

# WATER COMPANY DATA SHEETS AND OVERSEAS ACTIVITIES

This chapter illustrates the activities of some Group companies not included in the scope of the *Consolidated Non-Financial Statement* (see *Disclosing sustainability: methodological note*). In particular, data and information are provided relating to the main operating Companies for the water sector in Umbria and Tuscany, consolidated using the equity method in the statutory financial statements, and to the companies that are active abroad in the same sector.

## Water activities in Umbria and Tuscany

### UMBRA ACQUE

Umbra Acque SpA is a company with predominantly public capital, 40% owned by Acea SpA, which manages the Integrated Water

Service in the area of the Integrated Water Services no. 1 and 2 of the Umbria Region, consisting of 38 Municipalities, of which 37 in the province of Perugia and 1 in the province of Terni, with a total population of around 490,000 inhabitants served.

### MANAGEMENT SYSTEMS

Umbra Acque has an **Integrated Quality, Environment and Safety Management System (QAS)**, in compliance with the **UNI ISO 9001:2015, UNI ISO 14001:2015 and ISO 45001:2018** standards. It also holds the **SOA certification** for the **OG6** (in class III)<sup>256</sup> and **OS22** (in class II)<sup>257</sup> categories and **qualification for design and construction** (up to the VIII classification). The analysis laboratory is accredited according to the **UNI ISO/IEC 17025:2018** standard and for the purposes of monitoring drinking water.

## QUALITY DELIVERED: MAIN INTERVENTIONS ON THE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTE WATER

### SIZE OF NETWORK, MAIN WORKS, METERS AND CHECKS ON DRINKING WATER AND NETWORKS (2023)

<b>size of drinking-water network</b> - data in GIS	<b>6,410 km</b> (1,379 km of supply network, 5,031 km of distribution)
<b>type of work</b>	
interventions due to network failure/leak detection	<b>18,267 interventions</b> (18,200 due to faults, 67 leak detection)
meter installations (new installation and replacement)	<b>20,917 interventions</b> (5,580 new installation, 15,337 replacements)
network extension	<b>38.0 km of expanded network</b>
network reclamation	<b>51.7 km of reclaimed network</b>
drinking water quality control	<b>6,472 samples</b> collected and <b>116,447 tests</b> performed

### SIZE OF NETWORK, WORKS AND CHECKS ON SEWERAGE WATER AND NETWORKS (2023)

<b>size of sewerage network</b> - data in GIS	<b>1,982 km</b>
<b>type of work</b>	
interventions due to network failure	<b>912 interventions</b>
planned interventions	<b>41 interventions</b>
network extension	<b>70.0 km of expanded network</b>
network reclamation	<b>24.4 km of network under video inspection</b> with in-house equipment and personnel
quality control on wastewater for sewerage networks	<b>5,305 samples</b> collected and <b>44,256 tests</b> performed

## HUMAN RESOURCES IN FIGURES

### GENERAL DATA ON PERSONNEL (2022-2023)

(no.)	2022			2023		
	men	women	total	men	women	total
<b>composition of the staff</b>						
executives	5	0	5	5	0	5
managers	14	2	16	14	2	16
clerical workers	77	93	170	76	96	172
workers	212	1	213	209	1	210
<b>total</b>	<b>308</b>	<b>96</b>	<b>404</b>	<b>304</b>	<b>99</b>	<b>403</b>
<b>contract type</b>						
staff with permanent contract	288	92	380	296	94	390
<i>of which part-time staff</i>	0	7	7	0	7	7
permanent staff	19	4	23	6	5	11
staff under apprenticeship contracts	1	0	1	2	0	2
<b>total</b>	<b>308</b>	<b>96</b>	<b>404</b>	<b>304</b>	<b>99</b>	<b>403</b>
<b>changes</b>						
<b>incoming staff</b>	<b>20</b>	<b>6</b>	<b>26</b>	<b>7</b>	<b>5</b>	<b>12</b>
<b>outgoing staff</b>	<b>8</b>	<b>4</b>	<b>12</b>	<b>11</b>	<b>2</b>	<b>13</b>
<b>turnover rate (%)</b>	<b>9.1</b>	<b>10.4</b>	<b>9.4</b>	<b>5.9</b>	<b>7.1</b>	<b>6.2</b>
incoming rate (%)	6.5	6.3	6.4	2.3	5.1	3.0
outgoing rate (%)	2.6	4.2	3.0	3.6	2.0	3.2

