capital](#)

[UDD Ventures](#)

[Endurance Investments](#) (Fondo Alerce and Fondo Zentynel)

[COPEC Foundation](#) (up to US \$160,000 in grants)

#### Fundación Ciencia & Vida

The foundation is a private nonprofit institution aimed at improving the social and economic development of Chile through scientific discovery, entrepreneurship and education in the biological sciences. It has raised funds for over US \$60 million to work and develop startups in life sciences. For more information visit [here](#).





## Public Policy

Here are some of the most important public policies to boost the local markets:

### Tax Benefits on Research and Development (R&D) Expenditure

- Up to 35% of credit tax benefits over expenses
- Up to US\$360 million on accumulated benefits

### Innovation Fund for Competitiveness and Entrepreneurship

A US\$57 million budget for 2021 developed by the Ministry of Economy, in association with CORFO and Start-Up Chile.



## Regulation

The Instituto de Salud Pública (ISP) is the regulatory body responsible for promoting and protecting the health of the population, and strengthening health control through surveillance, authorization, inspection, research and technology transfer.

All pharmaceutical products imported or manufactured in Chile that are destined to be distributed or used in any capacity in the country, must previously have a sanitary registration approved by the ISP.

Product registration requests can be made in person at ISPs offices in Santiago, or electronically, through their online application system.



## Business Opportunities

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With the introduction of the 'new-normal', digitization is broadening the horizon of new possibilities in the life sciences sector. Redefined workplace environments, the shift in health care delivery, and innovative collaborations to create efficiencies are a few examples that are leading to this unprecedented change supported by technological advancements.

## Chile Compra

Commercial opportunities exist for life sciences companies to become official suppliers of goods and services to the Chilean ministries, services and different State agencies. In order to view available opportunities businesses must first obtain a username and password to enter the Mercado Público platform, managed by the ChileCompra Directorate. This is a free tool that provides access to the needs of 850 public entities; essentially it's a space of supply and demand with common rules and tools, and with transparency of contracts.

There also exists the option to become an accredited supplier of the State. This service does have a fee attached which is proportional to the size of the business. For more information visit the ChileCompra site.





# Sector Reports

## Mining

Doing Business in Chile Guide 2022





Chile is the world's largest producer of copper (28% share), and the second largest producer of lithium (22% share). It also produces significant quantities of Molybdenum, Gold, Silver and Iron Ore. Chile's mining sector is, quite literally, the bedrock of its economy.

Mining's direct contribution to GDP is 11% and when the copper price is good it has a further huge positive effect on the economy. The mining sector directly employs approximately 3% of the Chilean workforce. When global demand is high and the copper price forecasts are positive, mining attracts new inward investment, which currently accounts for around 25% of the national total.

Right now at the beginning of 2022 the industry is focused on sustaining profitable operations in an increasingly complicated environment. Ore grades are dropping and mines are having to dig deeper or go underground to maintain production. Environmental standards are more and more demanding, and the local communities are prepared to challenge both existing and proposed operations. Climate change has brought drought, especially in the mining intensive north, and other sectors and communities are competing for the scarce water resources. In the short term there is political and economic uncertainty as the new government's plans are unveiled and we await the proposals for a new constitution.





## Metal by Metal

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## Copper

Chile produces and exports copper cathodes and copper concentrates.

Estimated figures for the end of 2021 show that Chile's total exports will amount to approximately US\$95 billion. Of that total US\$58 billion were minerals, and US\$53 billion was copper. So copper accounts for over 50% of Chile's total exports. In 2021 production amounted to approximately 5.6 million tonnes of the metal.

