



2022

VIVERACQUA
GESTORI IDRICI DEL VENETO

SHARED SUSTAINABILITY

FIFTH REPORT | 12 VIVERACQUA PROVIDERS



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GESTORI IDRICI DEL VENETO

FIFTH REPORT

SHARED SUSTAINABILITY

12 VIVERACQUA PROVIDERS

Year
2022

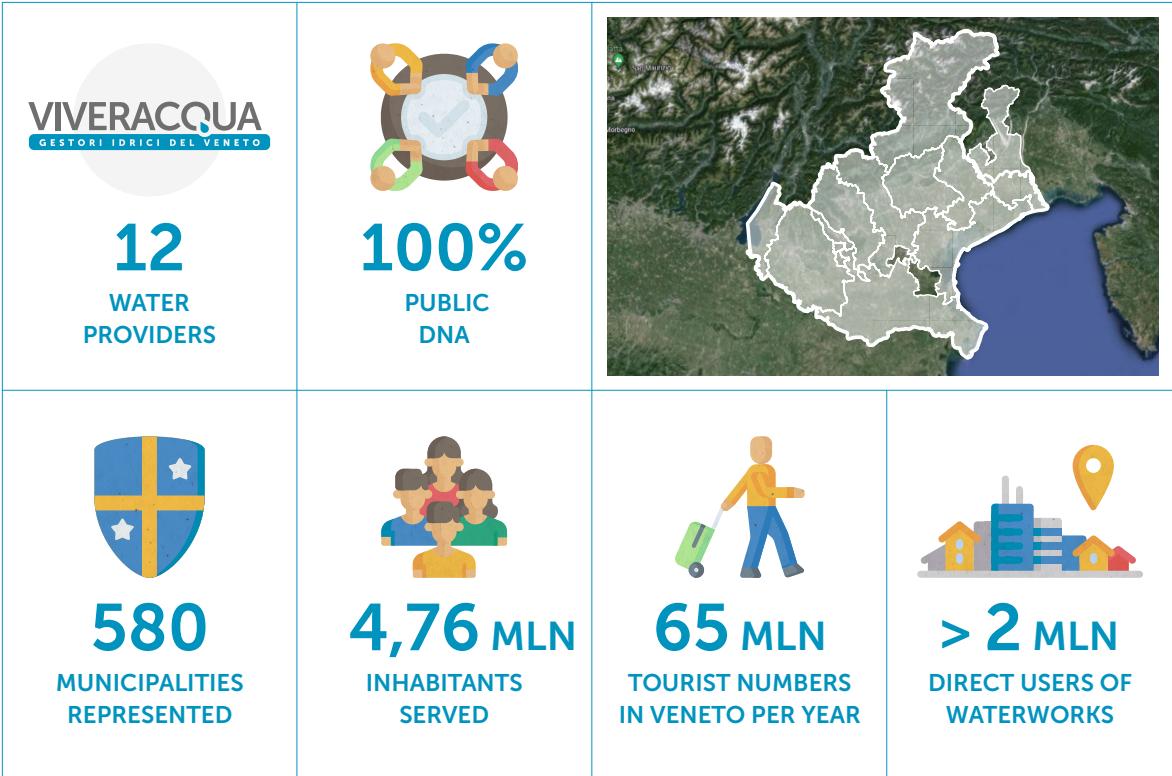


AGGREGATION, SYNERGY AND COMMITMENT FOR THE TERRITORY:

THE KEYWORDS OF THE
VENETO PUBLIC MODEL

Viveracqua is the consortium company that brings together 12 public water providers from the Veneto region.

An aggregation that, more than 10 years ago, gave birth to a large industrial organization capable of achieving economies of scale and scope, while allowing individual providers to retain their autonomy and strong local identity. Viveracqua's mission is **to improve the services offered to citizens by aggregating and enhancing each providers' competitive abilities**, reducing management costs, promoting research and development, and fostering partnerships.



The providers who are part of Viveracqua are in charge of these services: waterworks, sewerage and purification. They serve 580 Municipalities (of Veneto and part of Friuli Venezia Giulia), for a total of 4,7 million inhabitants, with a production value of approximately 1 billion euros. These providers are: Acque del Chiampo, *acquevenete*,

Acque Veronesi, Azienda Gardesana Servizi, Alto Trevigiano Servizi, BIM Gestione Servizi Pubblici, Etra, Livenza Tagliamento Acque, Medio Chiampo, Piave Servizi, Veritas, Viacqua.

These are all public companies led by an industrial strategy that produce a total value of € 950 million annually.