256 Aqueducts, gas pipelines, oil pipelines, irrigation and evacuation systems.

257 Drinking water and water treatment plants.

**INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2022-2023)**

	2022	2023
accidents (no.)	13	6
total days of absence	8,072	390
hours worked (*)	658,145	661,576
<b>frequency index (FI) (number of accidents per 1,000,000/working hours) (*)</b>	<b>19.8</b>	<b>9.1</b>
<b>severity index (SI) (days of absence per 1,000/working hours) (*)</b>	<b>12.3</b>	<b>0.6</b>

(\*) The 2022 figure was updated following its consolidation subsequent to the submission to ACEA.

**TRAINING 2022-2023**

**course type, hours provided and costs**

course type	courses (no.)		training (hours)		costs (€)	
	2022	2023	2022	2023	2022	2023
advanced training	1	1	42	34	0	1,425
technical-specialised	120	86	4,849	2,406	115,935	84,242
legal	8	6	65	45	2,495	2,684
managerial	9	5	71	26	3,125	1,617
safety	31	27	2,802	3,740	36,752	43,132
<b>total</b>	<b>169</b>	<b>125</b>	<b>7,829</b>	<b>6,251</b>	<b>158,307</b>	<b>133,100</b>

**employees trained**

(no.)	2022			2023		
	men	women	total	men	women	total
	308	96	<b>404</b>	304	99	<b>403</b>

**breakdown of training hours by qualification**

	2022	2023
executives	216	158
managers	313	244
clerical workers	1,468	858
workers	3,725	4,198

Training provided during the year covered **different topics**, such as legal requirements and responsibilities, monitoring and reporting on the National Recovery and Resilience Plan (NRRP), public tenders and contracts, sustainability, energy efficiency and water quality, biological treatment plants and water discharges-sewerage spillages, management of company waste, tariff method, water unbundling, internal control system and risk management, gender equality certification, new HR process to renew management software

(Employee Central), welders' certifications and CQC. Specifically important, the commitment by the technical and management area - SAP Asset Managers - and the Commercial and Operational Segments (Sales force training execution such as Sales force field service), with technical courses on digital skills focusing on new management software.

Furthermore, every year training on is provided on **safety** in compliance with applicable laws.

**ENVIRONMENTAL ACCOUNTS**

**PRODUCTS AND ANALYTICAL TESTS**

	u. m.	2021	2022	2023	Δ% 2023/2022
<b>WATER BALANCE</b>					
<b>drinking water from the environment</b>	<b>Mm<sup>3</sup></b>	<b>56.3</b>	<b>56.0</b>	<b>54.6</b>	<b>-2.5</b>
from the surface	Mm <sup>3</sup>	0	0	0	-
from wells	Mm <sup>3</sup>	42.8	45.2	40.3	-10.8
from springs	Mm <sup>3</sup>	10.2	8.1	11.9	46.9
of which water from other aqueduct systems	Mm <sup>3</sup>	3.3	2.7	2.4	-11.1
<b>total drinking water leaving the aqueduct system (c) = (a+b)</b>	<b>Mm<sup>3</sup></b>	<b>31.0</b>	<b>31.7</b>	<b>31.2</b>	<b>-1.6</b>
<b>total drinking water dispensed and billed in the network (a)</b>	<b>Mm<sup>3</sup></b>	<b>28.6</b>	<b>28.6</b>	<b>27.2</b>	<b>-4.9</b>
measured volume of water delivered to users	Mm <sup>3</sup>	28.6	28.6	27.2	-4.9
volume consumed by users and not measured	Mm <sup>3</sup>	0	0	0	-
<b>total drinking water authorised and not billed in the network (b)</b>	<b>Mm<sup>3</sup></b>	<b>2.4</b>	<b>3.0</b>	<b>4.0</b>	<b>33.3</b>
measured unbilled authorised consumption	Mm <sup>3</sup>	0.7	0.5	1.4	180.0
unmeasured unbilled authorised consumption	Mm <sup>3</sup>	1.7	2.5	2.6	4.0
<b>LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR</b>					
water leaks	Mm <sup>3</sup>	25.3	24.3	23.43	-3.6
water loss percentages	%	44.9	43.3	42.9	-0.9
<b>TREATED WASTE WATER</b>					
<b>water treated in the main treatment plants (*)</b>	<b>Mm<sup>3</sup></b>	<b>59.3</b>	<b>45.5</b>	<b>43.8</b>	<b>-3.7</b>
<b>ANALYTICAL TESTS ON DRINKING WATER AND WASTE WATER</b>					
<b>no. analytical tests on drinking water</b>	<b>no.</b>	<b>116,891</b>	<b>116,419</b>	<b>116,447</b>	<b>-</b>
of which no. analytical tests on surface water	no.	7,350	6,822	6,975	2.2
<b>no. analytical tests on wastewater (**)</b>	<b>no.</b>	<b>42,404</b>	<b>42,160</b>	<b>44,256</b>	<b>4.0</b>

