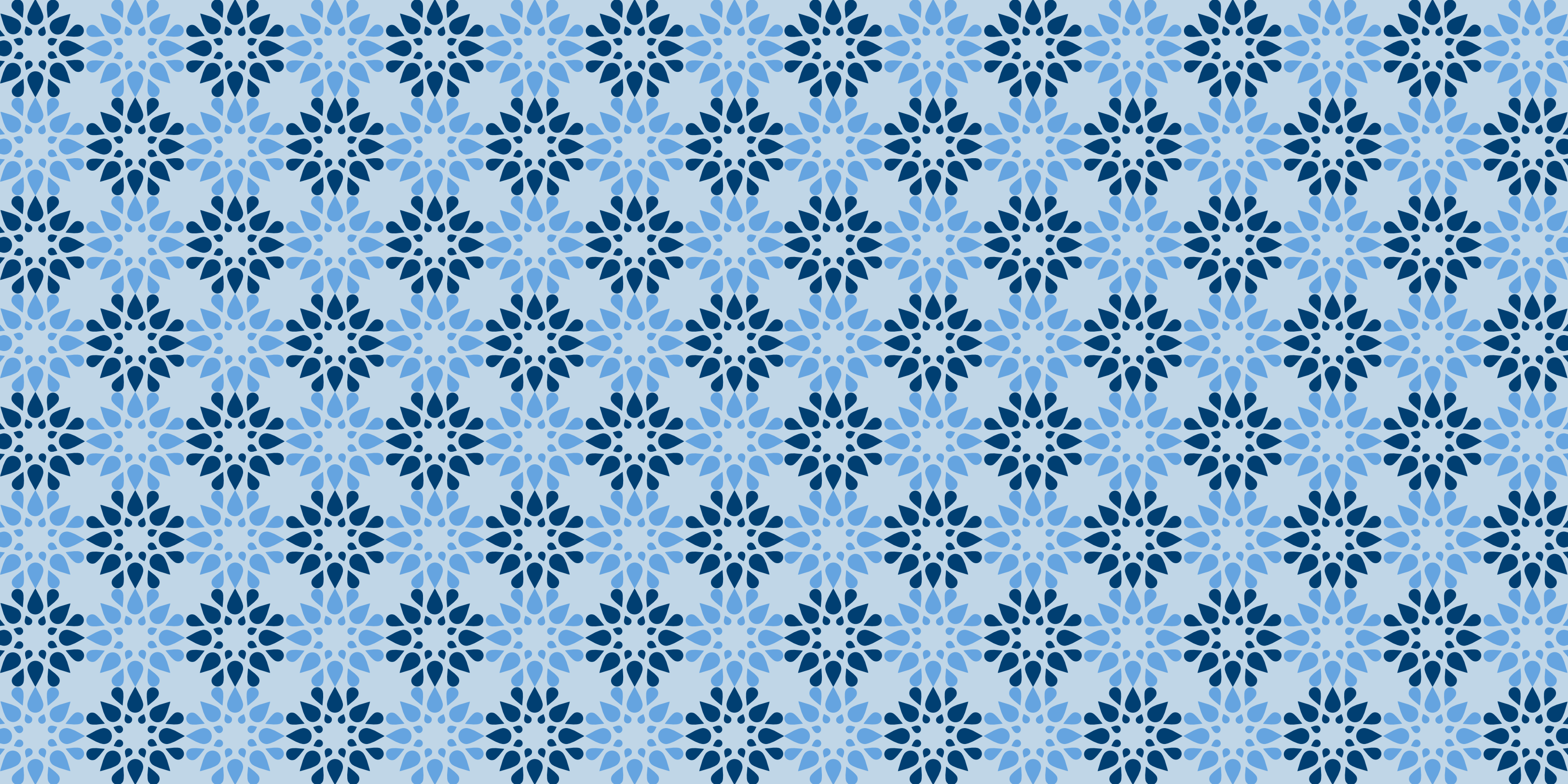




amulén
LA FUNDACIÓN DEL AGUA

Annual Report 2024



Amulén intr.
Comes from the
mapuche-pehuenche
people and means:
I To walk. I To advance.

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01

Letter from the President



Letter from the President



Jorge Matte
Capdevila

It's been twelve years since we set out to improve the quality of life of the most vulnerable people in Chile's rural areas through solutions that ensure formal, safe, and continuous access to water. Since then, our commitment to our mission has remained steadfast, with our eyes set on a future where this resource becomes a driver of opportunities.

Our experience in more than 70 projects has shown us that successful and transformative interventions are built on dialogue, an innovative spirit, the pursuit of value-added partnerships, and the delivery of sustainable results.

Under this approach, 2024 was characterized by a strong presence on the ground, where visits to remote locations and close contact with their inhabitants favored the development of a consistent strategy. At the same time, coordination with stakeholders from the public, private, and academic sectors made it possible to enhance the achievement of major objectives.

This year, the successful launch of the Construye Redes program enabled comprehensive support to five priority Rural Sanitation Services (RSS) in the Biobío Region, benefiting nearly 3,000 people who currently rely on their water supply networks. This line of action stems from the conviction that strengthening RSS is essential for moving toward more efficient and resilient water resource management. Therefore, a differentiating element of the proposal was the development of a comprehensive training program on technical, legal, and administrative aspects for drinking water committees. This also served as a space for interaction for these community organizations, which carry out their work voluntarily, with high levels of responsibility and a significant need for advice. This first version yielded valuable lessons for the design of a relevant and scalable model that will be part of Amulén's future.



It is especially worth highlighting the achievements of the third version of the Agua para Aprender program, which continued its mission of bridging the urban-rural education gap. This time, we worked alongside seven educational communities in the Southern Macrozone of Chile and Valparaíso Region, implementing new infrastructure and installing graywater reuse and rainwater purification systems. This unconventional alternative has reaffirmed that innovation is key to reaching the most remote and underserved areas, as was the case at the schools in Calbuco, Puerto Octay, and Paillaco, which will now be able to continue operating even during power outages, as well as reducing their dependence on external solutions, thanks to abundant rainfall.

Major challenges require coordinated responses. Therefore, in a joint effort with companies and municipalities that have trusted our technical expertise, we developed six more hydraulic improvement projects for RSS in the O'Higgins and Metropolitan regions, modernizing facilities that had critical failures and incorporating advanced technologies for process optimization, with remote meters and telemetry platforms.

At the process level, the incorporation of new monitoring tools was decisive. On the one hand, sensors were activated in the water collection and distribution systems, allowing real-time and remote monitoring of the volume produced, reused, or collected, as well as the number of users benefiting. This information is publicly available and contributes to the transparency of the foundation's work. On the other hand, the role of the "Water Guardian" was created, a person responsible for reporting the operating status, raising alerts, and facilitating ongoing monitoring at each intervention site. Both efforts strengthen our capacity for evaluation and community engagement.

The 18 initiatives implemented throughout 2024 not only reflect the ongoing dedication of a team deeply committed to our mission, but also demonstrate that we are capable of making a concrete contribution to solving a problem that profoundly impacts society. This is what drives us and inspires us to continue building the country we dream of.



02

Who we are



Our Purpose:

To improve the
quality of life of rural
communities in Chile by
developing solutions for
safe and sustainable
access to drinking
water.



Board of Directors

Amulén's board of directors is made up of professionals with a long-standing commitment, linked to a deep conviction and connection to the foundation's purpose.