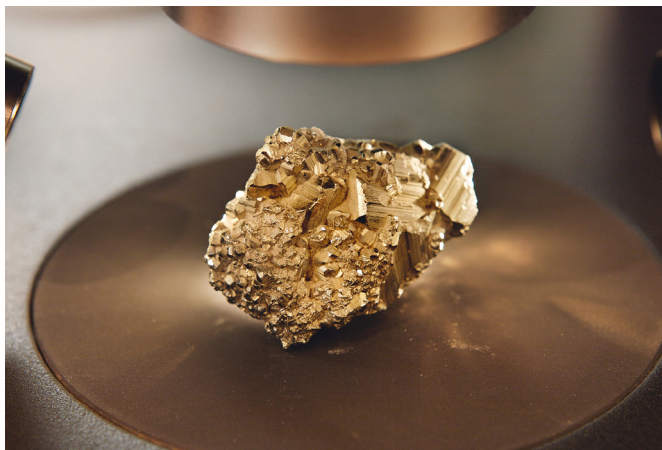
China leads the export destinations for Chile's copper with US\$29.9 billion, followed by the USA (US\$6.7 billion), Japan (US\$4.5 billion), South Korea (US\$3.7 billion) and Brazil (US\$2.2 billion).

Copper prices fluctuate with swings in supply and demand. The price of copper reached a near record high of US\$4.8/lb in mid October 2021, as investors reacted to the global economic crisis and a squeeze on stocks, but had declined to US\$4.30/lb by mid December 2021. Analysts are predicting that the price will average US\$4.0/lb during 2022.

The Chilean Copper Commission's (Cochilco) "Investment in Chilean Mining – Project Portfolio 2021-2030", details investment projects for the next decade amounting to US\$68,925 million through 51 separate initiatives. The lionshare of these (almost a third) are to be based in the Antofagasta Region, accounting for more than US\$20,332 million.

Chilean copper mines are 72 percent owned and operated by private mining companies including: Anglo American, Antofagasta PLC, BHP and Collahuasi, among others. The remaining 28 percent is state-owned and operated by Codelco.

For the 2020-2024 period, large mining investment projects under execution total US\$24 billion. Over half of the investment will be spent by state-owned Codelco in development projects. The remaining investment is being undertaken by private mining companies including the Minera Los Pelambres expansion by Antofagasta Minerals. BHP Billiton is expanding Minera Spence, and Doña Inés de Collahuasi is increasing its current production by 170 Ktpd.



### Lithium

Chile's huge lithium reserves lie mainly in salt flats in the north of the country, known locally as "salars". Exploitation to date has largely come from the Salar de Atacama, and with a lesser contribution from the Salar de Maricunga.

In 2021 it is estimated that Chile produced an estimated 166 thousand tonnes of lithium carbonate with an export value of US\$182 million, a year on year increase of 42%. This hike in price demonstrates the growing importance of lithium as a key component of battery technology used in electric vehicles.

In January 2022, Chile awarded quotas of approximately 80,000 tonnes of lithium to two companies: Chinese automaker ByD Co Ltd, and local firm Servicios y Operaciones Mineras del Norte, for a combined total of more than \$US120 million. The new projects could potentially contribute as much as 100,000 tonnes of lithium carbonate, equivalent to the global market annually, increasing Chile's production by 71% above 2021 forecast levels, according to S&P Global Market Intelligence.

Chile's lithium deposits remain under the ownership of the state, but companies are issued concession licences to exploit the mineral. The main players are Albemarle and SQM.

### Molybdenum

In Chile molybdenum oxide is a by-product of the copper mining industry. It is one of the most frequently traded metals in the markets. Chile currently lies in second place behind China as the main global producer of the mineral. The main destination markets in 2019 were Japan, South Korea, Netherlands, Brazil and the USA.

In 2021 Chile's molybdenum exports reached US\$2.0 billion, up 49.1% from 2020 driven by higher prices for the metal. Prices for molybdenum oxide averaged more than US\$15/lb in 2021 up 76% from the average for 2020, offsetting a 14.4% drop in production to 42,063 tons.



### Gold and Silver

There is evidence of gold being mined in Chile by indigenous peoples as far back as 700 B.C. It currently produces on average 40 tons per year, which puts it in 19 place globally. 56% of the total gold produced comes from dedicated mining sites, and the other 44% is produced as a by-product of the copper mining process.