(\*) The 2021 figures are estimated. Figures for the 2022-2023 two-year period were partially measured (for treatment plants above 10,000 PE in 2022 and for those above 2,000 AE in 2023). The sharp decline in 2022 is due in part to the new reporting method and in part to the modest precipitation in 2022, which reduced the quantity of mixed water input.

(\*\*) The figure includes analyses carried out at treatment plants and industrial waste.

RESOURCES USED	u. m.	2021	2022	2023	Δ% 2023/2022
COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
<b>materials</b>					
sodium hypochlorite	t	93	87	92	5.7
sodium chloride	t	222	217	210	-3.2
hydrochloric acid	t	210	214	208	-2.8
aluminium polychloride	t	11	9	4	-55.6
phosphoric acid (10%)	t	0	0	0	-
WASTE WATER TREATMENT					
<b>materials</b>					
polyelectrolyte emulsion	t	95	138	126	-8.7
ferric chloride (40%)	t	114	201	165	-17.9
mineral oil and fats	t	0	0	0	-
OTHER CONSUMPTION					
<b>drinking water (*)</b>	<b>m<sup>3</sup></b>	<b>53,178</b>	<b>35,189</b>	<b>48,299</b>	<b>48.9</b>
<i>drinking water consumed for non-industrial water uses (offices, outside showers, etc.)</i>	m <sup>3</sup>	10,416	12,770	19,451	210.2
<i>drinking water consumed for process water uses (washing machinery and bays, etc.)</i>	m <sup>3</sup>	42,762	22,419	28,848	10.2

(\*) The 2022 figures were updated following their consolidation subsequent to the submission to ACEA. The 2023 figures reflect a sharp increase in the use of drinking water relating to the progressive return of staff to the office after the health emergency in previous years.

There are no active internal water reuse processes, but the Company has supplied 278,426 m<sup>3</sup> of non-potable water for industrial use to two local businesses.

ENERGY CONSUMPTION (*)	u. m.	2021	2022	2023	Δ% 2023/2022
FUELS					
<b>vehicle fuels</b>					
diesel	l	456,600	444,900	407,662	-8.4
petrol	l	5,800	4,935	12,725	157.9
ELECTRICITY					
<b>total electricity for drinking water</b>	<b>GWh</b>	<b>69.4</b>	<b>74.8</b>	<b>71.7</b>	<b>-4.1</b>
<i>electricity for water pumping stations</i>	GWh	69.1	74.0	71.0	-4.1
<i>electricity for offices</i>	GWh	0.3	0.8	0.7	-12.5
<b>total electricity for waste water</b>	<b>GWh</b>	<b>23.2</b>	<b>22.8</b>	<b>25.7</b>	<b>12.7</b>
<i>electricity for treatment</i>	GWh	17.9	17.8	17.1	-3.4
<i>electricity for pumping stations</i>	GWh	5.2	4.9	5.5	12.2
<i>electricity for offices</i>	GWh	0.1	0.1	0.1	-

(\*) The figures for the 2021-2022 two year period were adjusted after rounding off.

#### ENERGY EFFICIENCY (2021-2023)

action	energy savings achieved (kWh)		
	2021	2022	2023
extraordinary maintenance on plants	150,000	415,000	900,000

Energy efficiency maintenance work was carried out during 2023 at the following plants:

- replacement of electrical pump at the Murelli water system, Municipality of Perugia;
- revamping Raggio water system, Municipality of Gubbio;
- revamping oxidation system Montesperello treatment plant, Municipality of Magione;
- revamping oxidation system Genna treatment plant (line 30,000 PE), Municipality of Perugia.