Jorge Matte
Founder and Chairman
of the Board



Andrés Egaña
Vice President



Francisco Reyes
Director



Felipe Fuenzalida
Treasurer



Rocío Espinoza
Secretary

Work Team

Amulén is made up of a team that addresses water challenges from the design and implementation of engineering solutions to raising awareness about the value of this essential resource.



Javiera Acuña
Executive Director



Valentina Obrador
Project Engineer



María José Marín
Project Engineer



Ana María Barrenechea
Project Analyst



Mª de los Ángeles Bravo
Communications Manager



María Jesús Vallejos
Designer



Blanca Sánchez de Toca
Legal Affairs Manager

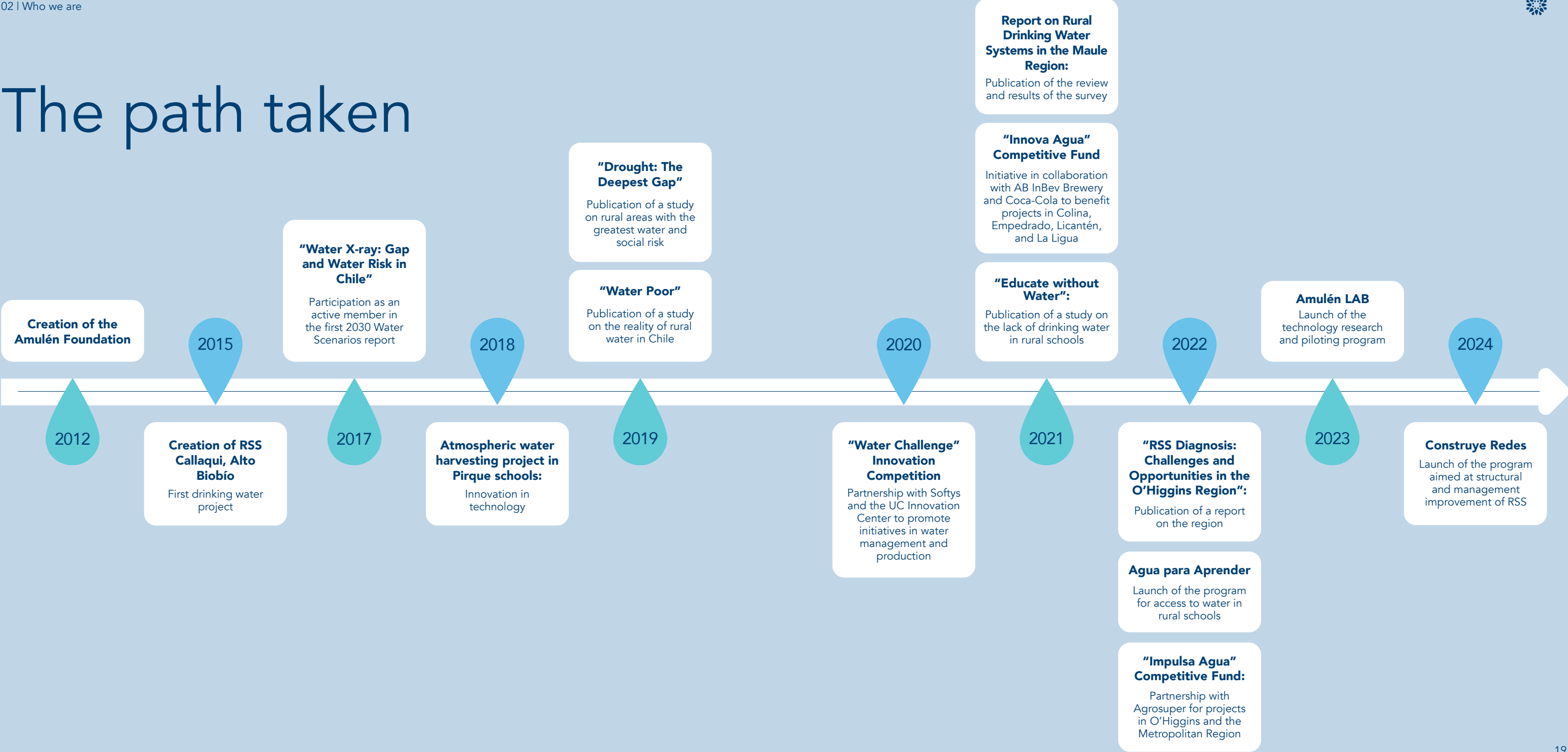


Hernán Martínez
Director of
Administration and
Finance

Also part of the team were: **Antonia Rivera**, as Executive Director, and **Ignacio González**, as Project Engineer.



The path taken





03

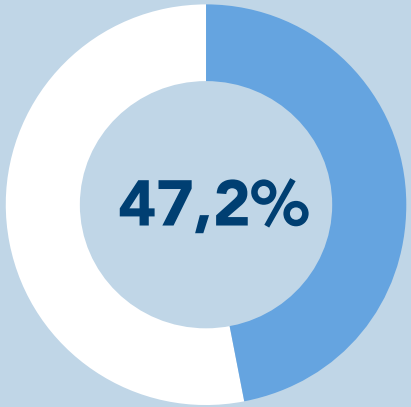
Context:
Rural water
outlook



Chile without water: The reality in figures

There is a strong correlation between water shortages and poverty: 194 communities in Chile, representing 55.9% of the total, have rates of multidimensional poverty and water deficit higher than the national average. The costs associated with alleviating this scarcity exacerbate this situation, as families must purchase water containers to supply themselves. For reference, the price per liter of a container is 150 CLP, while a liter from a pipeline operated by a water utility costs 0.36 CLP.

The cost is also higher with water trucks, another solution used. According to the Water Poor study (2019), it is estimated that more than 30 billion CLP is spent annually to finance this complementary measure.

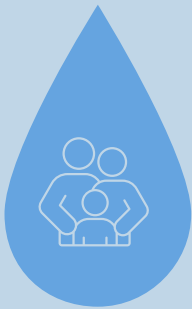


In Chile,
47.2% of
the **rural**
population
lives without
formal access
to drinking
water²



El 84,7%

84.7% of the rural population lacking drinking water obtains its supply through **wells, rivers, or streams**²



One million people,
equivalent to **383,204**
households, lack drinking water³



32 billion CLP
in estimated annual spending on
water trucks ⁴

(1,2,3) Amulén Foundation. (2019). Water Poor: A snapshot of rural water in Chile.
(4) Infrastructure Policy Council. (2020). Water Tanker Truck Report.



Challenges of Rural Sanitation Services

Rural Sanitation Services (RSS) are small community sanitation enterprises. Initially called Rural Drinking Water (APR), the program was born from a sanitation plan by the Ministry of Public Works (MOP) in 1964, when only 6% of rural areas had safely managed water.

This is an initiative in which the State builds the infrastructure, which community organizations then manage, self-financing themselves with the collection of individual bills.

