

aguas de antofagasta



For over five years, **Aguas de Antofagasta S.A.** ("Aguas de Antofagasta" or "ADASA") has been providing water of the highest quality continuously to a population of over 500,000 and to major industrial customers and mining companies in the Atacama Desert.

Water is fundamental to our Region's development. Consequently, we strongly believe in responsible use to meet current and future needs. Antofagasta's sustainable growth will be strengthened by our planned increases in desalinated water production.

Our commitment to local communities is to be a company that supports their economic growth and helps to improve people's quality of life. With this aim in mind, we have declared that our concerns must centre on our customers. We want to be seen by them as reliable and to provide them with excellent, world-class service.

In 2008, we received major awards for our contributions to public health and for our employee safety policy.

The publication of our Environmental Policy, in which we undertook seven specific commitments, was one of the highlights of 2008. We also promoted the use of alternative water sources such as desalinated seawater, which now provides approximately 40% of the water for the city of Antofagasta. In addition, we have built a desalination plant in Taltal which is now in operation.

In the social context, we have committed to contributing to the education and training of the leaders of future generations. To achieve this, we are developing educational programmes designed for young leaders, mainly drawn from students at secondary schools and universities from across the Region.

In our second Sustainability Report, we have reported on a greater number of GRI indicators. I would like to invite you to learn more about ADASA's efforts to achieve its commitment to the long-term development of the Antofagasta Region.



Marco Kútulas Peet
General Manager
Aguas de Antofagasta S.A.

MESSAGE FROM THE GENERAL MANAGER



DESCRIPTION OF THE BUSINESS

Agua de Antofagasta S.A. (“Agua de Antofagasta” or “ADASA”) provides services for the production and distribution of potable water and for the collection and disposal of sewage in the Antofagasta Region, except for the disposal of sewage in the towns of Calama and Antofagasta.

It began operations on 29 December 2003, following the award of the water concession in the Region after an international public tender. ADASA is a closed company, governed by the regulations for public limited companies and registered voluntarily with the Chilean Securities Regulator. ADASA is a wholly-owned subsidiary of Antofagasta plc, indirectly held through its subsidiaries Inmobiliaria Punta de Rieles Limitada (99%) and Antofagasta Railway Company plc (1%).

The management of sustainability issues is a priority for ADASA, with responsibility for this coming within the Department of Planning and Development.

ADASA provides basic services for the production of potable water and the sale of untreated water, the distribution of potable water, and the collection, treatment and disposal of sewage.

Its services for the production and distribution of potable water meet the needs of customers in Antofagasta, Calama, Tocopilla, Mejillones and Taltal. In 2008, ADASA increased its water production capacity to 51.4 million m³. This was subsequently treated and/or sold via a 1,140 kilometre pipeline network. In those towns where it collects, treats and disposes of sewage, all water piped into the sea was processed in sewage treatment plants in accordance with current legislation.

ADASA’s main priority is to provide drinking water of the highest quality. To that end, shortly after its creation, it succeeded in reducing levels of arsenic (a historical problem in the area) to the levels recommended by European regulations and the World Health Organization (WHO), which exceed current Chilean regulations.

Overall, 74% of the water distributed by ADASA throughout the Region is for human consumption, where it has a total of 138,000 regulated market customers. The remaining 26% is for commercial and industrial use, mainly mining operations (non-regulated customers). ADASA is a key player in encouraging the development of projects that promote regional growth.





INFRASTRUCTURE

During the year, ADASA completed the move of its administrative offices to a refurbished building in the north of the city of Antofagasta, concentrating all its operations in one area. The building is one of the leading examples of sustainable construction in the Region. It is highly energy efficient and provides a pleasant working environment for staff. Facilities include a sports complex as well as new gardens and a greenhouse (built for research work), which will be open to the community.