WASTE	u. m.	2021	2022(**)	2023	Δ% 2023/2022
SPECIFIC WASTE FROM TREATMENT OF WASTE WATER					
treatment sludge (*)	t	13,868	17,974	11,641	-35.2
sand and sediment from treatment	t	1,353	1,645	961	-41.6
WASTE EXCLUDING SLUDGE AND SAND					
hazardous waste (***)	t	8.0	16.1	11.9	-26.1
non-hazardous waste	t	3,767	3,194	2,735	-14.4

(\*) The item includes liquid sludge transported to other plants for the dewatering process, for a value of 2,525 t in 2021, 5,253 t in 2022 and 827 t in 2023.

(\*\*) Some figures for 2022 have been updated following consolidation.

(\*\*) The increase in 2022 is due to the exceptional disposal of vehicles and company cars.

**TOTAL COD IN INPUT AND OUTPUT (2021-2023)**

(t/year)	2021	2022	2023
COD <sub>in</sub>	13,401	12,395	15,692
COD <sub>out</sub>	1,556	1,711	1,244

**OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS (2021-2023)**

parameter	average values (mg/l) 2021	average values (mg/l) 2022	average values (mg/l) 2023
BOD <sub>5</sub> (*)	12.3	12.9	12.3
COD	21.0	21.0	17.9
SST	12.0	13.7	8.5
NH <sub>4</sub> <sup>+</sup>	2.0	2.0	1.3
phosphorous	2.0	1.9	1.8

(\*) The output BOD<sub>5</sub> value is expressed with the value of the limit of quantification (LOQ) equal to 12.3, resulting in all analytical calculations being lower than this value.

**PURIFICATION EFFICIENCY OF THE MAIN TREATMENT PLANTS (2021-2023)**

parameter	average values (%) 2021	average values (%) 2022	average values (%) 2023
$100 \times (\text{COD}_{in} - \text{COD}_{out}) / \text{COD}_{in}$	88.4	91.3	92.6
$100 \times (\text{SST}_{in} - \text{SST}_{out}) / \text{SST}_{in}$	95.7	93.4	95.8
$100 \times (\text{NH}_4^+_{in} - \text{NH}_4^+_{out}) / \text{NH}_4^+_{in}$ (*)	93.8	93.1	94.8
$100 \times (\text{P}_{in} - \text{P}_{out}) / \text{P}_{in}$ (*)	35.0	27.8	26.5

(\*) Umbra Acque does not detect phosphates leaving treatment plants, as the standard does not establish a limit, but rather total phosphorus as specified in Table 2 of Annex 5 to Part III of the Consolidated Environmental Law (TUA), with more stringent monitoring of the nutrient discharged into surface water bodies.

**PUBLIACQUA**

Publiacqua SpA is a mixed ownership Company with a majority public interest, owned by Acea through Acque Blu Fiorentina SpA, which manages the Integrated Water Service in the area of Optimal Territorial Conference no. 3 – Medio Valdarno, with a total population of over 1.2 million citizens served.

**MANAGEMENT SYSTEMS**

Publiacqua has implemented the **Integrated Quality, Environment, and Safety (QAS) Management System**, which complies with **UNI EN ISO 9001:2015, 14001:2015 and 45001:2018** standards for the primary operating activities. It is certified for the **Anti-Bribery Management System UNI ISO 37001:2016**, and the analysis laboratory is accredited in accordance with **UNI ISO/IEC 17025:2005**.

**QUALITY DELIVERED: MAIN INTERVENTIONS ON THE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTE WATER****SIZE OF NETWORK, MAIN WORKS, METERS AND CHECKS ON DRINKING WATER AND NETWORKS (2023)**

<b>size of drinking-water network - data in GIS</b>	<b>6,906 km</b> (1,233 km of supply network, 5,673 km of distribution)
TYPE OF WORK	
interventions due to network failure/leak detection	<b>15,304 interventions</b> (13,426 due to fault reporting, 1,878 due to leak detection activities)
meter installations (new installation and replacement)	<b>4,938 interventions</b> (2,698 new installation, 2,240 replacements due to faults/breakages) and <b>7,403 massive replacements</b> with contract
network extension	<b>2.45 km of expanded network</b>
network reclamation	<b>34.03 km of reclaimed network</b>
drinking water quality control	<b>9,294 samples</b> collected and <b>333,791 tests</b> performed