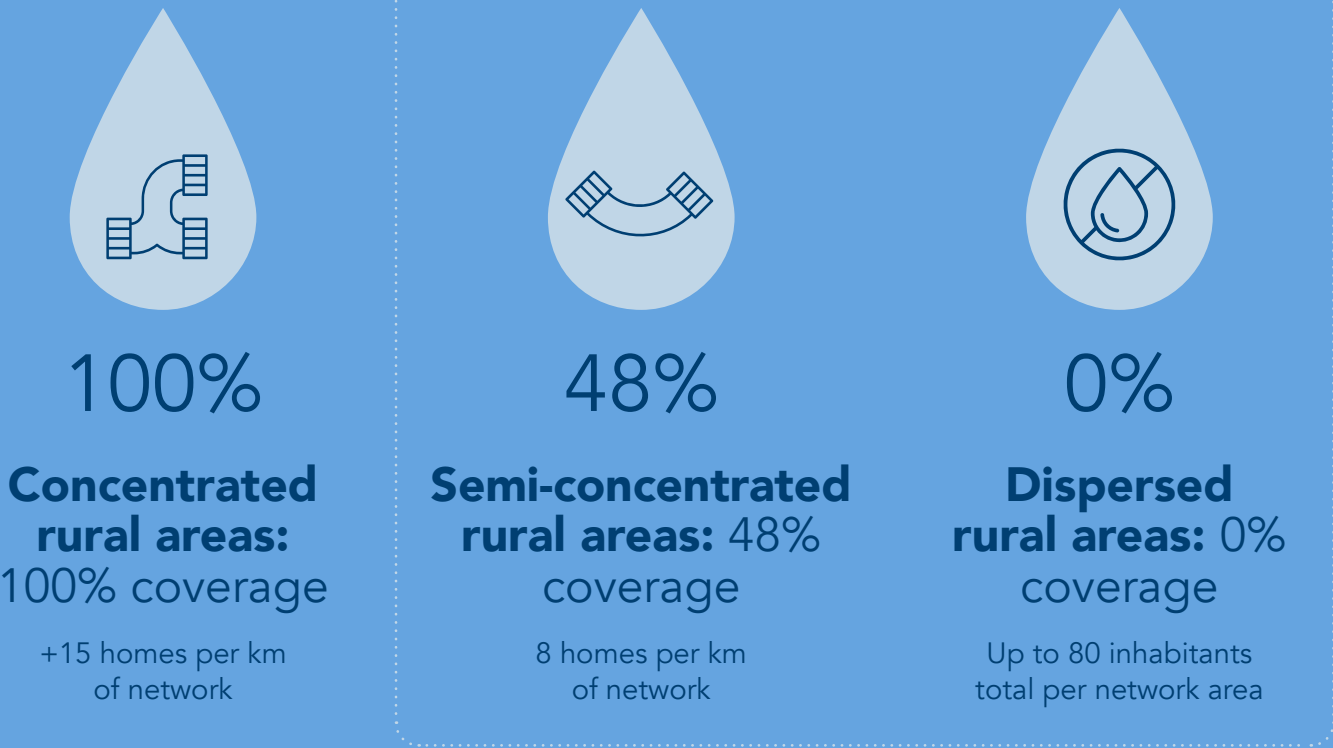
According to Law No. 20,998, RSS are classified according to their number of water supply points, that is, the number of homes they provide water supply coverage. Small-scale operators are considered to be those with up to 300 water supply points, medium-scale operators are considered to be those with between 301 and 600, and large-scale operators are considered to be those with more than 601 water supply points.

One of our main challenges is bringing water solutions to semi-concentrated rural areas—where 52% of the planned RSS still need to be implemented—as well as to dispersed areas, where geographical conditions make traditional systems less feasible. This situation constantly motivates us to develop innovative alternatives in places where the traditional system cannot reach.



Supply in semi-concentrated and dispersed areas: a national challenge

Drinking water supply coverage by area:



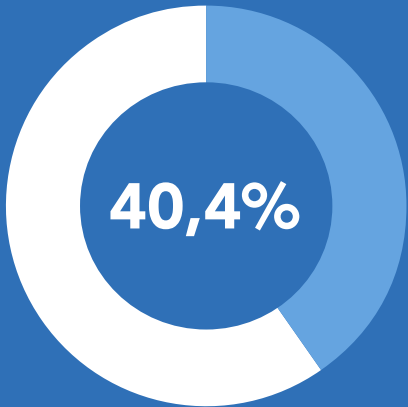
Source: Subdirectorate of Rural Sanitation Services (2023).

Water and rural education: a huge gap

The suspension of classes due to a lack of water not only widens the urban-rural educational gap, but also deprives students and their families of the care and nutrition provided by their schools and kindergartens.



Students miss an average of **15 days of school per year** due to school closures caused by water outages or poor water quality.



In Chile, 40,4% of **rural schools** lack formal access to drinking water



27.100 disadvantaged students



1.350 **rural schools** lack drinking water

Source: Amulén Foundation. (2021). Educating without water: An invisible reality.

Water shortages in four dimensions:

The lack of access to drinking water profoundly affects the quality of life in rural communities, directly impacting four essential pillars:



01 Health

According to the WHO, without a safe supply, exposure to infectious diseases, hygiene problems, and dehydration increases, putting people’s well-being at risk.



02 Education

Without this resource, schools face constant interruptions, affecting school attendance and learning capacity, and widening the gap between those who study in the countryside and the city.



03 Economic Development

Water is essential for traditional productive activities in rural communities, such as agriculture and livestock, and also for local entrepreneurs.



04 Social Development

The responsibility of collecting water in areas of scarcity limits the time and personal and employment opportunities, particularly for women.

With a comprehensive approach, Amulén works to ensure that access to drinking water is a catalyst for change, improving the quality of life and promoting sustainable development in rural communities in Chile.



amulén

04

Amulén's work:
Building change

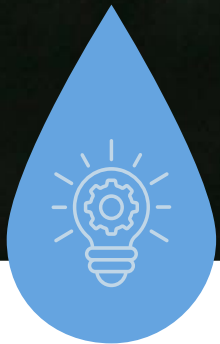


The basis of our work



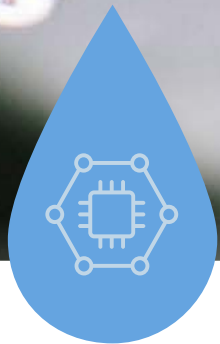
Listening and Empathy

We build connections with communities, involving them as active collaborators in our initiatives.



Technology and Innovation

We seek solutions tailored to each territory, constantly exploring new tools that address the various challenges of access to drinking water, with an emphasis on the most remote areas.



Coordination and Collaboration

The magnitude of the challenge encourages us to form multisector alliances, broaden our perspectives, and thus strengthen our programs.



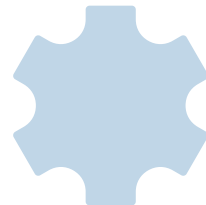
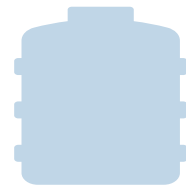
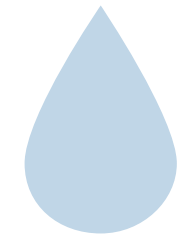
Results and Sustainability

We measure the impact of our projects and train communities to sustainably manage the solutions implemented.



What types of solutions do we implement?

Amulén designs its projects according to the specificities of each territory, prioritizing interventions that effectively respond to the needs of each community, such as water access solutions, infrastructure improvements, equipment delivery, and water efficiency.



Water Access Solutions

We provide new sources of water for human consumption and use. In 2024, we developed four rainwater harvesting and purification projects in the Los Lagos and Los Ríos regions, ensuring safely managed water for rural schools.

Infrastructure Improvement

We modernized and built essential infrastructure. We implemented projects such as sanitation booths, water tank maintenance, pump and water main replacements, and optimized systems for water security.

Equipment Delivery

We provide equipment such as generators to prevent outages and smart meters, thus facilitating RSS management.

Water Efficiency

We implement technologies that optimize the use of available water. We install telemetry and graywater reuse systems, improving the resource's operability and sustainability.