WATER INFRASTRUCTURE SERVING A COMPLEX TERRITORY

DATA YEAR 2022

2,699

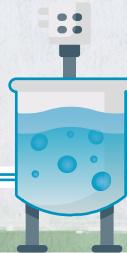
COLLECTION
POINTS



GROUNDWATER

649 mln mc

WATER TREATMENT
AND DISINFECTION
PLANTS



AQUEDUCT
LIFT
STATIONS



WATER
TANKS



47,369 km
OF WATER NETWORK

16,000

INTERNAL SAMPLES
ON WATER FOR HUMAN
CONSUMPTION

540,000 parameters analyzed



10,700
WASTEWATER
SAMPLES

160,000
parameters analyzed



3,122

FLOOD
SPILLWAYS

5,306

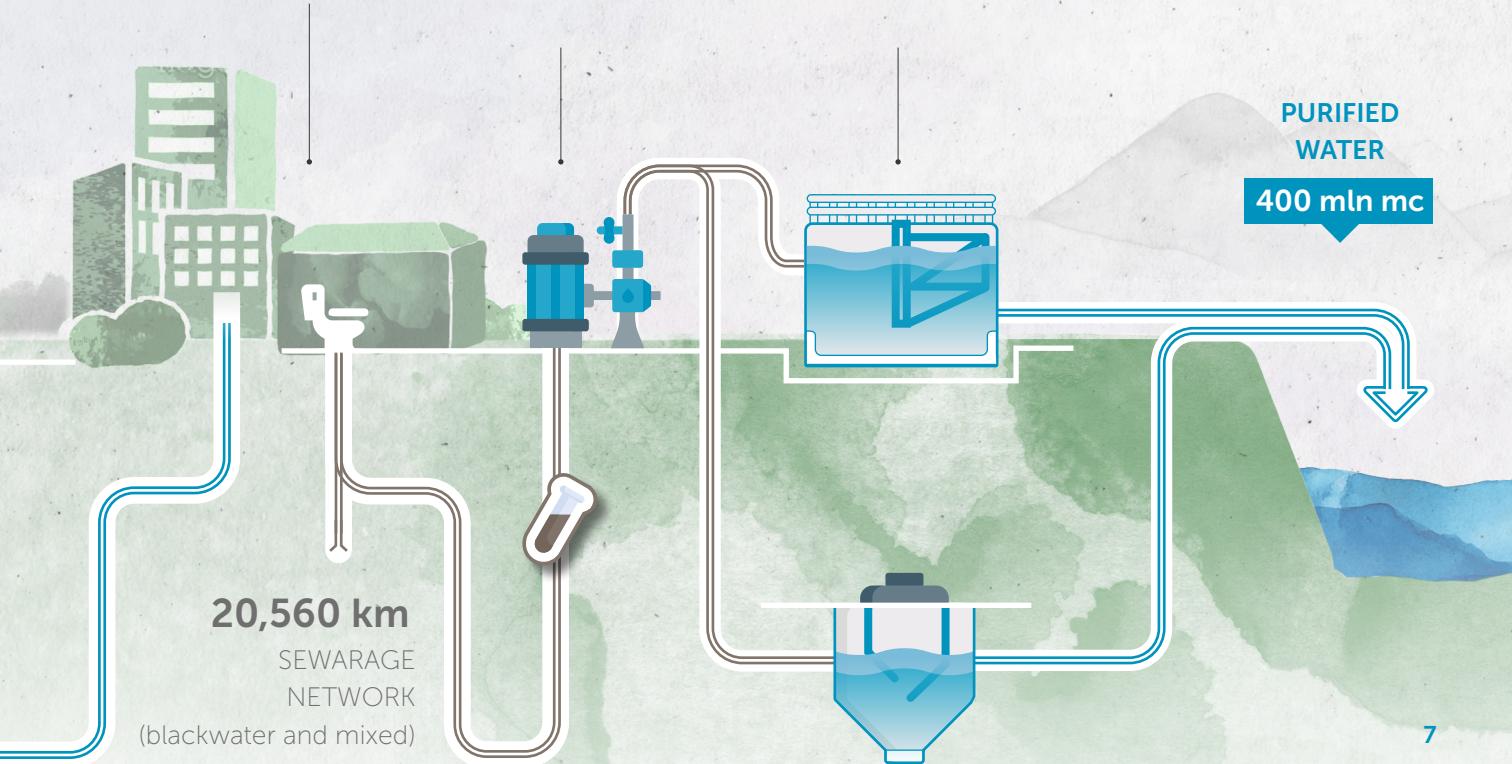
SEWAGE
LIFT STATIONS

OVER 500

PURIFICATION
PLANTS

PURIFIED
WATER
400 mln mc

20,560 km
SEWAGE
NETWORK
(blackwater and mixed)



01

SHARED SUSTAINABILITY

Year 2022



Chapter 01

SOCIAL RESPONSIBILITY

A TEAM COMMITTED
TO THEIR CUSTOMERS

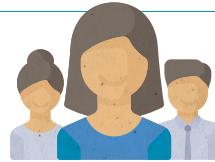
SOCIAL RESPONSIBILITY

PEOPLE, OUR MOST IMPORTANT RESOURCE

Over three thousand people work for the integrated water service (3,132 employees as of December 31, 2022).

Efficiency, competence, and dedication are the key objectives of those who put their professionalism into action on a daily basis **to offer users a fully satisfactory service.**

Each person is therefore empowered to do their job to the best in a healthy and stimulating work environment.

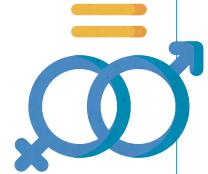


3,132
INDUSTRY EMPLOYEES
IN 2022

▲ **3,107** in 2021

24.6%

OF EMPLOYEES WERE **WOMEN** IN
2022, FOR A TOTAL OF **769** PEOPLE



▲ **23.8%** in 2021

▲ **740 women** in 2021

+228

NEW EMPLOYEES
IN 2022

▼ **+260** in 2021

-182

TERMINATION OF
EMPLOYMENT IN 2022

▼ **-175** in 2021

7.3%

STAFF INCREASE
IN 2022

▼ **8.4%** in 2021

5.8%

TURNOVER
IN 2022

▲ **5.6%** in 2021



IN-HOUSE TRAINING

Training plays a fundamental role for Viveracqua as an indispensable factor for the professional growth and development of people, for the dissemination of company values and principles and, therefore, for the development of the territory.



88,673

HOURS OF TRAINING IN 2022

▲ **71,572** in 2021

of which

42,586

HOURS ON THE TOPIC OF SAFETY, FOR APPROXIMATELY 48% OF THE TOTAL

▲ **32,286** in 2021

▲ **45%** in 2021



28,3 HOURS/PP

AVERAGE TRAINING PER CAPITA IN 2022

▲ **23,04 hours/pp** in 2021

Viveracqua providers guarantee the technical and regulatory update as well as the professional development of workers by means of a detailed **yearly training planning**.

A suitable development of technical and soft skills, in fact, **leads to staff enhancement** which impacts on the optimization of business processes and development

The average hours of training per capita increased from an index of 23.04 in 2021 to one of 28.3 in 2022.

Training hours dedicated to the health and safety of workers maintained the positive trend **of more than 40% of the total hours** of training provided, underlining how important this area is considered.

HEALTH AND SAFETY INDICATORS



	2021	2022
Injuries (greater than one day, not while commuting to/from work)	63	57
Frequency Index	11.705	10.690
Incidence Index	0.324	0.316



VIVERACQUA ACADEMY

Launched in 2022, the “Viveracqua Academy” project aims to increase the skills of over three thousand employees of the 12 member companies, pooling various company experiences and cultures with the aim of enriching all resources, contributing to process innovation and deepening of individual skills

Through the Viveracqua Academy project, the aim is to transform workers from learners in professional and individual development to expert educators.

The first step in creating this training model was the active involvement of company employees in interchanging skills and designing initiatives that enhance personal skills.

The very high training value embedded in the experiences and skills of Veneto’s water operators represents an opportunity for growth also for young talents, for whom, through Viveracqua Academy, school-to-work activities, internships and apprenticeships have been designed to guide their transition into the labour market.

The project involves three key training areas:

- **hard skill** (technical and professional competences), such as: acquisition of licences and permits, updates on site management, computer applications, regulations, administration, finance, tenders and contracts
- **soft skill** (relational and cross-skills), for example: coaching courses, management training, support for new ways of working, on-boarding programmes for new recruits
- **mandatory training** on: Health and Safety, privacy, anti-corruption, continuing education for associations and professional bodies, cyber security, equipment.





TRAINING FOR SCHOOLS

For Viveracqua **educating citizens on water conservation and respect for the environment, especially involving new generations**, means generating a decisive impact on the development of society and the entire territorial ecosystem.

This is why member providers organise **training activities in primary and secondary schools throughout the Veneto territory.**

Educating on water resources and environmental protection with visits to waterworks and purification plants.

After the strict Covid-19 restrictions (which had forced many school activities to be interrupted), the educational activities offered by providers went back to pre-2020 levels.

41,586
STUDENTS



INVOLVED (SCHOOL YEAR 2022/2023)

▲ **37,122** in 2021/2022



FOCUS 01

The Viveracqua Academy Education Platform

The providers grouped under Viveracqua also carry out projects for children and teenagers that are delivered through the Viveracqua Academy educational platform. The platform combines books, games and fact sheets on the integrated urban water management in a single digital tool.

Among the platform's resources, the books "C'è dell'acqua nel mio calzino?" and "Capisco un Tubo" were printed and distributed in primary and secondary

schools in the Veneto region for a total of 15,000 copies. All initiatives are designed to raise awareness among children and adolescents on the conscious use of the resource and explain to them what is meant by integrated water cycle management.

By working for the sake of nature and in contact with the territory, managers can guide citizens towards a rational use of the resource, helping to stem the problem of waste.



WWW.ACADEMY.VIVERACQUA.IT



ECONOMIC SUPPORT TO USERS:

THE WATER BENEFIT AND THE SUPPLEMENTARY BENEFIT

Being aware of the challenges faced by many users and families, **the 12 providers of Viveracqua regularly support the most fragile segments of the population.**

The supporting tools that are available are **the social water benefit and the supplementary benefit.**

SOCIAL WATER BENEFIT

The social water benefit is a measure aimed at **reducing the water service charges of economically and socially disadvantaged households.** The possibility of benefiting from the water benefit depends on the income situation and the type of supply.

The social water benefit **guarantees the free supply of 18,25 cubic metres of water on an annual basis** (equal to 50 litres/inhabitant/day) for each member of the user's registered family. The benefit guarantees, for example, that a family of three will not have to pay about 55 cubic metres of water per year. The quantity of 18,25 cubic metres of water was **identified by the Prime Minister's Decree of 13 October 2016 as the minimum quantity required to ensure that the basic needs of the individual are met.**

The benefit is applied to all three variable water service components: waterworks, sewerage and purification treatment services.

