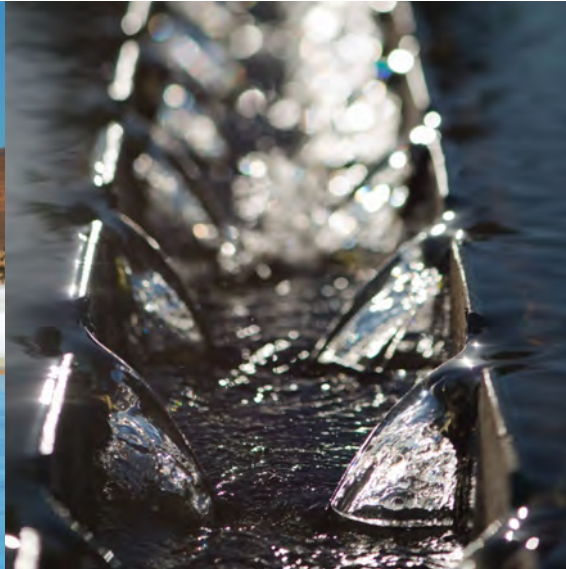




andesschile

Asociación Nacional de Empresas de Servicios Sanitarios A.G.



**Potable water for
everyone,**
the challenge
of adapting
in a country
with complex
geography



The 4 keys of the public-private partnership model that has allowed Chile to ensure potable water and sanitation in Chile



Chile adopted a public-private association model in its sanitation services industry over 20 years ago. It has given the population among the highest coverage within OECD countries, and having treated 100% of domestic wastewater in only 12 years, it has had benefits in public health, environment, and production activities.

1) The Chilean sanitation industry, world-class services in a country that is still under development, whose rates are among the lowest.



2) Chile adopted a public-private model over 20 years ago, which has had benefits for the population, public health, production activities, and the environment.



3)

Despite the fact that Chile has suffered the most prolonged, extensive, and extreme drought on record, city residents have continued with service 24/7.



4)

Chile's cities honor the Human Right to Potable Water and Sanitation.



» Where you can drink tap water

- Canadá
- Estados Unidos
- **Chile**
- Groenlandia
- Finlandia
- Islandia
- Reino Unido
- España
- Italia
- Finlandia
- Polonia
- Japón
- Singapur
- Arabia Saudita
- Australia



Source: Globehunters, 2019.



The Journey of a Resilient Industry

In many countries, something as simple as opening a faucet and drinking water or washing your hands is still far from being a daily action. However, thanks to the State's vision and comprehensive, long-term, multi-actor work, potable drinking water in Chile's cities is safe and guaranteed.

The joint work with diverse actors in society put access to potable water at the epicenter of the country's socioeconomic and sustainable development. **Today, the water produced by Chilean sanitation companies is suitable for human consumption and for regular domestic use (personal hygiene, cleaning, animal consumption, etc.).**

It has been a long journey to achieve this. It began in the 90's with the treatment of the country's waste waters and continued with the collaboration of private companies to increase investment in sanitation services, particularly in the treatment and disposal of wastewater, as well as reducing

the deficit of potable water and sewage systems.

An example of this was the vast majority that approved Law N° 19549, promoted by the government of then President Eduardo Frei Ruiz-Tagle, which allowed for the inclusion of private capital in the industry and marked the beginning of a new chapter in the provision of sanitation services in Chile's cities.

Twenty-five years later, the sanitation industry in Chile has provided important benefits to people and the environment. **The country's urban residents have potable water and sanitation services of the highest global standards, rivers are healthier and beaches are cleaner.** Chile is a "medium income" country, and achieving treatment in record time was sustained by a collaborative public-private partnership with long-term vision; this is recognized by multinational organizations.

» Roles in urban sanitation services



Companies that invest and operate



State that regulates and oversees



Clients that finance by paying their bills

» Chile is highly vulnerable to climate change, meeting seven of the nine **vulnerability criteria formulated by UNFCCC**.

It has:

- low-altitude coastal areas
- arid and semi-arid zones
- areas of forest
- territory susceptible to natural disasters
- areas that are prone to drought and desertification
- urban areas that are polluted, and,
- mountain ecosystems



However, the times have brought about new challenges. The main risk for sanitation services today and in the future is climate change. Chile is considered highly vulnerable to climate change; according to the United Nations Framework Convention on Climate Change (UNFCCC, 1992), the country presents seven of the nine vulnerabilities defined by the organization. And one of the biggest risks it faces is the reduction of available water, which is aggravated by the progressive melting of bodies of ice in the mountains, glaciers, and Antarctica, as well as the effect of the change in precipitation in freshwater systems (IPCC Fifth Assessment Report) and the contingencies that arise from events of extreme precipitation.