Training

We develop plans to build technical and administrative capacities in drinking water committees, with the goal of generating sustainable solutions over time.

Monitoring tools



Production and Collection Sensors

To measure the impact of projects involving the use of a new water source, a sensor was added to the pipes connecting the schools and the implemented system. Thanks to this technology, data such as the total volume of water produced, the amount of water collected or reused—depending on the community's solution—and the number of people benefited can be permanently and remotely accessed. All information is updated in real time and is publicly available on the website.



Water Guardians

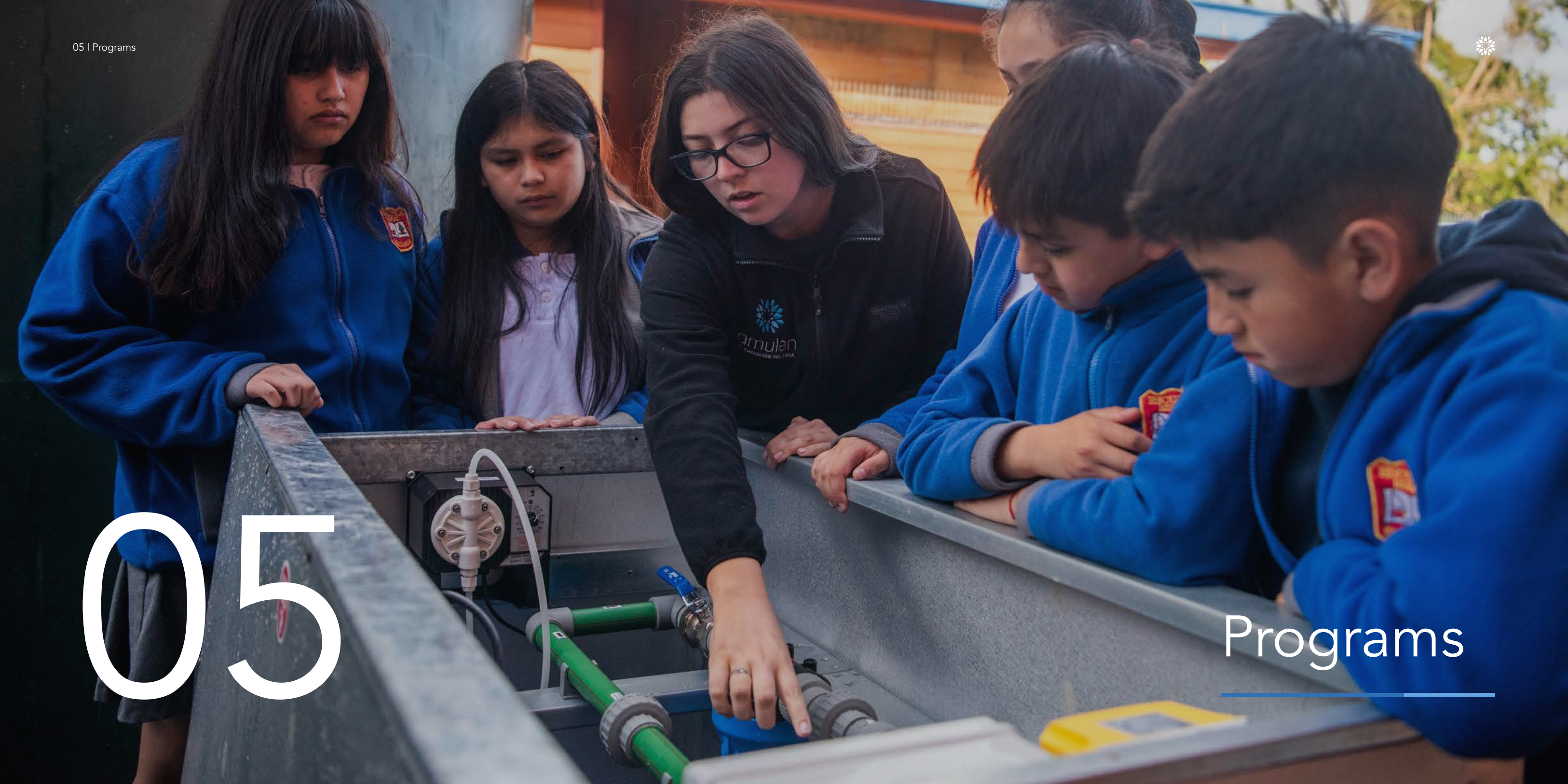
To maintain contact and directly monitor the systems with the communities, the position of “water guardian” was created. These individuals are responsible for maintaining communication with Amulén and facilitating oversight of the implemented solution. As part of the Agua para Aprender program, this year a person was designated for each of the schools involved, making them responsible for reporting problems, performing maintenance, and periodically responding to a survey that evaluates the overall functioning of the project. To consolidate the information provided by each collaborator, specialized management control software was implemented.





05

Programs



Index of our Programs 2024

Agua para Aprender Program

4 Regions
7 Projects

People benefited:



- 1. Carmen Romero Aguirre School
- 2. La Peña School
- 3. Adonai School
- 4. Administración Rupanco School
- 5. We Kintún Kindergarten
- 6. Ñirrimapu School
- 7. Chayahué School

Construye Redes Program

1 Region
5 Projects

People benefited:



- 8. Los Alpes RSS
- 9. Agua Pura San Ramón RSS
- 10. Las Encinas RSS
- 11. Salto del Laja Oriente RSS
- 12. Vaquería RSS

Impulsa Agua Program

2 Regions
6 Projects

People benefited:



- 13. La Punta RSS
- 14. Las Mercedes RSS
- 15. La Pimpinela RSS
- 16. Ñihue RSS
- 17. La Aguada RSS
- 18. Tantehue RSS

Valparaíso

Metropolitana

O'Higgins

Biobío

La Araucanía

Los Ríos

Los Lagos





Agua para Aprender

In its third consecutive year, Agua para Aprender (Water to Learn) maintained its commitment to ensuring educational continuity in rural schools through solutions that ensure permanent access to drinking water. These have primarily included rainwater harvesting systems, graywater reuse, and improvements to sanitation infrastructure.

During 2024, seven projects were carried out in the regions of Valparaíso, La Araucanía, Los Lagos, and Los Ríos, benefiting 785 people, including students, teachers, and educational staff.

Along with the interventions, workshops were held for children on water use and care, and a team from the school community was trained to operate and maintain the installed systems.



01.

Carmen Romero Aguirre School

Students: 142
Staff: 44
School community: 186



Cartagena,
Valparaíso Region

Context:

The Carmen Romero Aguirre School belongs to the Municipal Education Administration Department (DAEM) of the Municipality of Cartagena, Valparaíso Region, and houses 142 preschool and elementary school students. The community, including teachers, food handlers, management team, assistants, and support staff, totals 186 people.

Problem:

The school connects to the Lo Abarca RSS, but due to problems with the quality and continuity of supply, it relied on water trunks.

Amulén Solution:

Considering the community's level of commitment, the school administration decided to implement a graywater reuse system to increase water availability.

Result:

A reduction in drinking water consumption was achieved in activities such as irrigation, reserving the resource for human consumption, and also generating greater awareness in the school community.





02.

La Peña School

Students: 15
Staff: 8
School community: 23



Paillaco,
Los Ríos Region

Context:

La Peña School is under the control of the Municipality of Paillaco, through the DAEM (Department of Education). Located in the Los Ríos Region, this school has an enrollment of 15 students: six in preschool and nine in elementary school. Including the teaching staff, food handlers, and auxiliaries, the school community reaches 23 people.