Chile produced 47.4 million ounces of silver in 2020, making it the fourth largest producer that year, behind Mexico, Peru and China. At the end of 2020 the value of silver was US\$20.5 per ounce. As in the case of Gold, much of the silver produced in Chile is found as a by-product of the copper mining industry.

US\$3 billion in investments were announced for gold and silver projects for 2020-2029 according to the Chilean Copper Commission (Cochilco).

### Iron Ore

Chile produced 19 million tons of iron ore in 2021, which puts it in 13th place globally. The global market is dominated by Australia which produced 900 million tons of the ore in 2021. Chile's iron ore exports were worth an estimated US\$2.5 billion in 2021.

The dominant producer of iron ore in Chile is Compañía Minera del Pacífico (CMP) which makes up 84% of the business of the group CAP. CAP is the biggest surgical steel producer on the Pacific coast of the Americas. CAP is also the third largest port operator in Chile.



## Opportunities

### Opportunities

Chile continues to fight recurring battles with water scarcity, rising energy costs and decreasing productivity. The mining sector is also under increasing pressure to assert and promote sustainability across the entire value chain. As a result significant investments are being made in R&D by equipment and service providers to address these challenges. For a complete view of the up and coming investment opportunities, see this guide by Invest Chile.

#### Environmental system solutions

Environmental technology such as improving water efficiency and energy efficiency have dramatically increased as the water/energy demand for mining also increases. For example, energy consumption is expected to increase by 13.3% by 2024. There has also been an increase in demand for reducing chemicals and biodegradable products as a reaction from social pressure. And there are numerous opportunities for investment in desalination projects, in which Chile is leading the way across Latin America.

#### Mining technology

Chile's mining sector, including state-run giant Codelco, is finding ways to develop more modern and intelligent mining techniques to reduce its environmental footprint and there is a definite push towards automation and remote control through operations such as AI and robotics, BIM, big data, advanced analytics and cyber security. There is a trend favouring remote operation of grinding, crushing, and mineral concentration complexes and the sector is witnessing an increasing demand for autonomous trucks and smart equipment.

#### Optimization processes

Given that the richest deposits have already been mined, the industry is seeking more efficient ways to extract and process ores. This includes improving the flotation process, development of systems and the key stages in mining production. However, this must be done at the same time as reducing carbon emissions.



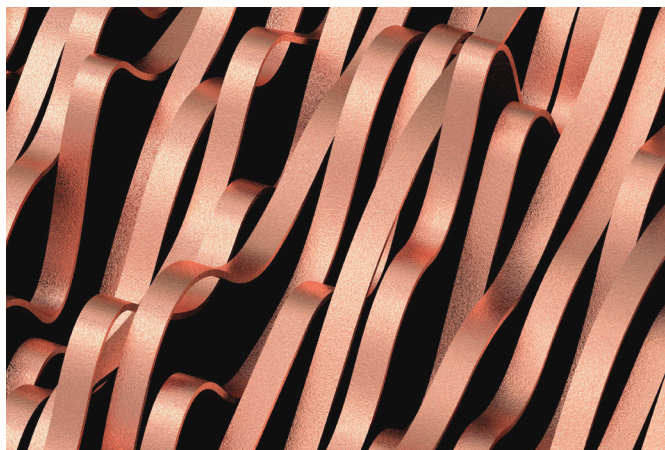


Promising sub-sectors include:

1. Off road transportation parts & equipment: bulldozers, scrapers, and trucks, 360° revolving excavators
2. Crushers, grinders and parts for rock cutters
3. Cranes and screening machines
4. Underground mining technology equipment and services
5. Desalination plants, equipment and parts, and monitoring technology
6. Air pollution abatement technology and services
7. Tailing pond monitoring technology and services
8. Carbon footprint reduction services and technology
9. Personal Safety Equipment

#### Ministry and Associations

- Ministerio de Minería (Mining Ministry),
- COCHILCO (Chilean Copper Commission),
- Consejo Minero (trade association for large mining companies), SONAMI (Chilean mining society for companies of all sizes).
- ENAMI – the National Mining Company aims to promote the development of small and medium scale mining. It provides the services required to access the refined metals market, under competitive conditions.
- Expomin and Exponor – are important trade shows that alternate year on year between Santiago and Antofagasta.