**SIZE OF NETWORK, WORKS AND CHECKS ON SEWERAGE WATER AND NETWORKS (2023)**

<b>size of sewerage network - data in GIS</b>	<b>3,872.90 km</b>
TYPE OF WORK	
interventions due to network failure	<b>5,281 interventions</b>
planned interventions	<b>2,505 interventions</b>
network extension	<b>3.31 km of expanded network</b>
network reclamation	<b>12.05 km of reclaimed network</b>
quality control on wastewater for sewerage networks	<b>3,410 samples</b> collected and <b>62,156 tests</b> performed

## HUMAN RESOURCES IN FIGURES

## GENERAL DATA ON PERSONNEL (2022-2023)

(no.)	2022			2023		
	men	women	total	men	women	total
<b>composition of the staff</b>						
executives	3	1	4	4	1	5
managers	14	8	22	15	8	23
clerical workers	184	156	340	182	156	338
workers	269	3	272	274	3	277
<b>total</b>	<b>470</b>	<b>168</b>	<b>638</b>	<b>475</b>	<b>168</b>	<b>643</b>
<b>contract type</b>						
staff with permanent contract	421	153	574	425	160	585
<i>of which part-time staff</i>	3	7	10	3	8	11
permanent staff	6	2	8	10	7	17
staff under apprenticeship contracts	37	0	37	35	1	36
<b>total</b>	<b>464</b>	<b>155</b>	<b>619</b>	<b>470</b>	<b>168</b>	<b>638</b>
<b>changes</b>						
<b>incoming staff</b>	<b>44</b>	<b>25</b>	<b>69</b>	<b>33</b>	<b>6</b>	<b>39</b>
<b>outgoing staff</b>	<b>39</b>	<b>11</b>	<b>50</b>	<b>27</b>	<b>7</b>	<b>34</b>
<b>turnover rate (%)</b>	<b>17.7</b>	<b>21.4</b>	<b>18.6</b>	<b>12.6</b>	<b>7.7</b>	<b>11.3</b>
incoming rate (%)	9.4	14.9	10.8	6.9	3.6	6.1
outgoing rate (%)	8.3	6.5	7.8	5.7	4.2	5.3

## INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2022-2023)

	2022	2023
accidents (no.) (*)	8	10
total days of absence (**)	217	343
hours worked (***)	1,033,301	1,062,287
<b>frequency index (FI) (number of accidents per 1,000,000/working hours)</b>	<b>7.74</b>	<b>9.41</b>
<b>severity index (SI) (days of absence per 1,000/working hours)</b>	<b>0.21</b>	<b>0.32</b>

(\*) Accidents with effects lasting for more than one day are considered.

(\*\*) The value also excludes days of absence related to persistent or reopened injuries from previous years.

(\*\*\*) This is the sum of ordinary and overtime hours.

## TRAINING 2022-2023

## course type, hours provided and costs

course type	courses (no.)		training (hours)		costs (€)	
	2022	2023	2022	2023	2022	2023
advanced training (*)	0	0	0	0	0	0
IT	2	4	24	104	2,100	4,887
technical-specialised	112	94	5,593	7,901	61,250	67,948
managerial	4	19	490	3,000	27,290	138,902
administrative-managerial	30	46	1,924	2,838	95,300	43,972
safety	40	42	2,725	3,183	50,823	49,066
<b>total</b>	<b>188</b>	<b>205</b>	<b>10,756</b>	<b>17,026</b>	<b>236,763</b>	<b>304,775</b>

## employees trained (\*\*)

(no.)	2022			2023		
	men	women	total	men	women	total
	503	180	683	478	168	646
<b>breakdown of training hours by qualification</b>						
executives	104	21	125	56	0	56
managers	217	191	408	334	487	821
clerical workers	1,622	1,322	2,960	3,593	3,462	7,055
workers	7,227	43	7,263	9,001	93	9,094

(\*) The advanced training courses provided to employees are managed by Acea SpA, which bears the costs.

(\*\*) Figures are higher because they also include employees who left before the year.

In addition to the mandatory training jointly decided with the Prevention and Protection Service Manager (RSPP), an investigation was conducted when drawing up the Plan, involving organisational structure managers to assess their requirements.

The changes included, a course for managers on the topic of **Diversity & Inclusion**, outlining international and external scenarios, starting with **inclusive leadership**. In this context, all staff was offered a detailed online training course on **inclusive communication**, dealing with stereotypes and prejudices, as well the corporate inclusive vision and mission.