Facing this challenge while maintaining broad coverage and continuity of urban sanitation services and its high standards, across the vast national territory, is the sanitation industry's main objective. Although just a few years ago the climate change scenario seemed far off, today it is moving forward with giant steps, which forces all actors from all sectors to work together, with commitment and innovation.

Urban potable water and sanitation companies have been working on this for years, with a detailed analysis of the diverse impacts of climate change on the territory. It is estimated that nearly US\$10 billion will be needed in investment, between now and 2040, to guarantee the service. No doubt investment is crucial, but not enough by itself. The largest lesson we have learned in these years is now a conviction in the sanitation industry: today, solutions will not come from any one actor; climate change forces us to work more and more united and coordinated to drive favorable conditions to implement these solutions.

State policy to guarantee a basic utility

Chile has a hundred-year-old tradition in sanitation services, thanks to State policy that was born to improve the population's health and quality of life. The country has been at the forefront in public health, with nation-wide vaccination programs and the construction of potable water and sewage networks that date back to the 19th century.

In 1995, Chile had over 90% coverage of potable water and sewage in urban areas. However, the creation of development plans for State-owned regional sanitation companies made evident the need for important investments in each one, to ensure continuous and safe supply 24 hours a day and the treatment of wastewater.

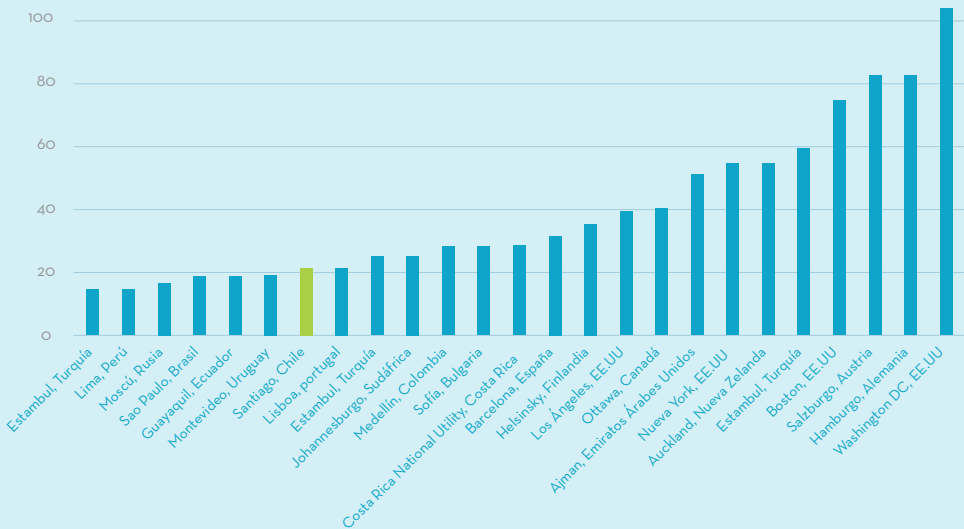
At the time, the treatment of wastewater reached just 14% of the urban population. Wastewater flowed into rivers, exposing the population to disease and putting agricultural exports at risk.

Toward 1998, the government at the time considered that the need for investment to build treatment infrastructure was so great that financing would require the State to go into debt or to move resources from other areas and projects that were of greater social priority.

For this reason, the government promoted a modernization of the regulatory framework and a strengthening of oversight powers, with the creation of a strong regulatory and technical oversight agency, the Superintendency of Sanitary Services, related to the Ministry of Public Works.

This gave way to the inclusion of private capital, key to take the leap toward sanitation safety. Between 2000 and 2021, **the companies in the sector invested over US\$ 8.4 billion to solve the challenge of urban wastewater treatment**, with coverage of nearly 100% in areas under concession, and to develop the infrastructure needed for more resilient cities.

» Typical bill for 15 cubic meters (drinking water and sanitation) for different cities (US\$/15 m3)



Source: Sanitation Sector Management Report 2021, Superintendency of Sanitary Services.

Broad coverage and continuous, safe supply

The sanitation of wastewater is an achievement that took 12 years in Chile; in developed countries it has taken between 30 and 40 years. **In 2012, the city of Santiago became the first capital in Latin America to treat all of its domestic wastewater.**

Enteric diseases are practically controlled in Chile. Healthier rivers have seen a resurgence of animal life and the recovery of urban areas.

There are currently 50 licensed urban companies in operation, mandated by the State to offer potable water, sewage, and wastewater treatment services in 399 towns and cities, in a public-private partnership that seeks to achieve universal, equitable access to water and sanitation services for the entire population at an affordable price.

Over the past 13 years Chile has experimented the most prolonged, extensive and extreme drought on record; despite this, communities supplied by licensed urban companies have continued to receive a continuous supply. **Today, rain in the central area of Chile, where most of the population is concentrated, has been decreasing constantly; it is currently half of what it was 100 years ago.** The sector has built safety works to face situations such as high-plain winters and turbidity in water sources caused by high-altitude rains.