SUPPLEMENTARY BENEFIT

Providers may also grant users an **additional or different economic benefit to the water bonus.**

It is an improved benefit established at a local level. For example, the *Ente di governo dell'ambito* (EGA) competent for its territory may decide to grant the end user, under the same eligibility conditions, a higher water benefit than what is envisaged at a national level, or it may modify the eligibility conditions for the better by raising the maximum *I* see threshold envisaged.

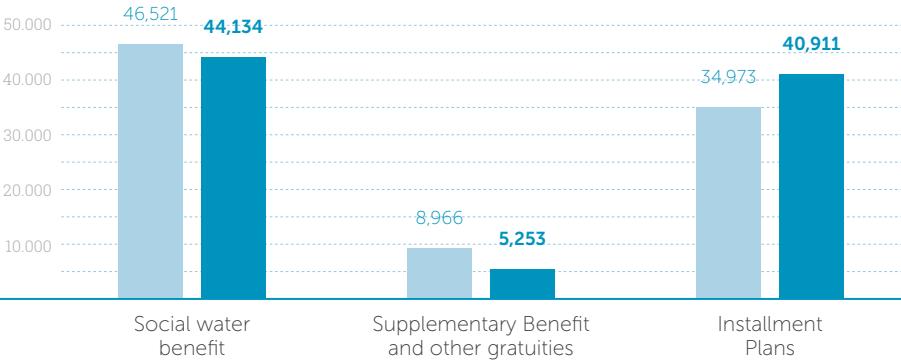
The eligibility requirements and quantification of the supplementary benefit are therefore decided at a local level and may differ from what is established at a national level. Five providers were unable to grant the benefit in 2022, as they were

waiting to receive the data flow of entitled users from the competent authority. The table below shows the data concerning the benefit of the remaining 7 companies, as well as the supplementary benefit and other instalment grants of all providers:



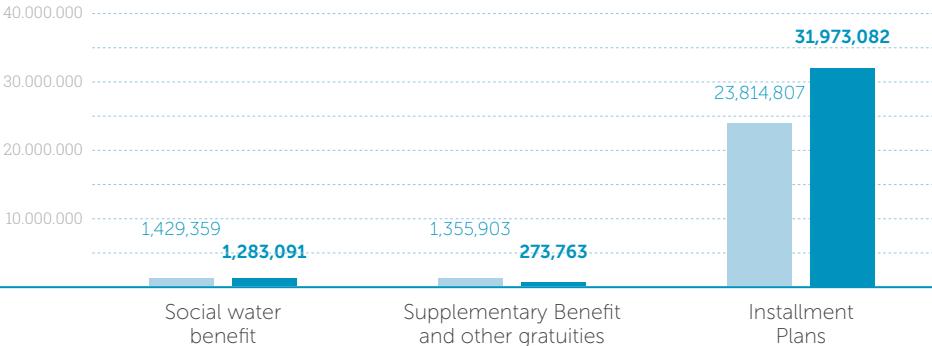
WATER BENEFIT, GRATUITIES AND INSTALLMENT PLANS

in numbers



TOTAL AMOUNT ALLOCATED

in euro



■ Year 2021 ■ Year 2022

USER-CENTERED APPROACH

EFFECTIVE PERFORMANCE TO MEET ALL NEEDS

Providing citizens with **a reliable, efficient and comprehensive service is the goal of the providers that have joined Viveracqua.**

This implies first and foremost ensuring a service that is both timely, accurate and user-friendly from an administrative point of view.

In the case of water services, it is essential to have a set of tested procedures to manage emergencies efficiently and quickly, thus minimising any inconvenience for citizens. All the providers have been investing heavily in recent years to enhance their 'Customer Service' and to digitise it by using telematics communication technologies. This type of automated service is fast and offers targeted solutions that are particularly useful in emergency situations.



HELP DESKS AND INFO POINTS

OVER **60** MAIN HELP DESKS OPEN TO THE PUBLIC

> **118,255** users served at the help desks (116,954 in 2021)



CALL CENTER

913,642 PHONE CALLS RECEIVED

(972,168 in 2021)



EMERGENCY RESPONSE

168,776 TOLL-FREE PHONE CALLS RECEIVED

(173,111 in 2021)

4,157 EMERGENCY INTERVENTIONS

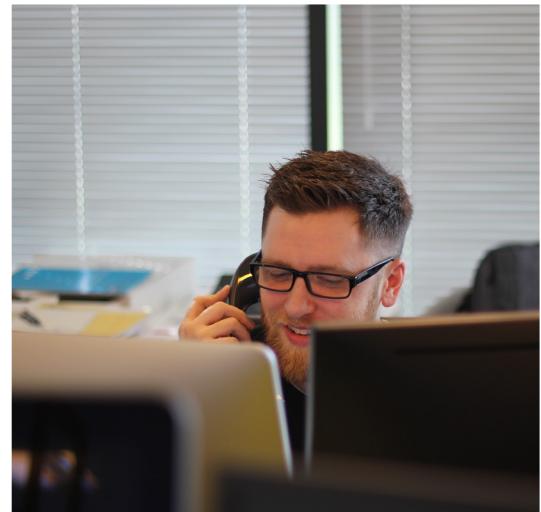
(4,408 nel 2021)



More than 300,000 contractual services (excluding invoice issuing) such as quotations, water and sewerage connections, activations and deactivations, appointments for meter and pressure checks, responses to complaints and billing amendments.

Below is an outline of the main ones:

	2021	2022
Quotations for water and sewerage connections etc.	17,693	16,507
Water connections	8,732	8,703
Sewerage connections	1,497	1,465
Other works	1,294	1,325
Contractual services	74,598	72,745
Transfer of utilities	95,976	92,996
Answers to complaints	4,008	3,670
Requests for Information	33,761	35,008
Billing amendments	4,036	3,025
Issued invoices	8,038,240	8,225,235



CONTRACT QUALITY LEVELS

The number of services and their average compliance rates for Viveracqua and Italy are shown below. The contractual quality indicators are divided into two macrocategories:

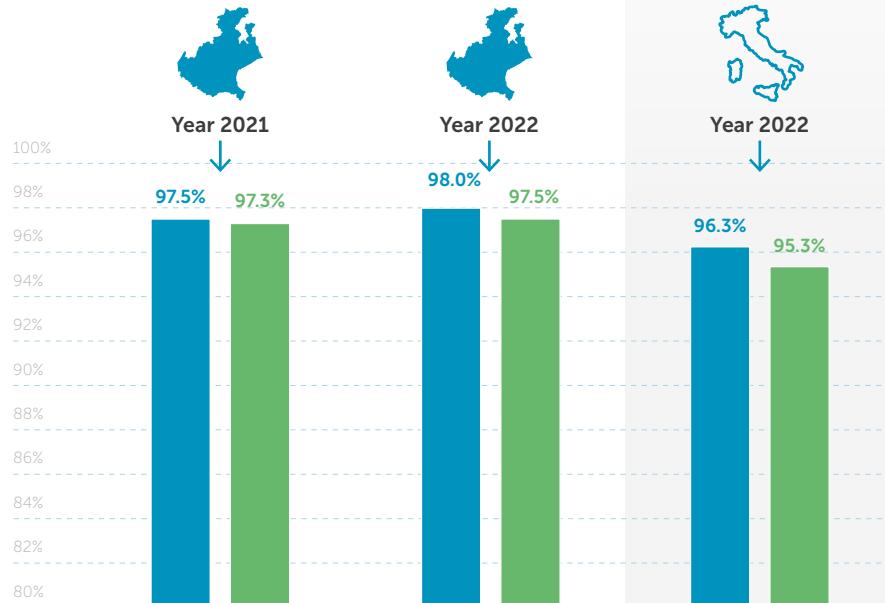


■ **MC1** Entering into and terminating the contractual relationship, consisting of simple indicators related to quotations, execution of connections and works, activation and deactivation of the supply;

■ **MC2** Management of the contractual relationship and accessibility to the service, consisting of simple indicators related to appointments, billing, meter and pressure level checks, responses to written requests, as well as the management of customer touch points.

