

## **AGENDA CONTAINED IN THE FILE**

## **ACQUEDOTTO PUGLIESE**

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Bari, March 2025



<u>Acquedotto Pugliese</u> Acquedotto Pugliese, serving the territory for more than a century

National strategic company Acquedotto Pugliese SpA (AQP), a publicy owned company that has been **serving the territory for over one hundred years**, is one of the major European players in the management of integrated water service. The system managed by AQP is unique in size, complexity and interconnection and the company has been declared by state law to be of **'strategic importance for the national interest'**.

Serving 4 million citizens

37,000-km grid

AQP is 100% controlled by the Puglia Region and manages the integrated water service in **Puglia** and in 12 municipalities in **Campania**, for a total of more than **4 million inhabitants**, over an **area of 20,000 square kilome-tres** that includes two different ATOs (Ambito Territoriale Ottimale - Optimal Territorial Area) including the Puglia ATO, which is among the largest in Italy.

The system covers **more than 24,000 kilometres** (5,000 for adduction only and 3,500 for connections) of water networks, approximately **1,500 installa-tions** including tanks, dividers and lifting plants; in addition, there are more

than 13,000 kilometres of sewerage networks and 700 pumping installations.

The company also has **5 water treatment plants** located in three regions (Fortore, Sinni, Pertusillo, Locone and Conza della Campania), **10 analysis laboratories**, **185 wastewater treatment plants**, **45 refining system** and 1 composting plant for the sewage sludge and solid waste mix.



Investments for the communities and the territory Also in 2023 Acquedotto Pugliese confirmed its role as a catalyst for the local economy. **Investments amounted to 503 million euro, approximately 127 euro per inhabitant**: a figure well above the Italian average and in line with the best European realities, which highlights AQP's ability to be a promoter of development for its communities. In 2023, the **value of production stood at around EUR 700 million and the gross operating margin at EUR 257 million**.



Integrated water cycle

Acquedotto Pugliese **guarantees the integrated water cycle in all its phases:** from the uptake, treatment and distribution of drinking water to sewerage and wastewater treatment services and their eventual reuse.

A national unicum

The nature of the region's soil and subsoil, since always, do not allow water storage or reserves.

AQP manages a complex and advanced supply system that is structured **into six water schemes**, Sele-Calore, Pertusillo, Sinni, Fortore, Locone, Ofanto, whose main characteristic is the strong level of interconnection, **making it unique at national level**.

The water arrives from springs in Campania, through the withdrawal of surface water from artificial reservoirs and from the deep aquifer through wells.

Interconnectivity enables transfers of water among schemes in response to varying demand, and by offsetting the variable production rates from the various sources.





The "Main Canal" The Sele-Calore, whose main artery is the **Main Canal**, **is an extraordinary work of hydraulic engineering**, with a total length of 244 kilometres, including 99 tunnels and 91 canal-bridges.

Constructed between 1906 and 1918, on its long journey, the **Main Canal** crosses the Apennine and Murgia massifs and reaches Puglia



near Monte Fellone in the province of Brindisi to meet more than 25 % of the region's entire water demand.

Taranto desalination plant History teamed with innovation. In response to the need to diversify supply sources and preserve the groundwater, AQP is planning to build an **inverse osmosis desalination plant in Taranto**, partially financed with PNRR funds and scheduled to be concluded in 2026. It envisages an ultra-technological plant with a potential capacity of about **55,400 m3/day** of drinking water that will produce the equivalent of the daily water needs of more than 385,000 people.

Water quality Close attention is paid to the quality of water. The chemical and microbiological parameters monitored in 2023 are about 1.4 million out of about 48,000 samples taken.

**Digital twin** In the **Control Room**, the company's **new 'digital brain'**, thanks to data-driven strategies Acquedot-



to Pugliese processes **predictive analyses to reduce losses** and manage maintenance in a targeted manner, tracking the entire cycle of customer reports.