In 2021 alone, sanitation companies invested over US\$ 500 million to strengthen supply and prepare cities to be more resilient, even under adverse climate conditions.

This has all been achieved with rates that are among the lowest among countries with similar service standards.

» Urban coverage for drinking water and sanitation, 2021.



99,94%
Drinking water



97,4%
Sewage



99,98%
Wastewater Treatment

Drinking water and sanitation: a human right

In 2010, Chile signed the United Nations resolution that recognized the right to drinking water and sanitation as a Human Right (United Nations General Assembly 2010. “The Human Right to Water and Sanitation”. UN. Doc. A/RES/64/292).

In line with this vision, the sanitation sector has made multiple efforts to support the country’s progress in guaranteeing this right. **The Human Right to Water and Sanitation is currently being upheld in the areas supplied by licensed urban sanitation companies, which serve 16 million people today.** In cities, water is sufficient, healthy, acceptable, accessible, and affordable, which are the criteria established by the UN for this right; this is jointly the merit of private investment and management, and strict public regulation and oversight.

Sanitation is in the same situation, seeking to guarantee access to this service in all areas of life (home, school, work, etc.), in a way that is safe, hygienic, socially and culturally acceptable, and that provides privacy and guarantees dignity.

It is essential that people’s socioeconomic situation does not become a limiting factor. Data from the National Statistics Institute shows that, **on average, water bills in Chile represent only 1.6% of the basic family basket of goods and services.** However, there are still groups that cannot assume this cost. As public policy, the State subsidizes the water bills of the most vulnerable families to ensure the attainability of water. In 2021, 723 thousand families requested and received help to pay their water and sanitation bills, to ensure access.





Climate change in Chile imposes the challenge of designing solutions that adapt to the diversity of its river basins

There has been much progress in these 25 years. The work of sanitation companies has not concluded, however. Investments have ensured service, but have made the reality of the drought, and the severe and sometimes irreparable impact it has, invisible.

Chile is recognized for its extensive and diverse geography. **Because of its varied orography and climate, the adverse effects of climate change affect different river basins and areas in the country in different ways.**

This complex reality is completely understood by the sanitation industry, which has been preparing for some time to face climate change, which is threatening the quality and continuity of sanitation services across the country.

Climate change is increasing the frequency and intensity of droughts, causing a decline in

water quality in natural sources and increasing the frequency of extreme weather events with the potential to affect operations.

This is undoubtedly one of the keys that Chile has learned in order to plan its adaptation to climate change. There is not one solution, the effects in the desert regions in the north are totally different from those in the central area, which is hit by drought, or the changing precipitation patterns that affect the southern area. This is why the sanitation industry works along with the State to offer solutions specific to each situation.

To face climate change and ensure the supply of human drinking water, it is estimated that investments of more than US\$ 10.06 billion will be required between 2020 and 2040. It is fundamental to have a vision for the future and appropriate solutions for each area, and an important focus should be the

development of new infrastructure for potable water production, including nine sea-water desalination plants, and several works to maintain continuity of service during climate events that are becoming more and more frequent, and that could temporarily affect water production.

The need and desire to contribute to the global fight against climate change led the National Association of Sanitation Services Companies (Andess by the acronym in Spanish) to become accelerators in the Race to Zero initiative, led by the United Nations Framework Convention on Climate Change. The campaign seeks to reduce participants' carbon emissions in half by 2040, as a first step toward zero emissions. Because Andess associates represent over 94% of the industry, the impact of this decision is significant for the sector.

In parallel, it is necessary for Chile to shorten the access gaps in places where there are partial or complete restrictions of potable water and sanitation, such as rural areas, informal settlements, and areas where the companies do not supply services. To this end, the industry has made progress in areas without sanitation service coverage that are within or adjacent to their operational territories, through public-private investment projects. Also, in coordination with authorities and local governments, the companies are working on solutions for informal settlements,

seeking to give safe potable water access to these communities.

The public-private partnership has brought substantial progress to Chile in terms of water and sanitation. It was able to clean urban wastewater in a short time. In the face of the challenges imposed by climate change, revitalizing this collaborative work with a country-wide vision is undoubtedly the best response. The sanitation industry is happy to continue to support Chile in the provision of safe and continuous sanitation services, and broadening access to potable water and sanitation.



9

seawater
desalination
plants



41.000
kilometers of
potable water
networks

» About Andess

The National Association of Sanitation Services Companies (Andess, by the acronym in Spanish) brings together the 22 main private potable water and sanitation operators in Chile. Together they supply almost 16 million people in the country's urban areas, with over 42,000 kilometers of potable water networks, providing continuous service with the highest standards.