Problem:

The school was supplied from water trucks every seven days. Due to difficulties related to power outages, classes were suspended due to the inability to guarantee the proper delivery of drinking water to students and staff.

Amulén Solution:

Given the optimal climatic conditions, a proposal was made to implement a rainwater harvesting and purification technology. The community provided the roof of its headquarters for rainwater collection.



Result:

According to data available from the General Directorate of Water (DGA), the municipality of Paillaco records an average monthly rainfall of 118 mm, which translates to an annual average of 1,418 mm. These figures support the viability of the water collection technology, allowing it to function as a complement to the main source and significantly contribute to mitigating water shortages at the school.





03.

Adonai School

Students: 50
Staff: 15
School community: 65



Paillaco,
Los Ríos Region

Context:

The Adonai School is located in Paillaco, Los Ríos Region. It is a subsidized private school run by the Adonai Educational Corporation and has 50 students enrolled in elementary school. Including teachers, support staff, principals, food handlers, and educational assistants, the community is made up of 65 people.

Problem:

The school was supplied with water trucks every two weeks. Although the water came from an uncontaminated source, the supply had a bad taste and residue, so they opted to invest in bottled water for direct consumption.

Amulén Solution:

Given the area’s water conditions, the implementation of a rainwater harvesting and purification system was proposed. The school already had a roof capable of collecting rainfall, which facilitated the initiative’s implementation.

Result:

The school is located in Paillaco—as is La Peña School— so rainwater harvesting became a viable strategy to supplement the primary source of water supply, given the recorded rainfall levels.





04.

Escuela Rural Administración Rupanco

Students: 81
Staff: 26
School community: 107



Puerto Octay,
Los Lagos Region

Context:

The Rupanco Rural Administration School is located in Puerto Octay, Los Lagos Region, and is sponsored by the municipality of Puerto Octay through the DAEM. It serves 81 students in preschool and elementary school, with attendance rates between 60% and 80%, a percentage considered “serious” by the Ministry of Education. The school comprises 107 people, including teachers, food handlers, management, assistants, and educational assistants.

Problem:

The school’s main water supply was a well, which, while it provides continuous water, the infrastructure doesn’t allow access with sufficient pressure for the school. Furthermore, regarding the quality of the supply, residues and turbidity were detected, despite the school’s efforts to conduct tests using chlorine reagents.

Amulén Solution:

Considering the favorable weather conditions in the area, rainwater harvesting and purification technology was implemented. The school has a surface area available on the roof for rainwater collection.



Result:

According to the General Directorate of Water (DGA), the average monthly rainfall in Puerto Octay was determined to be 117.5 mm, equivalent to an annual average of 1,409 mm. These conditions led to the implementation of this technology as a complement to the main source of supply, helping to mitigate the water shortage.





05.

We Kintün Kindergarten

Students: 36
Staff: 10
School community: 46



Padre Las Casas,
La Araucanía Region

Context:

The We Kintün Kindergarten is located in Padre Las Casas, Araucanía Region, and is supported by the municipality. It has 36 students enrolled in daycare and secondary education, and including educators, preschool assistants, food handlers, and auxiliaries, the school has a total of 46 people.

Problem:

The school suffers from insufficient water supply, especially during periods of high demand, which makes it difficult to run classes normally, sometimes even forcing them to be suspended altogether. Furthermore, water quality problems occasionally occurred, affecting the hygiene and sanitation of users.

Amulén Solution:

The project included infrastructure improvements to ensure the quality and continuity of water to the garden. A water meter was installed to measure consumption independently of the neighboring school, and a system was installed to pump water to the school using a Pedrollo pump.

A control booth was also built with an electrical panel, a 3,400-liter tank, a treatment system with immediate chlorination, automatic activation and deactivation of tank filling, and a generator was delivered to ensure the operation of the water supply system.



Result:

The system’s dependence on secondary sources was reduced, and its operation was automated. The facilities not only improved their capacity to respond to contingencies, but also ensured the development of educational activities with water in optimal conditions.





06.

Ñirrimapu School

Students: 179
Staff: 40
School community: 219



Padre Las Casas,
La Araucanía Region

Context:

The Ñirrimapu School is located in the commune of Padre Las Casas. It is sponsored by the municipality and has 179 students enrolled in basic education. Adding to the above, including the teaching staff, food handler, principal, assistants, and psychologist, the community totals 219 people.

Problem:

The school shares land with the We Kintün Kindergarten, so it also faced interruptions in classes due to a lack of water supply, as well as the problem of episodes of poor water quality.

Amulén Solution:

The project implemented was similar to the one created for the kindergarten, but since it needed to serve more people, it required larger dimensions. In this case, the pond has a capacity of 10,000 liters, ensuring a supply for all users.



Result:

This provided a power supply independent of the electrical system, also providing time to respond to direct water outages.





07.

Chayahué Rural School

Students: 114
Staff: 25
School community: 139



Calbuco,
Los Lagos Region

Context:

The Chayahué Rural School is located in Calbuco, Los Lagos Region, and is supported by the local municipality through the DAEM (Department of Education). It has 114 students enrolled, including preschool and elementary school. Including the teaching staff, food handlers, management, assistants, educational assistants, and the speech therapist, the community comprises 139 people.

Problem:

The school’s administration stated that the water comes from a contaminated source, and although they are constantly trying to control this problem, they are unable to guarantee proper access to drinking water for students and staff. Given this lack of water security, the school has an annual average of 10 to 15 class suspensions, which occur between May and August due to rainfall that collapses the distribution networks. Because this affects water quality, Chayahué Rural School must resort to secondary sources, such as bottled water, water trucks, and tanks.

Amulén Solution:

The project, funded by the pharmaceutical company Novo Nordisk, involved the implementation of a rainwater harvesting and purification system, considering the area’s meteorological conditions are conducive to this type of solution. Furthermore, the idea was deemed viable because the school has ample roof space for rainwater collection.

Resultado:

With the rainwater supplement, an average additional supply of 12 liters of drinking water per person per day was achieved, allowing the supply to be reinforced in the event of shortages.



“When there are storms, the water becomes cloudy or simply doesn’t reach the school, forcing us to suspend classes. With rainwater harvesting, students will be able to continue learning.”

Nadia Cofré

Principal, Chayahué Rural School
Agua para Aprender Beneficiary





Construye Redes

Construye Redes (Build Networks) is a new program created with the goal of improving the quality of life in rural communities through customized solutions that strengthen the management and sustainability of drinking water supplies. It is aimed at Rural Sanitation Services (RSS), organizations that face various challenges in ensuring continuous and safe service. To this end, comprehensive support is included in the program's planning, including group training, personalized advice, and the implementation of RSS improvement projects tailored to the specific needs of each community.

This first edition was held in the Biobío Region, one of the most critical areas in terms of safely managed water. According to figures from the Water Poor study (2019), 68% of the region's rural areas receive their water supply from informal sources. Furthermore, a 2023 study by the Catholic University of the Most Holy Conception (UCSC) indicates that around a quarter of RSS require urgent interventions in distribution networks and equip-

ment. In the financial sphere, more than 30% of the surveyed systems report difficulties covering their operating costs with current revenues.

Five pilot projects were implemented in 2024, focusing on addressing issues such as water supply system failures, electrical deterioration, and a lack of management tools.