The **Control Room** uses the **Smart Water Management** platform, AQP's project of integrated management through digital technologies. Geographic information systems (GIS), Internet of Things (IoT), Work Force Management (WFM), network modelling, Business Intelligence (BI) and performance indicators (KPIs) have made it possible to create a digital twin on which manoeuvres can be simulated and their effects predicted, thus enabling increasingly targeted interventions.



The Control Room enables to use the collected data for AQP's unique and interconnected system (**570,000 interconnections**) for a water allocation capable of responding to changing water needs, which are less and less predictable due to climate change and frequent drought periods, using new technologies to ensure an increasingly sustainable and circular system.

About **11,000 sensors** remotely control **1,544** water systems of the primary, secondary and urban adduction network, **129 lifting plants**, **101 wastewater treatment plants and 105** 



**meters** for large consumers. The implementation of control systems and devices allows the supervision of the flow of water schemes, energy monitoring and the main potability and purification indicators, with the possibility of immediate intervention in the event of malfunctions and more rational water management.

The applied technology also allows the remote and automatic regulation of flows on most of the network. Acquedotto Pugliese has also developed the use of **underwater drones for the video inspection of** the main canal and remote-controlled robots from the outside for cleaning the sewer lifting tanks and wastewater treatment plants, as well as for the already consolidated inspection and work in the very long pipelines carrying water from the springs.

The absence of large rivers in the region also means that AQP must comply with **more stringent purification criteria** than in other Italian regions. A challenge met every day by **investing in the most modern wastewater treatment plants.** 

There are **185 wastewater treatment plants operated with advanced and sustainable technologies**.

At present, **7 wastewater treatment plants** managed by Acquedotto Pugliese, with a potential of about 11 million cubic meters, **supply refined water for irrigation purposes:** Acquaviva delle Fonti, Castellana Grotte, Corsano, Fasano-Forcatelle, Gallipoli, Ostuni and San Pancrazio Salentino. For each of these plants, Acquedotto Pugliese - one of the first operators in Italy - has prepared the **Environmental and Health Risk Management Plans required by national and European regulations on reuse.** In particular, AQP has crossed the qualitative risk assessment required by the regulations with a quantitative one based on water quality over the last three years. This

# Leading-edge purification



qualitative-quantitative method makes the Plan even more effective because, through statistical analysis, it increases forecasting and prevention action.

A further 38 wastewater treatment plants managed by AQP are already equipped with a refining plant and treat a volume of almost 57 million m3/ year of resource. Acquedotto Pugliese also has ongoing or planned interventions that by 2028 will allow a further 31 wastewater treatment plants to supply refined water, for a potential further 63 million m3/year.

In total, the plants managed by Acquedotto Pugliese that currently supply water for reuse, plus those ready to do so and those that will be built by 2028 are 76 out of 185, for a volume of refined water of about 131 million m3/year out of 250 million treated in total.

Also in the area of **wastewater treatment**, **29 plants** target the soil, via **draining trenches**, with release limits that are more rigorous than the current regulatory requirements and with very encouraging results that have led to the **creation of new green oases**.

A particular case is the **Melendugno (LE) phytodepuration** plant: with about eight hectares of extension, five hectares of water surfaces and six phytodepuration/lagooning tanks, **it is among the largest phytodepuration plants in Italy**. These represent an alternative to traditional wastewater treatment systems, with advantages from economic (electricity savings, limited management costs) and environmental (elimination of disinfection treatments and related underproducts, better landscaping) points of view.

The project took first place in the 2011 Pianeta Acqua national award, promoted by the National Forum for Saving and Conserving Water Resources.

Italy's cleanestAttention to wastewater treatment field also has an impact on the excellent<br/>health of the seas: in 2024, for the fourth consecutive year, Puglia was<br/>confirmed first in Italy for bathing water quality, 99.7% excellent as<br/>shown by the microbiological analyses conducted by Snpa, the National<br/>System for Environmental Protection (the network that coordinates the regio-<br/>nal environmental agencies).