**Team building** events were also held, involving around 150 people, including the entire structure staff component, with a maximum of 25 people per function, and representative groups for the larger

functions. All functions undertook an external training day on emotional development, collaboration and nurturing team spirit.

Additional training courses were provided during the year on the following topics: **Cyber Security** and **Data Protection**; **specialist training** referring to amendments to legislation for the different organisational functions; updates and applications referring to legislation on the new **Public Contracts Code**; **safety** and **first aid**; **Italian Legislative Decree no. 231/anti-corruption**.

Finally, a course was held on the secure use of **ABB Drive Service devices**, which have made it possible for the company to become independent in managing, maintaining, operating and replacing the technical equipment supplied on an exclusive basis by the relevant company.

## ENVIRONMENTAL ACCOUNTS

### PRODUCTS AND ANALYTICAL TESTS

	u. m.	2021	2022 (*)	2023 (**)	Δ% 2023/2022
<b>WATER BALANCE</b>					
<b>drinking water from the environment</b>	<b>Mm<sup>3</sup></b>	<b>147.0</b>	<b>143.9</b>	<b>141.2</b>	<b>-1.9</b>
from the surface	Mm <sup>3</sup>	93.5	93.0	91.2	-1.9
from wells	Mm <sup>3</sup>	43.5	41.1	40.4	-1.7
from springs	Mm <sup>3</sup>	9.3	9.1	8.9	-2.2
of which water from other aqueduct systems	Mm <sup>3</sup>	0.66	0.70	0.71	1.4
<b>total drinking water leaving the aqueduct system (e) = (a+b+c+d)</b>	<b>Mm<sup>3</sup></b>	<b>87.9</b>	<b>86.9</b>	<b>86.4</b>	<b>-0.6</b>
<b>total drinking water dispensed and billed in the network (a)</b>	<b>Mm<sup>3</sup></b>	<b>78.8</b>	<b>80.1</b>	<b>79.1</b>	<b>-1.2</b>
measured volume of water delivered to users	Mm <sup>3</sup>	78.1	79.2	78.2	-1.3
volume consumed by users and not measured	Mm <sup>3</sup>	0.66	0.95	0.95	-
<b>total drinking water authorised and not billed in the network (b)</b>	<b>Mm<sup>3</sup></b>	<b>0.4</b>	<b>0.53</b>	<b>0.56</b>	<b>5.7</b>
measured unbilled authorised consumption	Mm <sup>3</sup>	0	0.13	0.16	23.1
unmeasured unbilled authorised consumption	Mm <sup>3</sup>	0.4	0.4	0.4	-
<b>drinking water exported (sub-distributors) (c)</b>	<b>Mm<sup>3</sup></b>	<b>0.9</b>	<b>0.005</b>	<b>0.008</b>	<b>60.0</b>
<b>measured process losses (d)</b>	<b>Mm<sup>3</sup></b>	<b>7.8</b>	<b>6.3</b>	<b>6.7</b>	<b>6.3</b>
<b>LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR</b>					
water leaks (***)	Mm <sup>3</sup>	59.1	57.0	54.8	-3.9
water loss percentages	%	40.2	39.6	38.8	-2.0
<b>TREATED WASTE WATER</b>					
<b>water treated in the main treatment plants</b>	<b>Mm<sup>3</sup></b>	<b>98.3</b>	<b>93.0</b>	<b>91.2</b>	<b>-1.9</b>
<b>ANALYTICAL TESTS ON DRINKING WATER AND WASTE WATER</b>					
<b>no. analytical tests on drinking water</b>	<b>no.</b>	<b>296,620</b>	<b>319,572</b>	<b>333,791</b>	<b>4.4</b>
of which no. analytical tests on surface water (****)	no.	24,949	29,435	31,953	8.5
<b>no. analytical tests on waste water</b>	<b>no.</b>	<b>38,676</b>	<b>55,794</b>	<b>62,156</b>	<b>11.4</b>

(\*) Some figures for 2022 have been updated following consolidation.

(\*\*) The 2023 figures are estimated.

(\*\*\*) The value of the water losses coincides with the "total lost volume (WLtot)" and includes the unmeasured treatment losses, the supply losses and the total distribution water losses.

(\*\*\*\*) Analysis of crude surface water (untreated).