The program was carried out in collaboration with the Directorate of Hydraulic Works (DOH) and the Regional Center for Environmental Studies of the Catholic University of the Most Holy Conception (CREA-UCSC), strengthening a territorial and technical approach.

Sources:

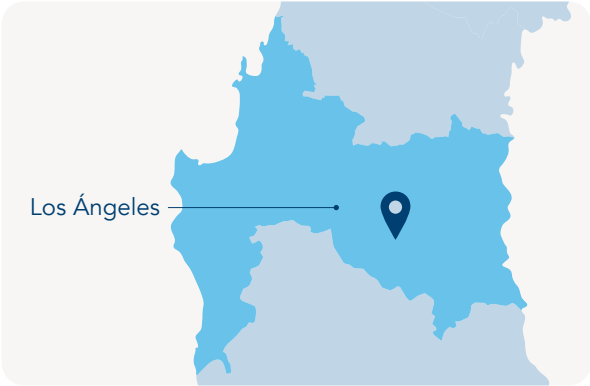
UCSC. (2023). *Current situation and proposals to improve rural drinking water services in the Biobío River basin.*

Amulén Foundation. (2019). *Water Poor.*



01.

Los Alpes RSS



Santa Bárbara,
Biobío Region

Context:

This service has been in operation since 2018 and is a minor RSS, with 31 water sources. Its beneficiaries include a neighborhood association. The population is mostly elderly, and while some residents use a spring as a secondary source, it is not safe for human consumption and is not constant throughout the year.

Problem:

The Los Alpes sector is characterized by its remote location, which makes it difficult to respond to problems in a timely manner. One of the main challenges facing this RSS is the high frequency of power outages, which leaves the community without a drinking water supply for several days.

Project:

Electrical installations and equipment provision were carried out. A voltage stabilizer was supplied and installed, and a digital electrical plan was drawn up. For this purpose, the TE1 certificate was processed, indicating that the electrical installation is safe and complies with current regulations. A frequency inverter, computer, printer, multi-parameter meter, and a generator were also provided, including conduit, wiring, and the installation of an automatic transfer switch. A shelter was also built to house the generator outside.



Benefit:

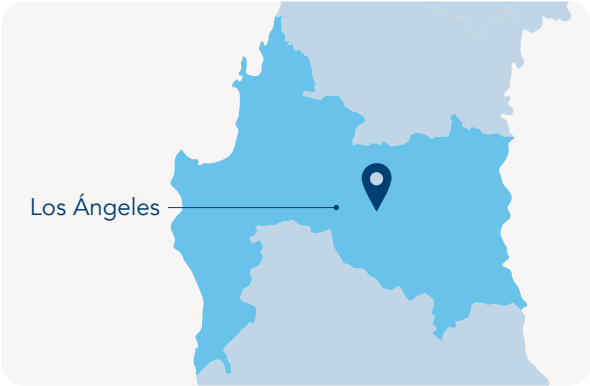
The project allows the RSS to have an electrical system that meets the standards set by the regulation, along with electrical independence to maintain a continuous water supply. They were provided with tools to improve their management and administration, as well as a multi-parameter meter that allows them to measure and monitor metal and chlorine concentrations in the water to ensure its quality.





02.

Agua Pura San Ramón RSS



Quilaco,
Biobío Region

Context:

This service has been operating since 2021 and has 70 water outlets, 40 of which are for permanent homes and 30 for second homes. Its beneficiaries include private campsites, beaches, a neighborhood council headquarters, and a restaurant.

Problem:

Although they had an electric generator, it was located inside a room, so its use polluted the air and heated the area. Furthermore, there is only one network, and if there were breaks or problems in one area, the supply would have to be cut off for everyone.

Project:

An automatic transfer switchboard with a computer, a 15-meter control cable, a battery maintainer and piping were implemented. A hot air chafing dish, an exhaust gas outlet, and a spill pool were also added to the generator.

Benefit:

The project allows the RSS to operate autonomously during power outages, ensuring continuity of supply and complying with safety regulations. With the improvements, the drinking water network was divided into sectors to allow repairs and maintenance without limiting the supply to all members.





03.

Las Encinas RSS



Los Ángeles,
Biobío Region

Context:

This service has been in operation since 2023 and has 247 start-ups. Among its beneficiaries is the neighborhood association.

Problem:

The system had a filter that was not properly maintained due to the community’s lack of technical knowledge. As a result, the filter bed reached the end of its useful life, affecting its ability to guarantee water quality. Furthermore, much of the RSS equipment was identified as being in an advanced state of deterioration, compromising its optimal operation and the long-term sustainability of the system.

Project:

Thanks to funding from Xylem Water Solutions, the filter bed in the iron-manganese filter was renovated to optimize the removal of these compounds and improve the quality of the supplied water. Additionally, a more efficient dosing system was implemented, consisting of two tanks for the storage and controlled application of chemicals.

Benefit:

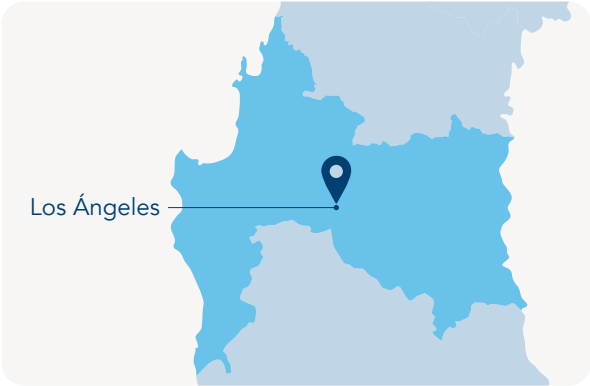
This upgrade allows for better regulation of the treatment processes, contributing to the long-term sustainability and operability of the system.





04.

Salto del Laja Oriente RSS



Los Ángeles,
Biobío Region

Context:

This service has been operating since 2007 and is a minor service with 26 water outlets. Its beneficiaries include a post office, a sports club, a church, a neighborhood council headquarters, a school, and a daycare center.

Problem:

There were several infrastructure deficiencies, which affected the continuity and quantity of water available. In addition, there were areas with constant breaks, cutting off water for the entire community while repairs were made. There were also storage and supply problems given a significant increase in population during the summer.

Project:

Storage tanks were interconnected, with the corresponding feasibility study completed. To this end, the tank was cleaned and disinfected, pipes were connected, and a tank filling and emptying control system was installed. Additionally, a shut-off valve with its corresponding chamber was supplied and installed.

Benefit:

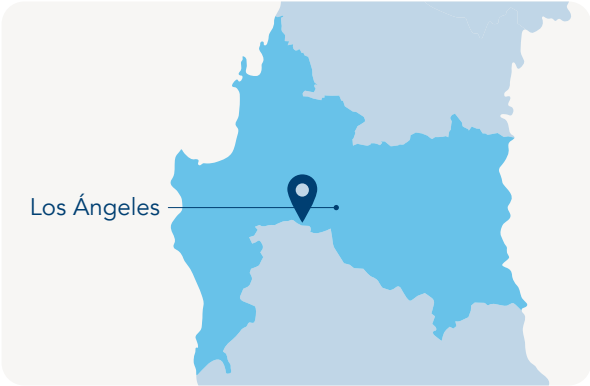
The project allows the RSS to have greater safely managed water storage for the community, contributing to the security and continuity of supply while they await the installation of their new well. Furthermore, the drinking water network was divided into sectors to better detect water leaks and perform repairs and maintenance without restricting the supply to all members.





05.