CONTRACTUAL QUALITY LEVELS

Percentage of compliance with minimum execution times



ANALYSIS OF WATER SERVICE QUALITY IN ITALY

The water service was evaluated and rated, awarding rewards and penalties to providers, for the results achieved and consolidated in 2020 and 2021

ARERA published the rankings. By analysing the data received, the Authority was able to assign a reward to those who achieved, maintained and improved the set targets and a penalty to the others.

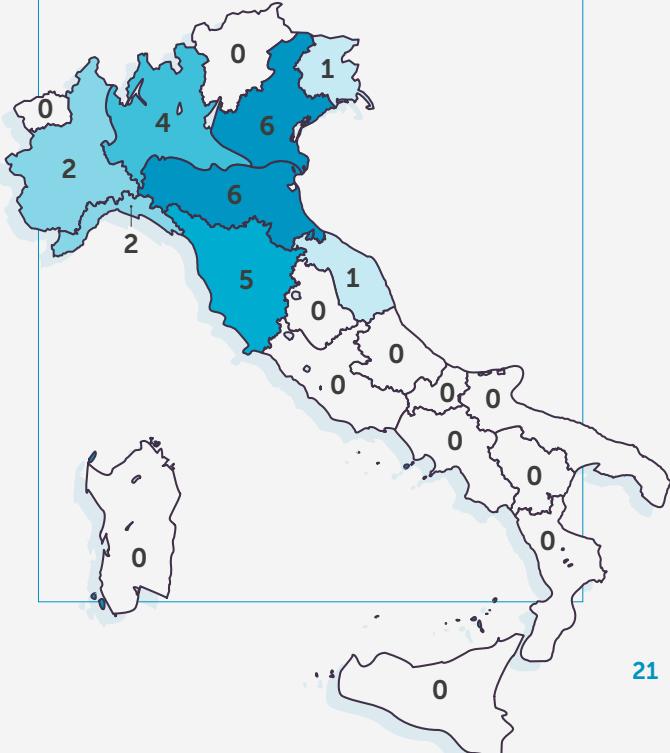
The amount of resources dedicated to the rewards is determined year by year by the collection in the bill of equalisation components for the promotion of service quality.

The publication of quality data, in addition to aligning our country with the highest standards set by the European Water Directives, is a drive for investment (highlighting and rewarding the actual realisation of the projects declared) and aims to compare performance between different operators.

THE 2020-2021 EXCELLENCE PROVIDERS

Number of water providers ranked "Stage V" for the technical quality of the integrated urban water management

according to the ARERA Resolution 477/2023/R/idr



RQTI 2020-2021

TECHNICAL QUALITY

Overall, Viveracqua providers received rewards amounting to more than EUR 8,5 million and penalties amounting to EUR 1,2 million, and 6 Viveracqua providers were ranked among the top 24 in the national ranking of the best operators, assessed comprehensively in all service stages.

Indicators	Rewards (€)	Penalties (€)
M1 Water leaks	1,411,296 €	867,323 €
M2 Continuity of service	727,312 €	-
M3 Quality of water supplied	1,319,109 €	34,171 €
M4 Adequacy of the sewerage system	1,453,662 €	241,988 €
M5 Landfill Sludge Disposal	958,795 €	8,706 €
M6 Purified water quality	2,669,393 €	56,196 €
Total	8,539,567 €	1,208,384 €



6

PROVIDERS

RANKED IN THE TOP
24 PROVIDERS IN ITALY



> **8.5 MLN €**

**PROVIDERS'
REWARDS**



1.2 MLN €

**PROVIDERS'
PENALTIES**

RQSII 2020-2021

CONTRACT QUALITY:

Overall, Viveracqua providers received rewards amounting to EUR 3.4 million and penalties amounting to EUR 0.8 million.

Indicator	Rewards (€)	Penalties (€)
MC1 Entering into and terminating the contractual relationship	1,628,948 €	526,932 €
MC2 Management of the contractual relationship and ease of access to the service	1,758,814 €	265,274 €
Total	3,387,762 €	792,206 €



3,4 MLN €

**PROVIDERS'
REWARDS**



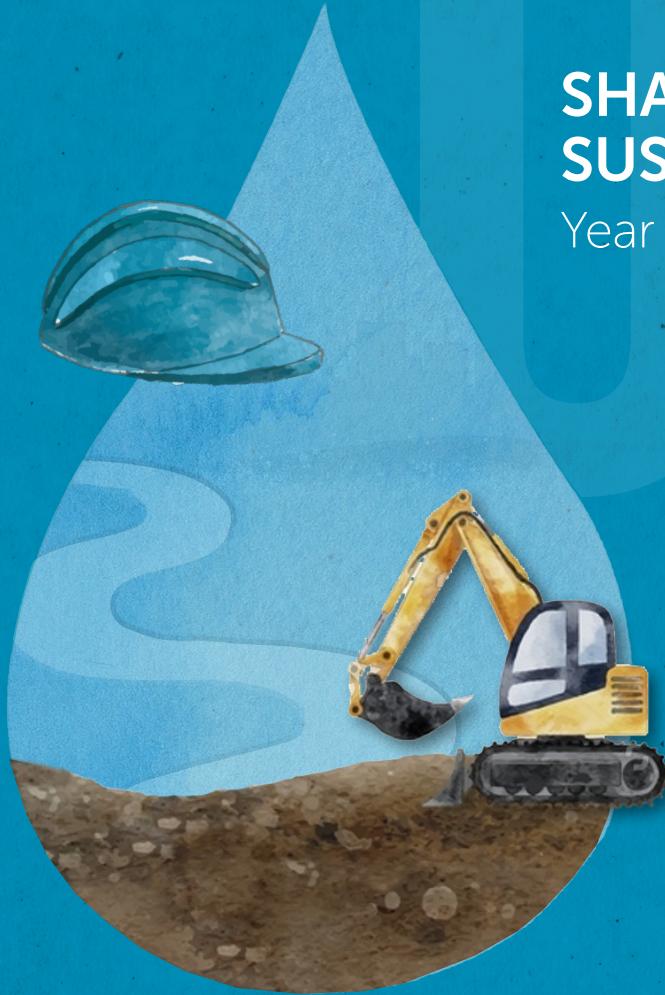
0,8 MLN €

**PROVIDERS'
PENALTIES**



SHARED SUSTAINABILITY

Year 2022



Chapter 02

FINANCIAL RESPONSIBILITY

INVESTING TO CREATE
SHARED VALUE

INITIATIVES ENHANCING THE TERRITORY

The daily management activities of the companies associated with Viveracqua constantly generate **growth opportunities** for the local area, communities, institutions, companies and the **entire society** as a whole.

GENERATED AND DISTRIBUTED ECONOMIC VALUE

The **generated economic value**, which amounts to € 948,400,218 in 2022

948,400,218 €

ECONOMIC VALUE DIRECTLY GENERATED IN 2022

(+14.8% compared to 2021)



869,843,514 €

TOTAL ECONOMIC VALUE
DISTRIBUTED TO STAKEHOLDERS
IN 2022

+15.7% COMPARED TO 2021



(826,027,651 € in 2021), is distributed to internal and external stakeholders according to the classification shown in the graph below.

As can be seen from the graph, the **main stakeholders**, to whom the Viveracqua consortium has distributed its value, **are suppliers (55%) and employees (21%)**, proving that most of the value generated by the operators contributes directly and indirectly to the creation of resources for the

local community. The value retained in the company is approximately 15% and refers mainly to the value of depreciation.

This is undoubtedly a **virtuous dynamic that**, starting with investment projects for the modernisation of plants and infrastructures and through the enhancement of human resources, **contributes to the continuous improvement of the service for citizens**, with a view to long-term sustainability.