Target: reducing sludge by 25% Also with a commitment to reduce waste, **AQP purchased 66 new high-efficiency mechanical dewatering stations.** This is aimed at reducing **sewage sludge by up to 25%** (a reduction of 2.16% for 2023 alone).

With the same objective in mind, AQP has initiated the construction of solar greenhouses for the natural drying of sludge at 14 sewage treatment plants that will allow the water content to be reduced from 75% to 20%. Compared to other drying technologies, such as kilns, greenhouses are a sustainable choice as they naturally and exclusively harness solar energy.



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Finally, the company is engaged in innovative research projects to enhance **sludge as a resource through its reuse:** these include the construction of eight plaster production plants.

Thanks to the investments, it was possible to reach a reuse rate of waste close to 100% (only 3 tonnes out of 175,000 have been sent to landfill).

ASECO

**ASECO S.p.A.**, a company under the joint management and coordination of Acquedotto Pugliese SpA and AGER Puglia, is part of the AQP group. ASE-CO operates the Ginosa Marina composting plant in the province of Taranto. Following revamping works, the plant has been operational again since February 2024.

Energy-saving and renewable sources Over the past few years, AQP has increased its commitment to reducing energy consumption and has initiated several actions to reduce its energy dependency. The goal has been set to increase the amount of **energy produced from renewable sources: by 2023 it stands at 9.15 GWh**, with the aim of reaching 45 in 2026 and complete energy autonomy in the long term, with significant benefits in terms of impact on



service tariffs and the environment. Considerable investments will be dedicated to these energy efficiency goals over the next three years, with the start-up, for example, of **new plants for self-generation from renewable** 



sources for the construction of photovoltaic plants and cogeneration from biogas from sewage sludge.

To date, AQP is able to produce more than **2% of its energy needs** autonomously, with a target to increase this to 9% by 2026. There are currently **9 hydroelectric power plants** in operation with a total installed capacity of 5.2 MW and 7 photovoltaic plants for a total of 1.2 MWp, plus 3



cogeneration plants using biogas from sewage sludge equal to 0.9 MW. The investments also resulted in energy savings of 31 GWh in 2023 compared to 2022 and the avoidance of emissions of almost 9,500 tonnes of CO<sub>2</sub>.

Local development driver Also with regard to the direct economic impact of AQP's activities, the figures are certainly positive: **542 tenders called in 2023** for a total amount of **more than 1.5 billion at auction.** 

More than 60% of the value of the contracts is awarded to firms based in the Puglia region.

These figures highlight the Group's key role as a **driver for local development**.

Environmental sustainability AQP's innovation processes focus on digitalisation, reduction of sewage sludge production, wastewater reuse, energy efficiency, introduction of advanced systems in an Industry 4.0 perspective and reduction of water losses.

The investments made on the water network regeneration plan allowed to recuperate almost 20 million cubic metres of water from 2019 to 2023.

DigitalizationAQP is implementing an ambitious digitalisation plan involving various operational aspects, with the aim of improving the efficiency and effectiveness of internal processes, customer services and sustainability projects.

Key initiatives include the creation of a **Water Smart Grid** for smart water management by integrating **IT and IOT services**. The plan is divided into four main programs: the **Digital Journey**, aimed at simplifying and making operational processes more structured, by improving visibility and real-time availability of data through the evolution and adoption of Enterprise technologies; the **Customer Centricity** program, aimed at creating positive digital experiences for customers, by simplifying processes and improving the qua-



lity of services; the **IT Stable Operation** program, which aims at reinforcing the technology infrastructure in order to ensure business continuity and to support future innovative projects without forgetting compliance and cyber security aspects; and finally, the Smart IA program, which aims at introducing **artificial intelligence** tools to make business applications smarter and more efficient, enabling faster problem-solving and simplifying critical processes.

This digitalization plan will enable AQP to improve operational efficiency and offer a high quality service to its customers, by ensuring compliance with ARERA regulations.

