

Urban Chile

Population: 17,000,000

The proportion of urban population that has its wastewater treated before discharge has been increased from less than 10% in 1998 to 100% in 2012.

Organising authority: Government of Chile.

Regulator: Superintendencia de Servicios Sanitarios (SISS).

Water operators: 57 Chilean companies providing water and sanitation services to the urban population (87% of total population).

Two types of private operators

In the 90's, the Chilean government sold the majority of the shares of 4 main water and sewerage companies to the private sector, keeping a minority stake in the capital. In 2011, the Government sold most of its shares in these companies keeping only 5% in order to be able to appoint one director in every company, thus having the right to veto any possible transfer of water rights. A few other companies were privatised in the following years.

In 1998, the central government put out on tender concession contracts for nearly all the other water companies for a period of 30 years.

Today there are 57 companies supplying water and operating sewerage networks in the urban areas. Most of them are privately-controlled (except a mid-size municipal company in Maipú).

Some operate publicly-owned infrastructure under PPP contracts, others own the water infrastructure and operate under a license. All are regulated by SISS, the national regulator.

Context and objectives

In 1989, less than 10% of households connected to sewers had their wastewater treated, which meant a population inferior to one million. The country had no experience of wastewater treatment plants. A significant amount of wastewater was dumped into rivers, lakes and the ocean. Numerous beaches and the coastline suffered from pollution. The same occurred with water used for agriculture in many regions. There was even a cholera outbreak due to crop irrigation with wastewater at the beginning of the 90s.

Ecosystems received thousands tons of garbage. Not only did this pollution affect water quality, but also the sea bottom. This pollution altered fauna and flora, affecting biodiversity and sometimes causing migration or extinction of species.

| Urban Chile | 1998 |
|-------------------------------------|---------------------|
| Drinking water coverage | 99.2% of population |
| Wastewater collection | 91.6% of population |
| Wastewater "treatment" ² | 16.7% of population |

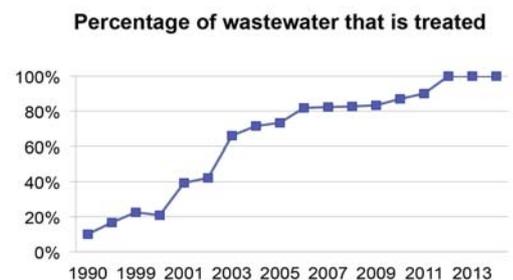
² A mostly via stabilisation ponds

In 1998, the central government decided to improve wastewater management and adopted a huge investment programme based on infrastructure to be built in all cities with more sophisticated technologies than the very basic ones used previously. Secondary treatment was decided for inland cities (80% of wastewater) and primary treatment + sea outfalls were planned for coastal cities (20% of wastewater). The target was to "treat" all urban wastewater flows in these ways.

Access to private capital and private management through partnerships with the government provided the necessary funding and allowed the new infrastructure to be built. This represented a major change in the way of managing water companies with a lot of innovations. A social policy was designed to protect the poorest against the increases of water & wastewater bills needed as a result of the massive investment programme. These initiatives have had positive impacts in the quality of life of people.

Removing pollution from wastewater

The percentage of the population that has its wastewater treated before discharge or reuse reached 100% by the end 2012.



This growth means that the sewage of more than 17 million Chileans has been incorporated into the wastewater treatment systems.

- Removing pollution from wastewater
- Optimising economics of water services
- Responding to natural disasters

The increase of wastewater treatment coverage represents around 1,000 million m³ per year of sewage that is being treated through 280 treatment systems in the whole country.

| Urban Chile | 2014 |
|-------------------------------------|---------------------|
| Drinking water coverage | 99.9% of population |
| Wastewater collection | 97% of population |
| Wastewater "treatment" ³ | 100% of population |

³ Mostly secondary wastewater treatment plants



The largest new wastewater treatment plant

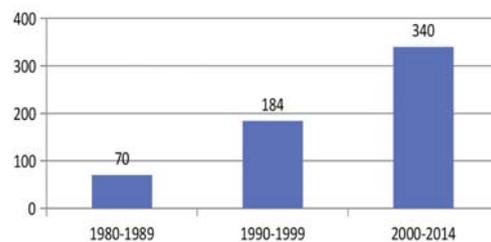
The huge 2010 earthquake disrupted a lot of networks. They were repaired very fast at no cost to water-users.

A very important investment programme

The annual amount of investment had to be increased significantly in comparison with the previous decades to allow for this important enhancement of wastewater treatment, the improvement of water and sewerage coverage as well as the operational modernization.

Investments have risen to an average of US\$ 340 million per year. This amount represents almost double that of the previous decade and means that during the period 2000-2014 the total invested was more than US\$ 4,700 million, fully financed by the operators without any subsidy.

Average annual investments
US\$ millions/year



38% of this amount has been used for wastewater treatment plants and wastewater outfalls while 52% has been used for upgrading and maintaining drinking water and sewerage infrastructure.

Responding to natural disaster

For the last five years, Chile has suffered severe drought (particularly between Coquimbo and La Araucanía. This is having serious economic, social and environmental consequences impacting many towns and small farmers.

Water operators have been taking initiatives to overcome the difficulties. In the summer of 2014-2015 they instituted a plan of US\$ 62 million to ensure continuous supplies of good quality water. The cumulative investment in draught measured for 2011-2014 is close to US\$ 210 million.

Private water operators already proved their professionalism during the critical task of restoring water supply after the devastating earthquake (level 8,8) on February 27, 2010). Only 72 hours after the disaster, 87.5% of the water supply was restored and operating in the areas affected, between Valparaíso and La Araucanía. The restoration of infrastructure of great importance such as aqueducts, sewage ponds and wastewater treatment plants was not an easy task. However, the engagement of the industry and the cooperation with authorities made it possible to restore the high quality standards that existed before the tragedy without occurring any cost for government nor tariff increase for the population in the affected areas. Damages suffered by the industry are estimated up to US\$ 120 million.

See ref. 12, 16, 27

In the last decade the annual amount of investments in water and sanitation infrastructure has been nearly 5 times higher than before the 1989 privatisation.

"The restructuring of the water service sector has been quite successful and can be regarded as a model case." OECD/UN-ECLAC, Environmental performance Review, Chile, 2005