OUR INVESTMENTS

Viveracqua's main objective is to proceed with the **implementation of strategic interventions for the Veneto Region's integrated water service management**, both for the creation of new works and for the improvement and streamlining of existing ones.

Total investments in 2022 amounted to € 327,360,345 (€ 327,820,562 in 2021), broken down by waterworks, sewerage, purification and general services as shown in the pie chart.

AVERAGE INVESTMENTS MADE PER CAPITA

In 2022, the average investment per capita made by Viveracqua is € 70 (in line with 2021).

IMPACT ON THE TERRITORY

56% of the value of purchases is made within the territory of Viveracqua (Veneto Region).



327.4 MLN €

**OF INVESTMENTS REALISED
IN 2022**

for an average expenditure of

70 € PER PERSON

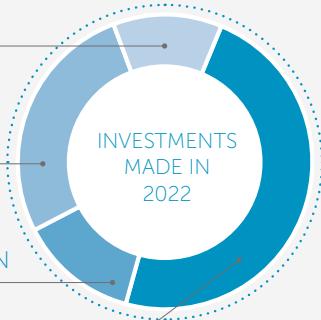


12%
GENERAL
SERVICES

27%
SEWERAGE

13%
PURIFICATION

48%
WATERWORKS



573,771,256 €

TOTAL VALUE OF PURCHASES
AND SUPPLIES IN 2022

(452,763,189 € in 2021)

318,715,257 €

PURCHASES WITHIN THE
VIVERACQUA/VENETO REGION
TERRITORY IN 2022

(254,069,804 € in 2021)



RATE

The water service charge in Italy is **regulated by ARERA** which, with Resolution 58/2019, approved the MTI-3 tariff method for the 2020-2023 regulatory period.

The rate is made up of several components and developed in different bands, so as to take into account every aspect:

1. resource management
2. environmental aspect
3. service management
4. equity in the use of the resource, including the needs of the most disadvantaged social groups taking into account that water is a basic need

The components are:

FIXED RATE (€/year), is independent from actual consumption and must be paid even by those who consume nothing. This component serves **to cover the operating costs of the networks and facilities** (e.g. maintenance costs of the water network). Even those who do not consume water, but are connected to the network, in fact enjoy the benefit of having a functioning network.

VARIABLE RATE (€/mc), for waterworks, calculated **on the basis of consumption** and divided into consumption bands that progressively penalise higher consumption. The progressivity of the variable rate by bands considers, on the one hand, the fact that water is a basic need and therefore meets social equity requirements, and on the other hand, that it is a precious and potentially exhaustible resource that must be used sparingly.

VARIABLE RATE (€/mc) **FOR SEWERAGE AND PURIFICATION**, calculated **on the basis of consumption** and spread over a single band for both services (the variable rate may, however, differ between sewerage and purification). This component considers the **costs necessary to operate the sewerage and purification** systems and to restore the quality of the purified water returning into the environment.

Finally, there are **EQUALISATION CHARGES**, introduced as of 2013 and to be added to the water, purification and sewerage rates, as described below:

Ul1 component: allocated to cover rate subsidie **granted to populations affected by earthquakes** (amounting to 0.4 euro cents per cubic metre) ;

Ul2 component: allocated to the promotion of the contractual quality of waterworks, sewerage and purification services (equal to 0.9 eurocents per cubic metre);

Ul3 component: allocated to cover the costs of the **water benefit**;

Ul4 component: allocated to cover the operating costs of the **Waterworks Guarantee Fund**.

Administrative charges from municipality and provincial surcharges.

The costs covered by the charge are intended to cover all the aspects described above. In particular:

- **Costs of the resource related to supply and drinking water activities**, for the construction of new collection works or the upgrading of drinking water plants (this includes the costs of finding leaks, concession or diversion fees);

The fee is to cover:



PROCUREMENT AND DRINKING WATER TREATMENT



ENVIRONMENTAL COSTS



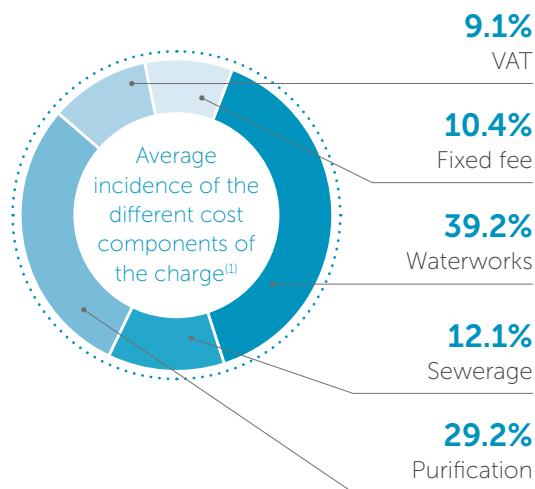
RUNNING COSTS



- **Environmental costs** related to **recovery measures for the resource**, reduction or containment of the damage produced, related to the purification activity;
- **Operating costs** which include fixed asset values and operating costs such as electricity, personnel, raw materials, sewage sludge disposal, laboratory analysis of drinking water, wastewater and purified water, customer services management.

The **average annual expenditure** of a family of 3 persons **with a consumption of 150 cubic metres per year in the Viveracqua territory** is **325.14 euro** (weighted figure for the resident population supplied by individual providers).

This corresponds to 2.17 euro per cubic metre.



COMPARING RATES

Expenditure for a family of 3 with a consumption of 150 m³



2.17
€/m³

VIVERACQUA BASIN⁽²⁾



2.19
€/m³

NORTH-EAST ITALY⁽³⁾



2.17
€/m³

ITALY⁽⁴⁾



(1) Italian average, ARERA data. (2) Weighted average of providers on residents, including VAT, equalisation charges and surcharges. (3) ARERA data, including VAT only. (4) ARERA data, including VAT only.





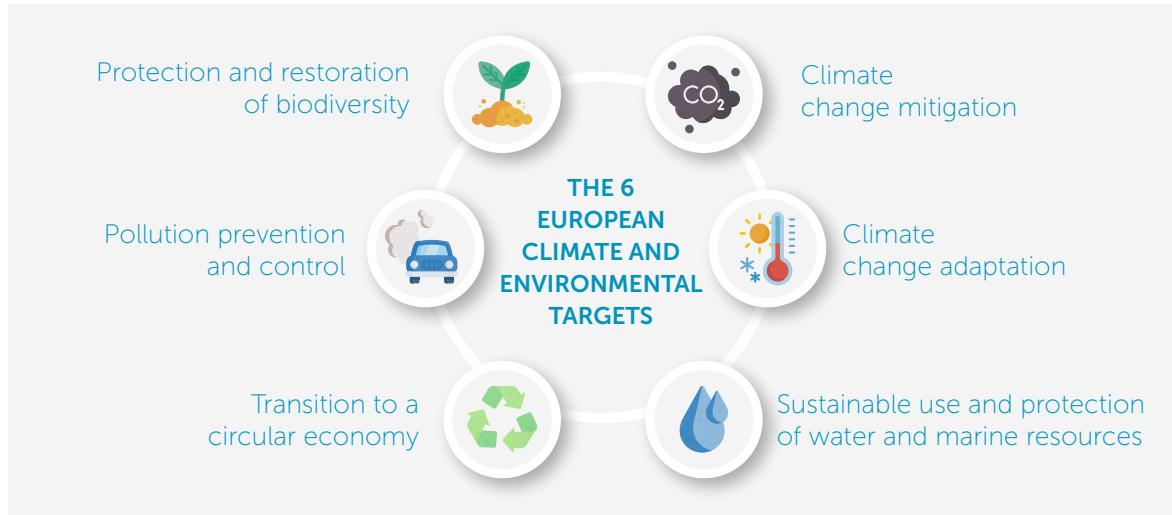
EUROPEAN TAXONOMY ON ECO- FRIENDLY ACTIVITIES

In 2021, the **European Commission** developed an **Action Plan for Sustainable Finance** outlining a series of measures to be adopted **to channel capital flows towards**

sustainable and responsible investments, to manage financial risks related to climate change, and to promote transparency in economic and financial activities.