Smart meters and smart grids The project to replace **1 million Smart Meters** is also underway. This is a strategic project for Acquedotto Pugliese, which expects to **replace** in 10 years **all the old meters with latest-generation digital meters**, at no cost to **the customer**.

There is a possibility that the project will be completed in advance in 2027. The goal is to reach real-time reading that will reporting changes in consumption and any anomalies, which will ensure greater analysis capability. The meters are georeferenced and identified, which will make it possible to locate them and make them communicate with the network to optimize water distribution.

More specifically, in February 2021, the Smart Metering Plan started in the provinces of Taranto and Brindisi, where more than 188,000 electronic meters were installed. In September 2023, mass replacement started in the municipalities of the province of Bari. Thanks to fixed-line remote reading with LoRaWAN technology, whose infrastructure deployment started in March 2024 and is still ongoing, smart meters will bring a significant advantage to the billing process, which will be based on actual consumption. Telemetered data can be used to offer new digital services to customers for greater consumption awareness, and will offer important prospects for digital transformation towards the smart water grid.

**2023 figures** The balance sheet for the year 2023 shows **a net profit of more than 20** million Euros for the sixth year in a row.

By the Shareholder's will, the operating profit is **used by the company for the continuous improvement of the water system and to support investments**.

The value of production reached around 700 million Euros, also thanks to an expansion of the integrated water service.



#### UN SDGs -2030 Agenda

Since 2021 Acquedotto Pugliese has joined the Global Compact, an international pact signed between companies around the world and the United Nations with the aim of pursuing initiatives, projects and behaviours in line with the 17 Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda.

Acquedotto Pugliese's Board of Directors approved the company's Sustainability Plan, for the three-year period 2022-2024, in order to launch a new growth model that contributes to create value for the territories in which it operates. The company actions included in the Plan are divided into three connected macro areas: Environment, Quality and People (A.Q.P). Among the most significant objectives there are those aimed at ensuring an increase in electricity production, sustainable management of resources, reducing the company's environmental footprint, implementing circular processes through new innovative waste management plants, raising the quality of customer service also through technological innovation, and improving the landscaping of works. On the subject of attention to people, an important objective is encouraging welfare and wellbeing policies to improve the quality of life, health and wellbeing of employees and sustainable mobility aimed at reducing the environmental, social and economic impacts generated by private vehicles.

Since July 2024, it is possible to consult the **website reportsostenibilita**. **aqp.it**, a real sustainability diary that brings together the main initiatives, policies and programs that make AQP a circular aqueduct. Designed to be a dynamic and constantly updated container, it is populated **with content and in-depth analysis dedicated to ESG issues**. The entire integrated report of 2023 is also available on the site.

Acquedottisti, the people of AQP The third pillar of action identified by the AQP Sustainability Plan, besides Environment and Quality, is People, which AQP considers a real strategic asset. The Acquedottisti, as they like to define themselves with a sense of belonging, number **more than 2,280** and contribute, each according to his or her specific duties, to the good management of water in all its forms. In 100% of cases, they are people with permanent contracts.

The valorization of talents also passes through respect for uniqueness, inclusion and continuous training, with **more than 150,000 hours provided** in 2023. For years, the company's policies on inclusion issues have been reflected in some significant data: the female workforce now represents 21%, in constant growth (in 2022 it was 19%), and 60% of women are aged 50