Vaquería RSS



Negrete,
Biobío Region

Context:

This service was built in 2021 and inaugurated that same year, and has 308 water outlets. Its beneficiaries include a school, four neighborhood association headquarters, three churches, and two sports clubs.

Problem:

Since its implementation, it has not been possible to guarantee the potability of the water supplied. The main difficulty lay in the iron-manganese filter, as it was unable to effectively remove the compounds, preventing the water from meeting the quality standards required for human consumption.

Project:

An overarching project was implemented, including the installation of three dosing pumps, the installation of dosing hoses, the implementation of reagents for manganese measurement, the installation of a well meter, five sampling valves, a glycerin-filled pressure gauge, and the replacement of the wiring in the electrical panel.

Benefit:

The project allows the RSS to treat and monitor its drinking water, improving its quality control. Furthermore, the replacement of the electrical wiring improves the reliability and stability of the system, ensuring the continuity of service.



“When the water doesn’t arrive, I can’t work on my jam production. Today I’m grateful because I make my products without any problems.”

Irnarda Estrada

Local entrepreneur
Construye Redes beneficiary





Impulsa Agua

Impulsa Agua (Boost Water) is a competitive fund aimed at strengthening Rural Sanitation Services (RSS), financed by Agrosuper and technically implemented by the Amulén Foundation in the O'Higgins and Metropolitan regions. The foundation led the process, from the application of selection criteria to the supervision of works and the final acceptance of the projects.

During 2024, six projects were executed, divided geographically between coastal and central valley communities.

The solutions addressed structural and operational problems of the RSS, such as pump failures, deterioration of water tanks, and the need for more efficient management of the resource. The interventions included matrix replacements, installation of remote meters, telemetry systems, and infrastructure improvements, such as water tank maintenance, hydraulic pump replacements, and construction of cut-off chambers.

In total, 6,671 people benefited in the towns of La Aguada, Tantehue, La Punta, Las Mercedes, Ñihue and Pimpinela.



01.

La Punta RSS

A town on the outskirts of Mostazal, located in the east of the commune.



Context:

The RSS has been in operation since 1998 and was developed by the Directorate of Hydraulic Works (DOH). It has 276 water outlets and benefits include neighborhood associations, sports clubs, and a senior citizen’s club.

Problem:

The system’s main challenges were related to water distribution, which directly impacted the community’s ability to efficiently supply water. First, the main connecting the reservoir to the distribution network was insufficient in diameter, measuring 63 mm, while a 110 mm main was adequate for this RSS. Additionally, the distribution network was not divided into sectors, so failures and repairs affected the entire community’s water supply. Finally, the 20,000-liter concrete tank was not operational, which represented a limitation in water storage for the RSS.

Project implemented:

The solution consisted of replacing the mains along a 390-meter section between the water reservoir and the main road. The 20,000-liter concrete tank was also installed, and two chambers were built: a cut-off chamber, to alternate the use of the two tanks, and a tank valve to prevent overflows.

Benefit for the Community:

The awarded project represents a significant advance in addressing the system’s main problems, such as water supply interruptions due to mains breaks.





02.

Las Mercedes RSS

A town on the outskirts of Graneros, located in the west of the commune.



Context:

The RSS has been in operation since 2009 and was developed by the Directorate of Hydraulic Works (DOH). It has 328 water intakes and is classified as a medium-sized RSS. Its beneficiaries include neighborhood associations from the aforementioned sectors and sports clubs.

Problem:

The RSS was unable to cover all of its monthly operating expenses due to losses associated with water theft, which are estimated at approximately 40%. Furthermore, the individuals who carried out these acts could not be identified, as in many cases access to their homes to read the meter was prohibited or no one was found at home. In addition, there was a lack of technology that would allow for efficient management of these tasks.

Project implemented:

The solution included the purchase and installation of 100 remote meters and two antennas, as well as the implementation of a management platform and training for its use.

Benefit for the Community:

By reducing losses associated with water theft, an increase in revenue is expected, allowing the RSS to have greater resources to invest in infrastructure. Furthermore, the management platform will allow for more efficient administrative work. This will translate into improved service continuity and quality, reducing interruptions and ensuring more efficient and sustainable operations in the long term.





03.

La Pimpinela RSS

A town in the foothills of Requínoa, in the province of Cachapoal.



Context:

The RSS has been in operation since 1974 and was developed by the Directorate of Hydraulic Works (DOH). It is a medium-sized service, with 480 water outlets. Its beneficiaries include neighborhood associations, schools, sports clubs and churches.

Problem:

The main challenges lay in the infrastructure, as the submersible pump had reached the end of its useful life, and the water tank was in poor condition and lacked proper maintenance. This affected the continuity and quality of drinking water for the community.

Project implemented:

The solution consisted of replacing the submersible pump in one of the wells, installing a variable frequency drive, and maintaining the water reservoir.

Benefit for the Community

The implementation of these improvements not only strengthened the RSS's critical infrastructure but also ensured a continuous and safe water supply for the community.





04.

Ñihue RSS

A town on the outskirts of San Pedro, located in the southwest of the commune.



Context:

The service has been operating since 2017 and has 193 water starts. Its beneficiaries include the local health center, an educational center, a fire station, and a mothers' center.

Problem:

Considering that this community is supplied solely by water trucks, the main challenge was infrastructure, as the piping system for emptying water from trucks into the concrete tank was handcrafted and above ground. Furthermore, the tank was not properly maintained, affecting water drainage and the optimal functioning of the RSS.

Project implemented:

The drinking water supply network was replaced and the concrete tank was maintained externally. This is a key infrastructure for ensuring efficient storage and distribution of the water.

Benefit for the Community:

Together, these interventions contributed to improving the continuity and quality of the drinking water supply, reducing losses and optimizing the use of available resources.





05.

La Aguada RSS

La Aguada, El Cajón, and Las Damas are localities in La Estrella, located in the south of the commune, near the coastal border.



Context:

The RSS began construction in 1999 and began operating in 2002. It has 555 water outlets and benefits include a school, kindergarten, daycare center, sports club, and community centers.

Problem:

It was assessed that the lack of adequate infrastructure and technology affected the regular operation of the service. The operator spent a lot of time detecting system faults and pressure drops and lacked optimization technologies to locate and resolve problems. In addition, they had delinquent partners who did not allow their meter statuses to be collected. These shortcomings resulted in less efficient water management, higher energy consumption, and higher operating costs, limiting the RSS's capacity.

Project implemented:

A telemetry system was installed for two tanks, a well, and a bilge, enabling automation of pump start-ups, level monitoring, and electrical panels. Additionally, 25 remote meters were purchased and installed.

Benefit for the Community:

These technologies not only modernized the operational management of the RSS, but also optimized the monitoring, control, and distribution of water resources, improving efficiency and reducing losses. The implementation of these improvements strengthened the system's capacity to guarantee a continuous and safe supply to the community, minimizing risks associated with low water pressure, water theft and billing difficulties.





06.

Tantehue RSS

A town on the outskirts of Melipilla, located in the southern part of the commune, near the hills and ravines.



Context:

The RSS has been operating since 2015, with 317 water pumps, and its beneficiaries include neighborhood associations and chapels.

Problem:

The main difficulty was that the pump that pumps water to the reservoir had reached its useful life and was experiencing a significant decrease in efficiency, severely limiting the ability to provide a full service. During the evaluation process for this fund, the pump collapsed, forcing the RSS to urgently intervene and invest in a new one, using its savings. In addition, they did not have a spare pump, a fundamental piece of equipment in a contingency plan in case problems arise with the main device.