At present, ADASA has three filtration plants to which water entering the system is sent via a large pipeline network. When it has been treated, the water is distributed to residential customers. Industrial customers, however, receive water directly at their facilities. Seawater is treated at two desalination plants, at Antofagasta and Taltal, with the latter opening in 2008.

The city of Taltal is located 300 kilometres from Antofagasta in the Second Region and has a permanent population of about 11,000. Until 2008, it was supplied exclusively from underground water coming from wells in the Agua Verde area. To guarantee sustainable water supplies, it was decided to build a desalination plant. The new plant draws water from the sea through a well using reverse osmosis technology. It produces up to five litres per second of drinking water, equivalent to 15% of the amount consumed. It is the second city in the country to use desalinated seawater as a source of water for human consumption.

Another major milestone was the enlargement of the desalination plant in the La Chimba area of the city of Antofagasta, with capacity to treat an additional 150 litres per second, bringing total capacity to 450 litres per second. The construction of the plant's third module will make it possible to increase the proportion of desalinated drinking water supplied to the town from 35% at present to nearly 50%.

INFRASTRUCTURE		
PLANT	LOCATION	PROCESS
Cerro Topater (filter)	Calama	Production of potable water, abatement of arsenic
Salar del Carmen (filter)	Antofagasta	
Taltal (filter)	Taltal	
La Chimba (desalination)	Antofagasta	Desalination of seawater by reverse osmosis
Taltal (desalination)	Taltal	

Note: Filter plants are sometimes called purification plants.

REGULATORY FRAMEWORK

As is normal for companies operating in this sector, ADASA is subject to regular reviews and audits including those carried out by the Chilean sanitary services regulator, the health service regulator and the securities market regulator. ADASA submits an average of 18 regular reports a month on issues such as water quality, tariffs and service quality. It also responds to requests for additional information from national and regional regulatory bodies.

To safeguard customers' health, ADASA is subject to Chilean regulations establishing limits on a range of substances that may be present in its water. It also has a Water Quality Assurance Plan developed in line with WHO guidelines. As part of this, it takes samples from plants and from homes in every area served. The critical substances that are monitored frequently are arsenic, iron, chlorine and pathogenic micro-organisms. Other substances are checked for twice a year. Some of these tests are carried out by a certified external company, others by a laboratory accredited by the same company. Regulatory bodies carry out their own tests to verify the results.

EMPLOYEES AND CONTRACTORS

The management of human resources in ADASA is based on three pillars: minimising accidents at work; prioritising positive relations with unions to ensure a good working atmosphere; and the recruitment and retention of key personnel. The main achievements this year were the roll-out of health and safety plans and a programme to develop talent, innovation and skills.



ADASA aims to have a committed, motivated and productive workforce. In order to achieve this, it prioritises the health and safety of employees, provides a positive workplace with opportunities for development and strives to continuously improve the working environment. It also places great emphasis on employee participation, sharing information about changes and establishing an effective, permanent system of communication with those involved.

Respect for human rights is fundamental to ADASA's activities, as is compliance with prevailing laws and regulations. In addition to respecting individual liberties and rights of association, ADASA encourages a healthy level of social integration and discourages discrimination in general, especially gender discrimination.

ADASA's good relations with its employees are reflected in the formulation of long-term, stable collective bargaining agreements. ADASA has two unions, representing 64% of employees. The collective bargaining agreements reached by ADASA with its employees cover health and safety issues such as medical examinations, collective life insurance policies, health insurance and contributions in the case of serious illness. 64% of employees are covered by this collective bargaining agreement.

ADASA's own workforce is entirely made up of employees from the Antofagasta Region. Of the company's 369 contractors, 48% come from the Antofagasta Region.

The company pays salaries in line with the market and encourages the same practice by its contractor companies.



HEALTH AND SAFETY

ADASA constantly monitors accident rates, carries out a workplace risk analysis including a risk map, investigates incidents involving safety and encourages employees to learn about relevant issues. It worked with its contractor companies in 2008 to promote better accident prevention and self-care practices; subsequently, a reduction in the all injury frequency index was achieved.