	acquedotto pugliese l'acqua, bene comune
	years or less. At the top, <b>Francesca Portincasa will hold the position of</b> General Manager from 2021, as the first woman in the role.
	Thanks to fair recruitment policies and management of professional growth opportunities, <b>there is no gender pay gap</b> at AQP and remuneration levels are balanced and equal between genders.
	Acquedotto Pugliese implemented its <b>first gender balance sheet</b> in 2023 and obtained <b>gender equality certification</b> in the same year.
The only aque- duct with two gold medals	Illustrious Acquedottisti include <b>Francesco Martino</b> , born in Bari in 1900. In July 1924 he won <b>two gold medals at the Paris Olympics</b> , one individual in the rings (the first Italian to do so) and one team in gymnastics. A boast for the country, for Southern Italy, for Bari and for Acquedotto Pugliese, with whom he worked until 1960. Martino was hired as a motor mechanic at the Ente Autonomo Acquedotto Pugliese in February 1924. A date that clears up a legend that wanted him in the company for the merits he had acquired in Paris. In '25, he was transferred to the treasurer's office, in '45 he was promoted to assistant mechanic and in '52 to chief custodian. And, despite training and competitions around Italy and beyond, Martino never failed to make his decisive contribution on the job.
	Acquedotto Pugliese preserves the memory of its Olympic champion <b>as part of its cultural heritage:</b> Martino's two medals, evidence of determination and pride, continue to represent the soul and values of the company.
Acque del Sud	In order to help relaunching the management of the reservoirs and hydraulic infrastructure of <b>Acque del Sud SpA</b> - a company that has absorbed the functions of the former EIPLI since January 2024 - <b>Acquedotto Pugliese and Acea have signed a partnership</b> in June 2024. The two companies undertook to form a temporary grouping of companies (RTI) with equal shares in order to participate in the tender to become industrial partners of Acque del Sud. By decree law, in fact, the current sole shareholder, the MEF, can transfer shares up to 30 per cent to entities with shareholder functions and a role of management responsibility.
International actions	Over the years, activity has focused on the <b>countries of the Mediterranean</b> Basin and the Balkans. More recently and during 2022 and 2023, the activity has also intensified with the countries of the Middle East and the United Arab Emirates.



Numerous international cooperation initiatives are underway, such as the Cross Water project in which the Puglia Region (as lead partner) and Acquedotto Pugliese are part together with the Molise Region, the Municipality of Tirana, the Tirana Water and Wastewater Utility (UKT) and the Montenegrin Regional Waterworks (PE RWMC). The objective of the cross-border Cross Water project, worth 5.5 million Euros, is to foster the joint development of new infrastructure and technologies as well as new control and measurement systems.

The participation in Interreg Greece and Interreg IPA with Albania and Montenegro is also remarkable, in order to share and actively contribute to the dissemination of good practices in the use of refined wastewater, network design and control systems.

For the benefit of developing countries, AQP also helped support national authorities in the development of **international aid policies in the water sector** and carried out higher education activities.

In 2024, AQP became the **first Italian company to be a member of the World Water Council**, the international organization whose aim is to promote awareness and drive action on all water-related issues.

AQP also promotes sustainability through the construction of **green infrastructure** and the promotion of new development models of a '**slower' tourism**. The **Ciclovia dell'Acqua** is a unique route along AQP's Main Canal, a 'hidden river' of Puglia immersed in the evocative power of the region's Mediterranean maquis and trulli. A new expansion project is currently underway and **by 2026 it will extend the Ciclovia** 



from the existing 24 km in Valle d'Itria to 192 km, along the aqueduct to the border with Basilicata, thanks to 35 million euros in regional and PNRR funds.

### TVA – a new communication approach

The Water

Cycleway

In 2022, Acquedotto Pugliese **launched TVA**, the first thematic web TV dedicated to the world of water, **a new and innovative communication project** that aims to enrich the information offer on the themes of sustainability, environment and innovation. The web TV offers **weekly programming with several hours of unedited content related** not so much to the company as to the water resource. An open and inclusive communication project, which Acquedotto Pugliese intended to propose in a participatory manner. The programming includes authoritative columns, news and services proposed on a weekly basis, and will be enriched with the contribution of the entire





In order to avoid queues at counters, the **CodaQ APP** is available, and with a view to offering a service that is ever closer to customers' needs, **the AQPf@ cile platform and the new dedicated APP** are online.