Project implemented:

A complete replacement of the hydraulic pump, pipe supply, electrical wiring, and the installation of a variable frequency drive were carried out.

Benefit for the Community:

These improvements are essential to optimize the system's operation and ensure a continuous supply of drinking water for the community. This also reduced the risk of operational failures, improved energy efficiency, and ensured constant pressure in the distribution network.



“With the project we won, with the pump we have, we now can say we have water to safely give to the people.”

José Mora

President of the Tantehue RSS

Beneficiary of the Impulsa Agua program





06



Initiatives to Promote Water Culture



Initiatives to Promote Water Culture

In addition to these programs, Amulén develops and participates in a series of activities that play a fundamental role in building connections and promoting water stewardship.

Citizen Awareness:

Ciclorecreovía

The Ciclorecreovía is a program held every Sunday in different communities in the Metropolitan Region, where streets are closed to create sports facilities. In this context, the foundation set up an information stand during Water Month and sought to raise awareness about the realities of rural areas with regard to access to drinking water. Thanks to this initiative, a partnership was established that funded a Agua para Aprender project in Calbuco.



WWF

Amulén participated in “Earth Hour,” organized by the World Wide Fund for Nature, a space where various organizations with social and environmental goals come together to showcase their work in an environmentally friendly environment.

Ladera Sur

The Ladera Sur Festival is a fair that has been held for three years, and Amulén has participated in each of its versions. This event, in addition to offering musical and recreational opportunities, also features an area called “Environmental Brotherhood,” where multiple civil society organizations meet and showcase their work.

Technical Contributions to the Water Ecosystem:

Webinar

With the support of CodexVerde, the event “Advances and Challenges: 60 Years of Rural Drinking Water Committee Management” was held. Presenters at this virtual meeting, moderated by Ivania Cordeiro, included Antonia Rivera, former executive director of the Amulén Foundation; Igor Ruz, technical director of the National Federation of Sanitary Services Cooperatives; Denisse Charpentier, deputy director of Rural Sanitary Services; and Humberto González, president of the Association of Rural Water and Sanitation Committees of the Valparaíso Region.



Networking

ENVIS

Under the slogan “Facing extreme climates: Let’s explore the national dream,” the Amulén team was part of the more than 1,500 people from 14 regions who gathered at the National Social Engagement Meeting (ENVIS) to build connections and discuss development with a sustainable focus.



Panal Community

In 2024, Amulén joined the Panal Community, a space created by the MC Foundation that brings together various organizations with social projects so they can exchange experiences and practices, form networks and collaborate.

Maipo River Basin Organization:

Amulén was part of the sponsoring group that laid the groundwork for creating a mechanism for coordination, coordination, and participation of the basin’s various stakeholders in response to water scarcity and extreme hydrometeorological events.

Acades Congress

Each year the Chilean Desalination and Reuse Association leads a meeting where companies, social organizations and suppliers meet to discuss and present new technologies for water use. While this meeting focuses on large-scale solutions, in 2024 Amulén presented on a panel about the various solutions that have been delivered in rural areas.



Water Agreement

Amulén participated in the creation of an agreement defining a water shared policy between private and civil society stakeholders, including academics, for public presentation to the State.

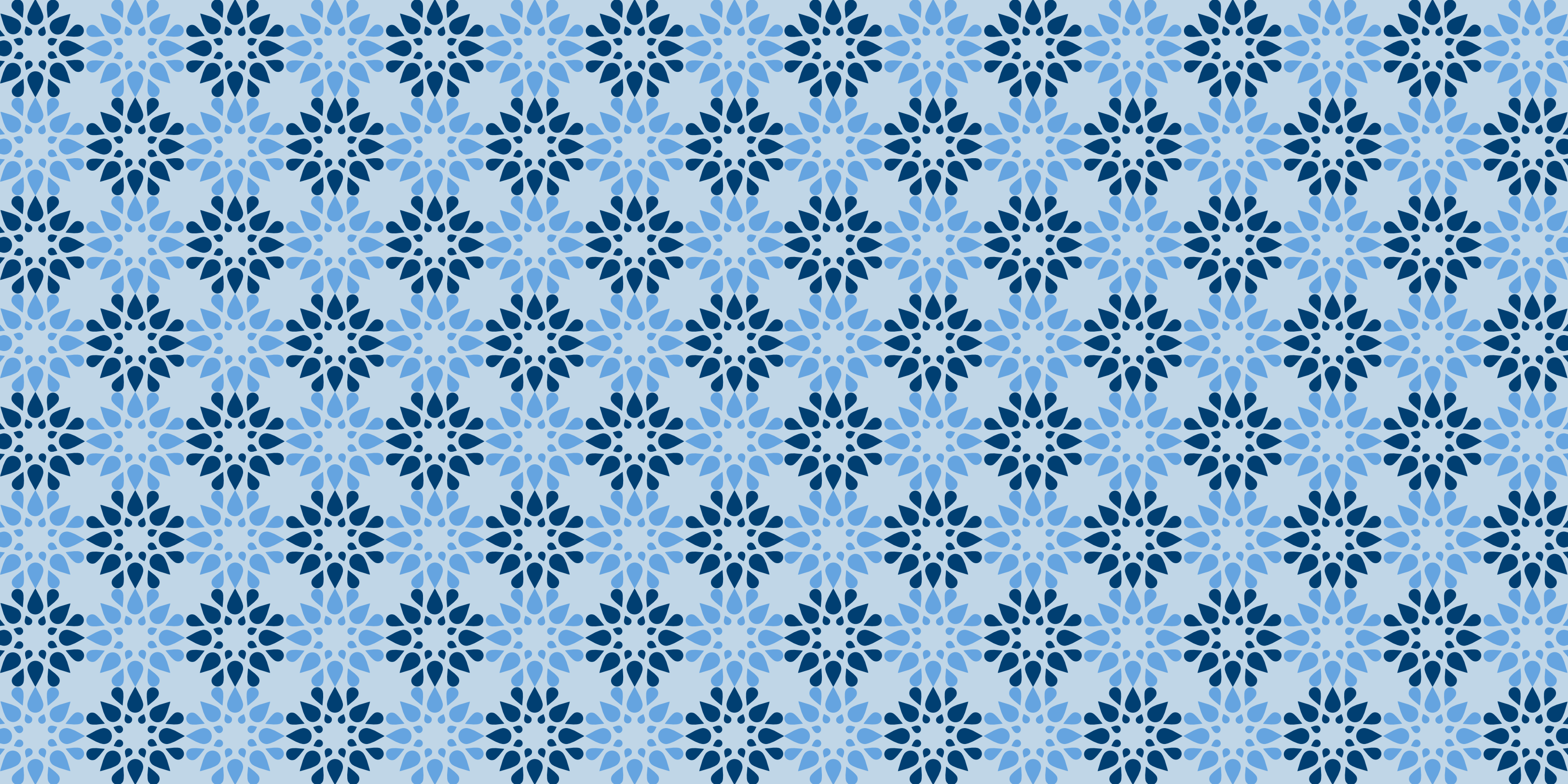




Thanks

Amulén’s purpose is part of a major national challenge, one that can only be achieved through collaborative work. Therefore, we are grateful to the companies, municipalities, public and private sector representatives, academics, and educational institutions that have joined forces to improve the quality of life and ensure access to drinking water in Chile’s rural communities.







amulén

LA FUNDACIÓN DEL AGUA