As part of this EU strategy, the **European Taxonomy**, approved by EU Regulation 2020/852, **aims to become the first classification system at international level for the identification of eco-friendly economic activities**, with the aim of facilitating investors in the choice of efficient and conscious investments.

The Regulation identifies a list of economic activities that can contribute to the six environmental objectives set by the European Commission:



In particular, according to the Regulation, an activity can be considered sustainable if:

- **meets the technical assessment criteria** that define the conditions under which an activity contributes substantially to the achievement of at least one of the six environmental objectives;
- **do no significant harm (DNSH)** to the other five environmental objectives;
- **comply with a set of minimum social safeguard clauses**, i.e. adopt corporate policies and procedures that ensure compliance with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights.

At the time of drafting this document, the European Commission has defined the **technical assessment criteria and DNSH** requirements for activities that can substantially contribute to achieving the first two climate objectives: **climate change mitigation and adaptation**.

Already in 2021, the Viveracqua providers started to discuss this topic, with the aim of reporting on the eligibility of their activities in their sustainability reports, and then continuing in 2022 by verifying alignment

with the criteria set out in the Regulation. For 2022, the aggregation of the economic values of individual providers led to these eligibility percentages.



SHARED SUSTAINABILITY

Year 2022



Chapter 03

ENVIRONMENTAL RESPONSIBILITY

IN HARMONY
WITH THE TERRITORY

ENVIRONMENTAL
RESPONSIBILITY

RATIONAL MANAGEMENT AND WATER PROTECTION

The members of Viveracqua are the **12 providers of integrated water service management in the Veneto region**. They are responsible, each for their own area of responsibility, for managing the public services of **water collection, adduction, purification and distribution for civil and industrial use, and sewerage and wastewater treatment**.

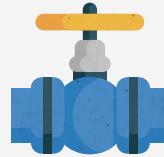
The following are some 2022 data on the main infrastructures of Viveracqua's members.



2,699
POINTS OF WATER
SUPPLY
FOR HUMAN
CONSUMPTION



3,122
TOTAL
FLOODGATES
OPERATED
IN 2022



47,369
KM OF ADDUCTION
AND DISTRIBUTION
PIPELINES
excluding user shunts



20,560
KM MAIN
SEWERAGE
SYSTEM
excluding connections

To meet the needs of users, Viveracqua members withdrew 648,574,465 cubic metres of water from the territory, from:

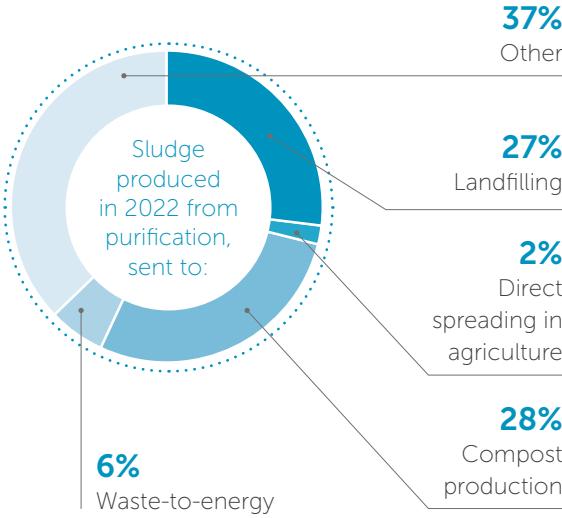


The withdrawn water is properly treated and then distributed to users. The total amount of **drinking water supplied to users in 2022 amounts to 353,343,649 cubic metres.**

The collection of wastewater through the sewerage system and the purification of its pollutant load are **fundamental activities to reduce the environmental impact** on the territory and protect the water resource. During 2022, **397,583,976 cubic metres of wastewater were collected at the various purification systems.**

An important component of sewage activity is the management of sewage sludge. In 2022, approximately 52,052 tonnes of sludge (dry weight) were produced.

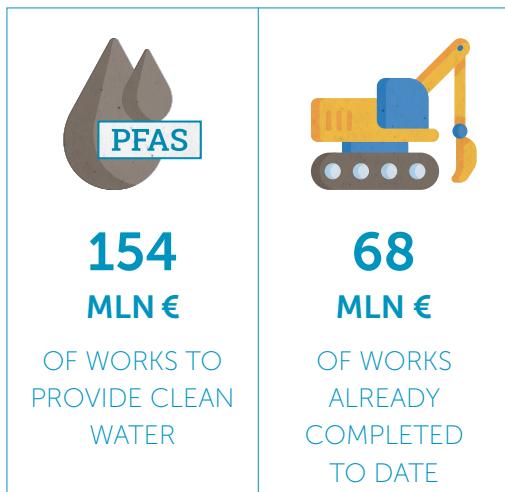
The delivery rates are as follows:





FOCUS 02

Investments for PFAS-free water



Changing the supply sources of the PFAS-contaminated area to provide all citizens with clean water.

The water providers *acquevenete*, *Acque Veronesi*, *Acque del Chiampo* and *Viacqua* are currently working on the necessary works for the definitive resolution of the issue: an investment of 96 million euro including works already completed and underway.



An important commitment undertaken by the providers, which was activated as soon as the PFAS pollution emerged: many measures were promptly implemented, starting with the installation of activated carbon filters on the affected waterworks to remove pollutants and guarantee safe water to users. The final objective is **to provide a replacement water supply to the areas most affected by the contamination**, interconnecting the local pipeline systems.



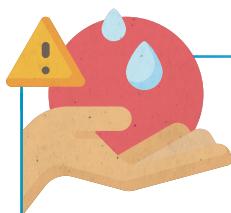
FOCUS 03

Restoration of water sources damaged by the Vaia flooding

In 2018, storm Vaia caused extensive damage, including to numerous waterworks in the province of Belluno, managed by Gestione Servizi Pubblici Spa. The extraordinary maintenance work on the springs was the subject of funding and a subsequent provision whereby the Delegated Commissioner for the Veneto region designated Viveracqua as the implementing party for the "Completion of the intervention started in 2020 to restore aqueduct springs damaged by the Vaia flood", with a total allocation of EUR 5 million.

The entire intervention involves 95 spring concessions, corresponding to 212 withdrawal points. Their location and the definition of the priority level of interventions represented the preliminary stage of the interventions to be carried out in 2022.





FOCUS 04

Water crisis

In July 2022, a water deficit situation arose. The President of the Veneto Region, in his capacity as Delegated Commissioner for emergency interventions in order to manage the water crisis, appointed an Implementing Party to coordinate and manage the commissioner's activities, to be carried out using Viveracqua's technical structures.

The work team of the providers of the integrated water service management in the Veneto Region, coordinated by Viveracqua, after carrying out the most urgent interventions necessary to guarantee the continuity and quality of the drinking water service to the citizens of the regional territory, outlined works and activities to consolidate the first emergency measures. These measures, which will be completed by 2023, aim at strengthening the safety of drinking water collection and distribution in case similar drought events occur again in the future. The result was an emergency action plan

aimed at maintaining a reduced impact of the drought and making the containment of shortages more effective. The plan consists of 86 interventions, with a total expenditure of approximately 34 million Euros.

The plan also includes, on the one hand, actions to cope with drought, with 192 interventions on interconnections totalling more than EUR 715 million, and, on the other hand, on leakage research, with an investment totalling more than EUR 400 million aimed at tackling waste. These are all long-term works that aim to increase the resilience of Veneto's water infrastructure system to cope with the consequences of *climate change*.