The commercial call centre, organised in teams, handles over 650,000 calls per year, in compliance with the quality parameters set by ARERA. The integra-



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ted and transversal training on the various contact channels allows a rapid updating of resources with the aim of responding adequately to the different customer requests.

AQP also promoted the 'Acqua che ascolta' (Water that listens) project by launching the Pedius APP to enable deaf customers to communicate with Customer Service.

AQP has activated and continues to promote the use of **PagoPA**, the national reference platform for electronic payments to the public administration and publicly controlled companies. Digital payments stimulate a positive change in citizens' behaviour, encouraging the adoption of **sustainable solutions that facilitate daily activities** by making bill payment easier and faster.

94.2% of customer satisfaction The commitment and focus of all the people at AQP is evidenced both by **the daily customer re-contact activities** initiated at AQP since 2017 and by the implementation of the **Customer Satisfaction 2023** survey.

In the **re-contact activities carried out directly by AQP's Customer Experience area**, in 2023 more than 242,000 customers were reached by telephone and about 151,000 by text message, in order to detect the average satisfaction index of the users of AQP contact channels, also by intercepting "hot", with the NPS methodology, the "emotional" perception linked to the experience lived. Continuous monitoring of perceptions on the services provided also makes it possible to capture customers' suggestions and initiate continuous improvement actions.



According to the findings of the Customer Satisfaction 2023 survey, carried out on behalf of AQP by **CSA Research, a leading** market research institute, it appears that **94.2% of Acquedotto Pugliese's customers are satisfied** with the service received. Among the most appreciated qualities of AQP: the continuity of the water service (96.7%, up 6.7% on 2018), courtesy (93.7%, +5.7%), interventions to repair faults (91.9%, +9.9%), professionalism and competence of the staff (89.2%, +4.2%) and waiting times at the counters (87%, +14%).

The survey also shows that around **one in two customers drinks tap water and one in three drinks it regularly**, with the latter group increasing by 2.4 per cent compared to 2018.







The Palazzo dell'Acqua

In the same year, the idea of constructing a building as an indelible reminder of the conquest of water for Puglia took shape.

The story of this enterprise written in stone is told with symbolic effectiveness by the genius of **Duilio Cambellotti**, an internationally renowned Roman artist, through a rich gallery of wall paintings, sculptures, furniture and other decorative forms.



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Almost 3,000 visits

A system of integrated water grids Located in the heart of Bari, **'II Palazzo dell'Acqua'** has over time become an artistic heritage of the whole of Italy, and is now one of the most **visited** artistic sites in Bari, with **almost 3,000 visits per year**.

By the 1970s, the Acquedotto Pugliese **was** a complex system of integrated drinking water networks, both spring and reservoir. In 1974, the Pertusillo aqueduct came into operation with an extension as far as Taranto



and, almost simultaneously, the Fortore aqueduct for the northern part.

During these years, the first drinking water treatment plants were built to treat water from artificial reservoirs.

AQP becomes an S.p.A. (jointstock company)

In July 1999, AQP was transformed into a joint-stock company and in January 2002 the government assigned ownership of the aqueduct to the Puglia and Basilicata Region.

In 2011, Basilicata sold its shares to the Puglia region, which thus became the sole owner of AQP.

Acquedotto Pugliese's strategic plan 2022-2026 envisages investments of more than 2 billion euros for energy transition, water resource protection and circular economy. With the aim of increasing the sources of new water supply, feasibility studies have been launched for the construction of two new aqueduct sections from Albania and Abruzzo.



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## Acquedotto Pugliese Data sheet

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President	Domenico Laforgia
General Manager	Francesca Portincasa
Production value 2023	699.8 million Euros
Net profit	65.2 million Euros
Investments	503.4 million Euros
Tenders called	1.5 billion Euros
Research projects	9.5 million Euros
Employees	2,282
Inhabitants served	over 4 million
Utilities served	over 1 million
Water network	over 24,000 km
Sewerage network over	over 13,000 km
Water treatment plants	5
Wastewater treament plants	185
Refining plants	45