#### References

#### References

US Department of Commerce (International Trade Administration), 2021

Invest Chile, Mining Industry in Chile Project & Opportunities in Chile, March 2021

OECD Economic Surveys Chile, 2021

Global Business Reports, Chile Mining 2021, 2021

S&P Global, Chilean mining sector expected to be undeterred by second wave of COVID-19, 2021

UK GOV, Mining is GREAT at Exponor in Chile, June 2015

# Sector Reports

## Technology

Doing Business in Chile Guide 2022





Despite its extreme geography, and at times because of it, Chile has regional leading digital infrastructure. It leads Internet penetration and number of users. It is home to regional data centres for companies such as Google, AWS and Microsoft and shows great potential for new AI and Cloud technologies, thanks to the immense data capacity from the country's investment in astronomy and astro-engineering.

Human capital is also impressive, including the best programmers in the region and the best IT and Science scores. Chile's open economic model has also allowed an impressive transfer of technology and knowledge thanks to international study exchanges and multinational corporations setting up in the country.





## Key Characteristics

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Chile is the second country in Latin America for digital growth, reaching 71 percent growth just behind Colombia at 74 percent. The total Information Technology (IT) market in 2020 was worth US\$6.4 billion, which represents 2.5 percent of Chile's GDP, showing strong growth potential when comparing the market size percentage of GDP to other markets. In the U.S., the IT market represents approximately 10 percent of U.S. GDP, and in other European countries, the IT market represents between 5 and 10 percent of those countries' GDP.

## Connectivity

Over recent years, Chile has invested in a range of initiatives to strengthen its digital infrastructure, especially connectivity, storage and safe data transmission. Notable projects include fibre optic cables laid between Chile, California and Asia. Projects to further expand the fibre optic infrastructure include an investment of US\$450 million that would expand the network from 18,000 to 36,000 kilometres, doubling the fibre optic backbone.

According to the Huawei Global Connectivity Index (CGI), Chile continues to be Latin America's most connected country, a position it has held for more than 5 years in a row. Some key statistics include:

- Fixed Internet connections: 4.2 million (Subtel, Sept. 2021)
- Internet Users: 17.70 million internet users in Chile in January 2022, analysis indicates that internet users in Chile increased by 1.9 million (+12.2 percent) between 2021 and 2022
- Mobile Internet connections: 26.32 million cellular mobile connections at the start of 2022. Connections increased by 581,000 (+2.3 percent) between 2021 and 2022.
- 4G: 17.7 million connections (Subtel, Sept. 2020)
- Mobile phone lines: 24.6 million (Sept. 2020)





### Human Capital

Chile's level of higher education is ranked among the best in Latin America, with nine Chilean universities in the top 50 in the region, according to the 2021 QS Rankings, and two universities in the top 200 worldwide.

### 5G Network

In December 2021, Chile became the first country in Latin America to activate a fifth generation of wireless networks. 5G is expected to transform technologies' role in society and business radically and is currently being used in conjunction with other telecommunication technologies such as GPS, remote controls and Internet of Things, across many sectors, including in mining, agriculture and telemedicine. It is anticipated that 5G will strengthen the digital economy and incentivise the creation of apps and startups.

### Data Centre Infrastructure and Cloud Services

The presence of multinational companies such as Google, IBM and AWS has accelerated data centre infrastructure development and thanks to Chile's geography, the sustainable management of these centres can be developed and explored.