ADASA has two joint committees on health and safety, representing all of its employees.

ADASA has an Occupational Health and Monitoring Plan aimed at detecting and monitoring work-related illnesses associated with its operating processes. The plan, implemented by the Risk Management Department, is supported by an organisation that provides occupational health facilities in accordance with Law 16,744 on workplace accidents and work-related illnesses, covering employees' work-related health assessment and clinical monitoring needs.

TRAINING AND DEVELOPMENT

ADASA promotes skills development through innovative training programmes and electronic media. Its annual programme includes soft skills (for example team-working, leadership and innovation) and technical skills. At the start of each year, ADASA's management uses a training needs matrix to identify and select the courses to be offered. Approximately one-third of its employees currently receive an annual performance assessment. One of the company's targets for the immediate future is to expand this programme.

ADASA received the E-Seal accreditation from the National Training and Employment Services, given to companies that carry out the task of providing computer literacy training to 100% of employees in order to close any digital divide.

SAFETY STATISTICS		
	2007	2008
Lost Time Injury Frequency Rate <small>Number of accidents with lost time during the year per million hours worked</small>	8.6	11.5
All Injury Frequency Rate <small>Number of accidents with and without lost time during the year per million hours worked</small>	28.7	21.6
Severity index	80	84
Fatalities	0	0

TRAINING	
Total training hours	7,997
Average annual training hours per employee	45.4
Note: This data includes both internal and external training time.	

SOCIAL PERFORMANCE

ADASA works constantly to improve performance in terms of transparency and dialogue, both inside and outside the company. As part of this, it always aims for joint solutions in consultation with different stakeholders.

In the field of social development, ADASA focuses on supporting the development of human capital in the Antofagasta Region by promoting innovation and the use of technology.

CUSTOMERS

The Customer Relations Project aims to provide outstanding service by improving key aspects of customer service. In the first stage, areas and processes that could be improved were identified internally and steps defined to implement the necessary changes. ADASA's market position was also assessed in an independently conducted customer satisfaction survey. This measured aspects such as the service experienced by customers in various areas, including frontline offices, billing processes, the corporate website and meter reading. A similar survey is planned to be conducted every year.

The survey highlighted the issues considered most important by customers. Areas for improvement were identified, such as the need to provide more information regarding general water quality (particularly concerning reducing the content of arsenic to a level recommended by the WHO), telephone assistance and the coordination of work on public roads.

A quality control system has also been introduced in customer care, setting targets and performance indicators for areas that directly affect service quality and customer perceptions of the company.

Because of an error in the billing process in November 2008, eight customers in Tocopilla were overcharged for their supply. The error was corrected by reissuing the bills and applying discounts while the situation was resolved. Even though these measures were taken to rectify the situation, the authorities imposed a fine of US\$12,800 on ADASA as a result of the incident.





community

COMMUNITIES

ADASA's relations with the community have been growing stronger since it started operations just five years ago. These are based on cooperation and dialogue regarding those activities of ADASA that could have a positive or negative impact on communities.

In 2008, ADASA organised the country's biggest conference on desalination. The first "Antofagasta International Seminar on Desalination: Development and Sustainability for Latin America" was an opportunity for those attending to learn about ADASA's experience of desalination projects and work done abroad in this field. International speakers and company representatives attended the seminar.

Another initiative in 2008 was the creation of a small museum beside the new desalination plant in Taltal. ADASA salvaged and restored machinery from the early 20th century, which had been used to supply seawater to the network used for fire fighting. ADASA also helped with repairing the damage caused by the Tocopilla earthquake through the donation of building materials, a project started in 2007.