It was agreed that it is necessary to set up a comprehensive strategy, involving the other uses, agricultural and industrial, including the hydropower industry; in fact, in Veneto, the withdrawal of fresh water for hydro-drinking use does not reach 20%.

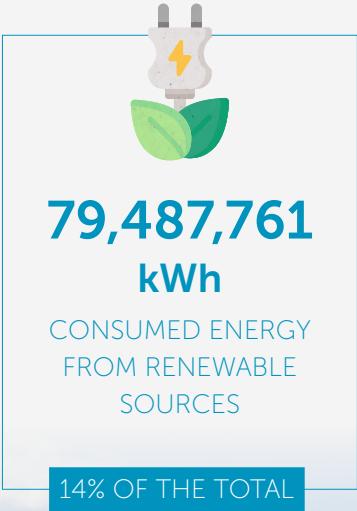
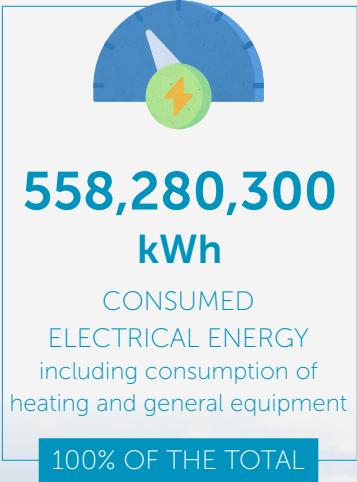
ENERGY

The water service is one of the most energy-intensive process, it requires increasing energy efficiency and the use of renewable energy. They play a crucial role to fight climate change.

Energy consumption is one of the most striking aspects within the integrated water service management concerning mainly the electrical energy used.

The waterworks industry, in particular, is the area where consumption is significant, given that the use of pumps for water supply is very costly in terms of energy consumption.

The figures for electricity consumption in aggregate form are shown below:



VIVERACQUA ACTIVITIES AND PROJECTS

All together, the 12 providers are constantly on the front line every day to meet the needs of users, improve the service offered and environmental protection standards, invest in upgrading networks and plants, promote research and development of innovative solutions, reduce costs and achieve significant savings for the benefit of the territories.

VIVERACQUA HYDROBOND

Improving water resources with economic and financial investment in efficient infrastructure ensuring a sustainable environment for future generations

The **Viveracqua Hydrobond** project enables us to support, without interruption, necessary investments in the water sector, which also serve as a significant driver for the economic prosperity of our territories. The bond issue operation is conducted within a collaborative and mutually supportive framework among water providers.

In 2022, we concluded the Viveracqua Hydrobond 2022 operation, raising 148.5 million euros through a long-term bond issue involving six associated providers, alongside the European Investment Bank (EIB), Cassa Depositi e Prestiti (CDP), and Kommunalkredit Austria AG (Kommunalkredit). This builds upon the positive outcomes of the Viveracqua Hydrobond 2020 initiative.

The funds raised will be allocated to a comprehensive investment plan totalling 350 million euros, aimed at enhancing the Veneto water service. These investments will benefit businesses and households, aligning with the principles of sustainable water management (goal no. 6 of the United Nations 2030 agenda).

Operating as a private placement, this innovative financing mechanism supports the investment plans of six companies serving more than 290 municipalities and over 2.3 million inhabitants, thanks to an aqueduct network covering over 22,000 kilometres. The planned interventions primarily focus on upgrading sewerage networks and

HYDROBOND

purification plants. This latest bond issue follows the success of previous initiatives in 2014 (150 million euros, translating to over 341 million in investments), 2016 (77 million euros, with construction sites totalling more than 197 million), and 2020 with Viveracqua Hydrobond 2020 (248 million euros, with planned investments of 700 million), which brings a total of 1.588 billion euros invested in Veneto, to enhance network efficiency, service delivery, and environmental protection standards across the region.



SMART.MET

SMART METERS FOR REMOTE READING AND REMOTE MANAGEMENT

Viveracqua spearheaded SMART.MET, or **Water Smart Metering, Water Smart Metering, a European initiative focused on researching innovative technological solutions for smart meter development.**

Launched in 2017 and concluded in early 2022, the project **involved** Viveracqua and **six European public utility companies** managing water supply systems: Eau de Paris and SDEA from France, Vivaqua and CILE from Belgium, Promedio from Spain, and Budapest Waterworks from Hungary.

The collaborative programme aimed to establish a new model of cooperation between public and private entities.

Viveracqua and the participating companies engaged in a Pre-Commercial Procurement process divided into three phases, which included market research services procurement:

smart,met 

- **PHASE 1 (2018-2019)** Preparation of projects for new smart meters;
- **PHASE 2 (2019-2020)** Construction of prototypes based on the most promising projects;
- **PHASE 3 (2020-2021)** Field testing of the top prototypes selected from those developed in the preliminary step

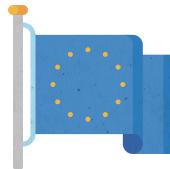
The **smart meters** developed through this project **enable real-time measurement, recording, and transmission of water consumption.** They are built on open technological platforms, independent of proprietary systems. Their adoption promises **enhanced water resource management, leading to reduced water and energy wastag.** The total expenditure for this research endeavour amounted to approximately 3.6 million euros, with 90% of the funding sourced from the European Union's *Horizon 2020* programme.





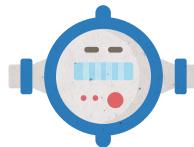
3.6 MLN €

TOTAL
EXPENDITURE
OF THE RESEARCH
PROJECT



90%

FINANCED
BY THE
EUROPEAN
UNION



3,000

SMART
METERS
INSTALLED
IN TOTAL



5

EUROPEAN
COUNTRIES
INVOLVED
IN THE PROJECT

VIVERACQUALAB

TOGETHER TO ENSURE
SAFE WATER

ViveracquaLab operates as a collaborative network uniting laboratories and technicians from various companies to pool expertise and technologies for analysing the quality of drinking and wastewater. **This initiative ensures water resource protection, mitigates environmental contamination risks, and safeguards public health.**

Annually, this synergy enables **150,000 checks** to be carried out and the analysis of **1.5 million parameters**. The controls remain aligned with evolving regulations across the



entire supply chain, from sampling points to taps, and from wastewater discharge to purification processes before returning to the environment, leveraging specialized personnel and existing technological infrastructure within the network.

Thanks to the synergy fostered by the ViveracquaLab project, water providers benefit from **scale optimizations, share the diffusion of technological innovations, and develop common methodologies for researching emerging contaminants.**

Established in 2018, ViveracquaLab operates **five laboratories, four of which are**

EVERY YEAR

150,000

CHECKS
PERFORMED

1.5 MLN

PARAMETERS
ANALYSED

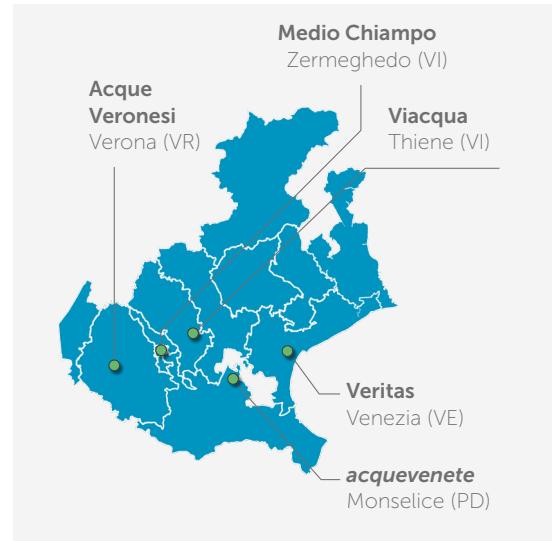


accredited accredited under UNI EN ISO 17025: Veritas, *acquevenete*, Acque Veronesi, Medio Chiampo and Viacqua.