### Digital Capacity

Chile's digital capacity had aided the development of a strong global services sector where companies can locate offices to reach all of the Americas and the rest of the world. This is typically split into 3 different areas:



#### Information Technology Services

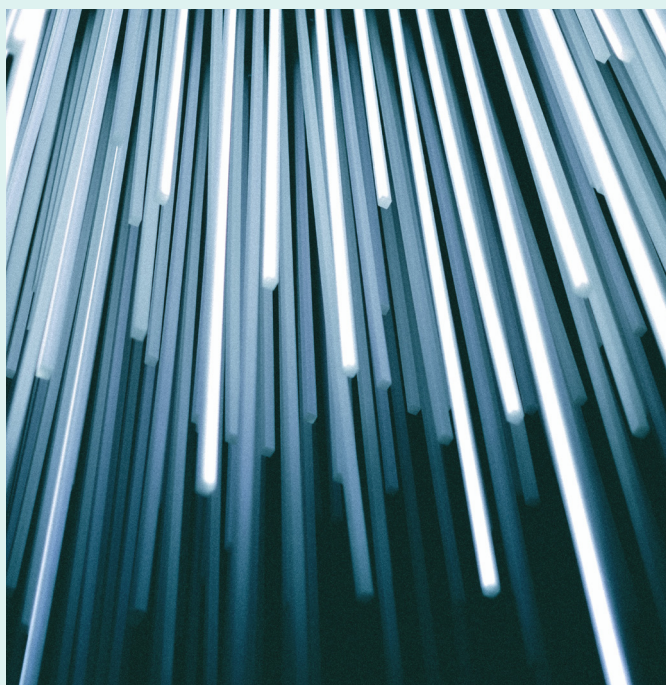
The first area focuses on developing captive centres and outsourcing capabilities for software or application development, testing, technical support and R&D. Companies such as Oracle, Citi and Accenture already operate here.

#### Business Process Services

This is focusing on generating as much added value as possible, looking at shared services such as finance and administration, marketing and sales, logistics and storage, and contact centres in industries where Chile offers regional or international leadership. Experian and Tata Consulting Services are amongst the multinationals that have located in Chile for this reason.

#### Industrial Internet, Automation and Analytics

The application of new tech such as Big Data, Internet of Things, Automation, Artificial Intelligence and Artificial Reality are all key to the main industries in Chile. Companies such as IBM, Huawei and Telefonica are already offering such solutions.





## Major Trends

## Major Trends

## 1. Cyber-security

Following several high profile hacking events against banks and other institutions, cyber-security became a major talking point within both the public and private sectors. The increasing role of tech in a variety of sectors has compounded the necessity to develop this area in Chile. Major training and qualifications are sought after and the Chilean government is currently working with regulators to develop a cyber-security law.

## 2. Blockchain

Blockchain has been receiving increasing attention in Chile over recent years. As well as public institutions incorporating it into financial and energy industries, another area where it could be applied is the development of smart contracts which offers the possibility of a true revolution in Chile given the country's heavy use of traditional notaries.



### 3. Digital inclusion

A current area of focus for the government is to increase the coverage of sectors that today have low penetration indicators for fixed and mobile networks. Subtel has various connectivity initiatives that will allow more users to access an Internet network including:

- National Fibre Optic project (FON) with a state subsidy of more than 75,000 million Chilean pesos, 10,000 kilometres of fibre optics, benefiting more than 3 million users of 202 communes, from the Arica and Parinacota Region to the Los Lagos Region
- Fibra Óptica Austral (FOA) project, which includes a subsidy of 64,000 million Chilean pesos and the deployment of 4,500 kilometres of fibre optic cables from Puerto Montt to Puerto Williams
- Last Mile projects that will allow, with an investment in 16 regions of more than 145,000 million Chilean pesos to extend different high-speed solutions to users who live in the most extreme corners of the country.

### 4. Consolidation of Chile as a Regional Digital Hub

Due to Chile's impressive connectivity figures, skilled human capital, and its open economic model, many international companies base themselves in Chile to offer digital services not just to South America but all the Americas. Examples of this include: Google, Amazon Web Services, and Nisum. The deployments of the Humboldt cable, digital single market, roaming international and interconnection of border crossings are expected to help achieve this.