Since 2007, ADASA has been organising the Nuestro Norte (Our North) programme, which aims to train young leaders in the design and execution of social improvement programmes in the Region. Various schools in the four towns served by ADASA are taking part in the scheme which has the support of the local municipalities and relevant public bodies, including the National Service for Children.

ADASA AND UNIVERSITY STUDENTS

As part of its policy of promoting innovation and technology, ADASA signed an agreement with the Universidad Católica del Norte (Catholic University of the North), which has resulted in a successful collaboration between the industrial and academic spheres.

In 2008, it assumed responsibility for the Workshop in Leadership for a Globalised World, attended by over 100 students and distinguished speakers. The aim was to reinforce the skills, knowledge and innovative approaches of these future professionals, who completed the course by developing their own business projects.

For the fifth consecutive year, ADASA took on the challenge of presenting a course in industrial processes as part of the degree in industrial engineering at the University. This course involves the development of projects applied to business problems. The lecturers are ADASA professionals who share their knowledge and experience with the future engineers.





ENVIRONMENTAL PERFORMANCE

ADASA's new headquarters, incorporating environmentally friendly and energy-saving features, illustrates its ongoing commitment to sustainability. The new facilities include a greenhouse that will be shared with schools and the community.

A major landmark in 2008 was the publication of ADASA's Environmental Policy in parallel with a project to develop an environmental management system for its different operations and a plan to ensure water quality. ADASA set out seven commitments: making continuous improvements to processes by implementing an environmental management system; preventing pollution; using natural resources efficiently and responsibly; promoting an in-house culture of sustainability; compliance with environmental legislation; maintaining an open dialogue with stakeholders; and encouraging the implementation of these commitments by service providers.

ADASA protects the environment by controlling and monitoring water treatment processes and proper waste management, in

accordance with environmental legislation and international recommendations.

ADASA has gradually increased the use of seawater as a water source through the introduction of desalination plants. This is a milestone in sustainable water management and will ensure the availability of drinking water for future generations. It also acts as a stimulus for the economic and social development of communities by making new water resources available for the area, with minimum environmental impact.

This is a necessary part of preparing for the possible effects of climate change, looking at a scenario in which the volume of river water is falling as less water flows down from the Andes. ADASA's environmental management in 2008 earned it the Environmental Management Prize, awarded by the Antofagasta Region Medical College, for reducing the content of arsenic in drinking water to the levels recommended by the World Health Organization.

WATER EXTRACTION (in m³)

SOURCE	NAME OF SOURCE	2007	2008
Surface and underground water	San Pedro	*	2,642,453
River Loa	Lequena	16,510,584	14,890,378
River Loa	Quinchamale	9,378,113	9,079,593
River Loa	Puente Negro	1,259,387	1,202,452
River Salado	Toconce	14,258,929	13,904,571
Underground wells	Agua Verde	852,837	845,804
Seawater	Antofagasta desalination plant	18,190,849	18,187,907
Seawater	Taltal desalination plant	0	96,434
TOTAL		60,450,699	60,849,592

Note: * Data not available.

WATER EXTRACTION

Water is obtained from three sources:

- **Surface:** the Loa and Salado rivers, supplying the cities of Calama, Tocopilla, Mejillones and Antofagasta.
- **Subterranean:** underground wells in the Agua Verde area supply part of the water consumed in Taltal.
- **Seawater desalination:** takes place in two plants located in Antofagasta and Taltal, providing additional supplies to these cities.

ENERGY AND EMISSIONS

Energy consumption by ADASA results mainly from the use of diesel oil in various production processes, in particular power generation in plants, and petrol consumed by the company's vehicles.

Electricity is primarily used in the untreated and treated water pumping systems, support systems and treatment plants, and in the company's buildings.

Energy savings were achieved in 2008 compared with the previous year as a result of efficiency improvements in some

processes. For example, maximum power demand in the Cerro Moreno pumping plant fell by 35% compared with 2007, while that in the Puente Negro extraction plant fell by 21%. In both cases, greater efficiency was achieved by optimising power consumption at peak times.