Analysis conducted over the 2019-2021 period encompassed a **total of 1,8 million parameters requiring analysis, with ViveracquaLab successfully meeting over 80% of these requirements.**

Over the next four years, with the inclusion of Alto Trevigiano Servizi and the contract renewal in 2022, the Viveracqua Lab Network will expand its services.

This expansion is expected to yield significant economies of scale, thereby mitigating unit service costs while potentially enhancing the current quality standards. ViveracquaLab also serves as a key reference point for regional government institutions responsible for monitoring the environment and health, with which it collaborates in the implementation of monitoring plans (the SARI project, *waste water-based epidemiology* for SARS-CoV-2, and a standby network for detecting radioactivity in the event of accidental radionuclide release).



VIVERACQUA lab

WATER SAFETY PLANS

The Venetian water providers of Viveracqua have embraced a holistic approach to resource management, extending it across the entire supply chain, even predating the regulatory obligation enforced by Legislative Decree no. 18/2023. This decree, implementing European Directive 2020/2184, standardized the methodology for developing Water Safety Plans - WSP (or PSA *Piani di Sicurezza dell'Acqua*, in Italian terminology).

These plans aim to identify prevention and control activities to ensure the highest quality of drinking water across all EU Member States.

For several years, the managers within Viveracqua have collectively adopted an approach to develop and implement Water Safety Plans, **prioritizing the safety of supplied water through prevention measures and risk analysis.**

The objective is to develop WSPs for all

territories served by the 12 Viveracqua water providers by 2029. This entails precise mapping to identify risk **matrices for over 2,000 withdrawal sources, including springs, aquifers, and surface waters**, as well as across the extensive aqueduct network spanning over 47,000 km.

More than 450 WSPs are currently being drafted for Viveracqua. Additionally, synergy among the 12 water providers in **the Veneto Region extends to skills development initiatives.** Viveracqua has organized **training sessions for team leaders and technicians tasked with overseeing the development, implementation, maintenance, verification, and revision of the WSPs** for all waterworks in the Veneto Region.

In 2022, efforts to establish a unified model for a Veneto-wide water safety plan continued, involving the **National Institute of Health,**

PSA PIANO DI SICUREZZA DELL'ACQUA

the Region, ARPAV, and all water providers operating in the region.

This initiative focuses on **adopting a common glossary and shared risk matrix**, standardizing hazardous events, their likelihood, and potential impacts.

The adoption of common WSPs also addresses **the potential management of emerging contaminants**, requiring collaboration with IT departments of managers for the development of specialized software to facilitate WSP development.

MORE THAN 450 WSPs
are currently being drafted
for VIVERACQUA providers:
to be completed by 2025



SINGLE CENTRAL PURCHASING BODY

Since 2013, the 12 Viveracqua providers have also operated in synergy in the field of purchasing. Through the **single purchasing body, the companies centralise requirements, tender procedures and supplier selection methods.**

The consortium companies thus pursue important objectives, such as:

- realise economies of scale;
- optimise general management costs;
- improve technical performance;
- increase competitiveness.

A collaboration that, over the years, has brought considerable savings due to increased **bargaining power.**

The Viveracqua providers also have a **regional suppliers' register**, to which they can resort for any type of tendering procedure.

centrale unica
di committenza 

IN 2022, PROCUREMENT
PROCEDURES FOR

130 MLN €

WERE PROCESSED



REPORT ON THE FINAL TREATMENT OF SEWAGE SLUDGE

Throughout 2022, Viveracqua maintained an active working group to generate a **report serving as a reference for establishing strategic guidelines regarding sewage sludge treatment in the near future.**

In-house providers of the Veneto Region's integrated water system management provided their **feedback regarding the Regional Waste Management Plan.**



The objectives of these proposals include:

- **complete elimination of landfilling**, except during the transitional phase preceding the establishment of permanent solutions that will actually be adopted;
- **maximization of recovery opportunities in agriculture and green supply chains**,
- **utilization of waste-to-energy processes for the remaining waste** employing existing facilities and constructing new mono-incineration plants.

In 2022, efforts concentrated on gathering analytical and production data from various reference plants in order to refine the system's design.

EUROPEAN H2020 B-WATERSMART PROJECT

The European H2020 B-WaterSmart Project aims to facilitate the **transition to 'water-smart' economies and societies** in coastal areas of Europe, coordinated by the German research institute 'IWW Water Centre'. The project involves 36 partners from seven European countries. In addition to Venice (receiving 2,3 million euros out of a total of 15 funded), other case studies leading the implementation of developed solutions include: Alicante (Spain), Bodø (Norway), Flanders (Belgium), Lisbon (Portugal), and East Friesland (Germany). Commencing in September 2020, the project is expected to conclude in August 2024.



Viveracqua's role is to represent the entire sector in the Veneto region offering the possibility of **extensive dialogue with European, national, and regional institutions, regulatory bodies, and sector representatives.**

Viveracqua has joined the Community of Practice (CoP) established within the project engaging various stakeholders. The project **primarily involves Veritas and Etra.**

The objective is **to demonstrate the suitability and sustainability of resource recovery strategies associated with sewerage purification processes.**

It seeks to identify potential management models to overcome barriers to cycle closure and establish the prerequisites for comprehensive knowledge conducive to transitioning **towards resource valorization and realizing a circular economy.**



**THE PROJECT
PRIMARILY INVOLVES:**



The project aims to:

- demonstrate the potential for reusing purified effluent from the Fusina plant (Marghera in Venice, operated by Veritas) (with a specific emphasis on nitrogen recovery);
- promote the valorization of sewage sludge from across the entire Veneto region, establishing guidelines and processes to (also) ensure safe and regulated reuse of sludge in agriculture.



PARTICIPATION IN NATIONAL AND INTERNATIONAL ASSOCIATIONS



UTILITALIA

Viveracqua is a member of **Utilitalia, the federation uniting the companies operating in the water, environment, electricity and gas public services**, representing them at national and European institutions. As a member of Utilitalia, Viveracqua acts as spokesperson for all *in-house* providers of the integrated water service management in the Veneto region.



AQUA PUBLICA EUROPEA



Viveracqua remains actively engaged in **the European association of public integrated water service operators that brings together publicly owned water and sanitation utilities** and other stakeholders.

APE's objective is to advocate for public management of water resources at both European and international levels.

Through this association, Viveracqua provided a financial contribution of 20,000 euros to the Ukrainian association of water operators in 2022 to assist them during the emergency arising from the ongoing conflict.



REF RICERCHE

Crucial for Viveracqua is also its contribution to the **activities of the REF Ricerche Laboratory**. This independent company supports businesses, institutions, and governmental bodies through analysis, research, and dissemination on **regulatory matters, both at national and EU levels, within the water and environment sectors.**

REGIONAL STRATEGY FOR SUSTAINABLE DEVELOPMENT

In 2022, Viveracqua became a signatory to the Protocol of Understanding for the Sustainable Development of the Veneto Region, aiming to bolster initiatives involving institutional and civil society players in the region's ecological transition. The agreement entails:

- active involvement in shaping the regional strategy for sustainable development;
- implementation of sustainable development principles in its own operations;
- participation in the periodic monitoring of operations in order to share the activity carried out and its results.



VIVERACQUA

GESTORI IDRICI DEL VENETO

VIVERACQUA SCARL

REGISTERED AND ADMINISTRATIVE OFFICE
Lungadige Galtarossa, 8 - 37133 Verona (VR)

LOCAL UNIT
Via Cristoforo Colombo, 29/A - 35043 Monselice (PD)

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Viveracqua is member of



European association
of public integrated
water service

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Servizio Idrico Integrato



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ALTO TREVIGIANO SERVIZI



LTA
LIVENZA TAGLIAMENTO
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MEDIO CHIAMPO



PIAVE SERVIZI




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