Based on its fuel and power consumption in 2008, ADASA has estimated that its greenhouse gas emissions were approximately 6,000 tonnes measured in tonnes of CO₂ equivalent.

ENERGY CONSUMPTION (in Gj)

ELECTRICITY CONSUMPTION	2007	2008
Produced	3,784	4,269
Purchased	19,833	15,159
TOTAL	23,617	19,428
FUEL CONSUMPTION		
Diesel	10,754	27,186
Petrol	*	3,600
TOTAL	10,754	30,786

Notes: * Data not available.

The values reported here for 2007 do not necessarily coincide with those published in the 2007 Sustainability Report due to the fact that different and more precise methodology and calculations were used in 2008 in accordance with the Carbon Disclosure Project. The above data corresponds to that reported by the Group for the purposes of the Carbon Disclosure Project.

CONSUMABLES

A number of chemical products are required for the processes involved in making water fit for human consumption and sewage treatment. The principal consumable products used by ADASA are set out in the adjacent table.

CONSUMABLES 2008	
Ferric chloride	1,544 tonnes
Sulphuric acid	536 tonnes
Aluminium sulphate	15 tonnes

EFFLUENT AND WASTE MANAGEMENT

The concession awarded to ADASA includes the treatment and final disposal of sewage from the towns of Tocopilla, Taltal and Mejillones. It operates treatment plants with an underwater final disposal system for discharge at sea. ADASA is currently studying the reuse of this water for industrial uses and/or irrigation. It also has rights to the water from the sewage treatment plant in Calama, which belongs to the company ECONSSA. These rights were awarded under the environmental approval included in the treatment plant's operating permit.

The quality of effluents from sewage treatment plants and coastal discharge stations is tested every 15 days to ensure it remains within the limits set by Chilean law⁴.

Arsenic-bearing sludge is the main solid waste generated by the production process, resulting from the removal of arsenic in the potable water treatment plants. This must be disposed of in accordance with current legislation and ADASA has therefore built a hazardous waste landfill site at the Salar del Carmen Filtration Plant where the sludge is sent for dehydration processing.

BREAKDOWN OF SOLID WASTE 2008			
	DESTINATION	2007	2008
HAZARDOUS WASTE			
Arsenic sludge	Final disposal in own hazardous waste landfill site	1,632 tonnes	1,368 tonnes
Ferric chloride drums	Third-party operated hazardous waste landfill site	*	0.7 tonnes
Diesel generator oils	Sent to an external company specialising in hazardous waste management	*	200 litres
Chemical reagent containers	Third-party operated hazardous waste landfill site	*	1.79 tonnes
NON-HAZARDOUS WASTE			
Fluorosilicate containers	Third-party operated hazardous waste landfill site	0.7 tonnes	0.5 tonnes

Nota: * Data not available

⁴ Supreme Decree 90 – Emissions standards on contaminants associated with liquid waste discharges into marine and surface waters.

EFFLUENTS			
	AMOUNT (m ³)	TREATMENT	DISCHARGE DESTINATION
Taltal underwater outlet	651,842	Preliminary treatment: mixing coarse and fine solids, sand, oil and grease for sea discharge via underwater outlet pipe	Sea
Tocopilla underwater outlet	824,008		
Mejillones underwater outlet	467,928		
Brine	108,928	No	Sea

BIODIVERSITY

No significant impacts have been observed on biodiversity as a result of ADASA's operations. ADASA does not have any land in or adjacent to protected areas, and its activities do not affect any protected species.

INCIDENTS

In 2008 ADASA was fined US\$4,700 by the Regional Health Secretary for the improper disposal of hazardous sludge and containers at the Salar del Carmen Filtration Plant. This authority no longer classifies the containers as hazardous waste, which will be taken into account in ADASA's appeal against the fine. There were no incidents of chemical spillage during the year.