RESOURCES USED	u. m.	2021	2022 (*)	2023	Δ% 2023/2022
COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
<b>materials</b>					
sodium hypochlorite	t	1,097	1,160	959	-17.3
sodium chloride	t	349	409	478	16.9
hydrochloric acid	t	402	429	491	14.4
flocculant	t	5,015	4,590	4,341	-5.4
purate	t	414	345	323	-6.4
sulphuric acid	t	608	528	522	-1.1
oxygen	t	76	19	27	42.1
acetic acid	t	112	65	85	30.8
carbon dioxide (excluding drinking fountains)	t	648	740	712	-3.8
ferrous chloride	t	37	27	36	33.3
phosphoric acid	t	18	16	20	25.0
WASTE WATER TREATMENT					
<b>materials</b>					
polyelectrolyte emulsion	t	307	323	113	-65.0
sodium hypochlorite	t	64	48	60	25.0
peracetic acid, caustic soda, polyamine/anti-foaming agent	t	12	12	6	-50.0
polyaluminium chloride (PAC)	t	4,122	3,196	3,329	4.2
lime	t	693	568	56	-90.1
acetic acid 80%	t	684	765	868	13.5
OTHER CONSUMPTION					
<b>drinking water</b>	<b>m<sup>3</sup></b>	<b>275,109</b>	<b>191,432</b>	<b>199,125</b>	<b>4.02</b>

(\*) Some figures for 2022 have been updated following consolidation.

ENERGY CONSUMPTION	u. m.	2021	2022 (*)	2023	Δ% 2023/2022
FUELS					
<b>process fuels - wastewater</b>					
methane	Sm <sup>3</sup>	90,195	93,889	66,882	-28.8
biogas produced	m <sup>3</sup>	593,478	562,421	494,273	-12.1
<b>heating fuels</b>					
methane	Sm <sup>3</sup>	60,641	63,125	48,130	-23.7
diesel fuel	l	5,000	4,125	4,000	-3.0
lpg	l	1,750	2,170	2,150	-0.9
<b>vehicle fuels</b>					
diesel	l	360,131	363,564	345,133	-5.1
petrol	l	26,172	28,515	31,690	11.1
ELECTRICITY					
<b>total electricity for drinking water</b>	<b>GWh</b>	<b>71.2</b>	<b>72.6</b>	<b>71.7</b>	<b>-1.2</b>
electricity for water pumping stations	GWh	69.6	70.6	69.9	-1.0
electricity for offices	GWh	1.6	2.0	1.8	-10.0
<b>total electricity for waste water</b>	<b>GWh</b>	<b>35.0</b>	<b>35.8</b>	<b>35.1</b>	<b>-2.0</b>
electricity for treatment	GWh	30.5	30.5	30.7	0.7
electricity for pumping stations	GWh	4.4	5.2	4.3	-17.3
electricity for offices	GWh	0.1	0.1	0.1	-

(\*) Some figures for 2022 have been updated following consolidation

In 2023, energy efficiency work was carried out to reduce consumption on distribution networks.

**ENERGY EFFICIENCY (2021-2023)**

action	energy savings achieved (kWh)			2023
	2021	2022	2022	
network efficiency improvement	3,195,000	1,500,000		830,000
Soa Coverciano – Power quality <i>management</i>	-	3,990		-
offices <i>relamping</i>	-	250,000		-

  

WASTE	u.m.	2021	2022 (*)	2023	Δ% 2023/2022
<b>SPECIFIC WASTE FROM TREATMENT OF WASTE WATER</b>					
treatment sludge	t	30,873	29,731	24,572	-21.0
sand and sediment from treatment	t	1,296	1,054	1,406	33.4
<b>waste pursuant to Italian Legislative Decree no. 152/06 excluding sludge and sand</b>					
hazardous waste	t	83.6	26.6	49.6	86.5
non-hazardous waste	t	8,009	7,591	9,035	19.0

(\*) Some figures for 2022 have been updated following consolidation.

**TOTAL COD IN INPUT AND OUTPUT - SAN COLOMBANO TREATMENT PLANT (2021-2023)**

(t/year)	2021	2022 (*)	2023
COD <sub>in</sub>	14,851	13,755	13,696
COD <sub>out</sub>	1,691	1,468	1,233

(\*) Some figures for 2022 have been updated following consolidation.

**OUTPUT PARAMETERS – SAN COLOMBANO TREATMENT PLANT (2021-2023) (\*)**

parameter	average values (mg/l) 2021	average values (mg/l) 2022	average values (mg/l) 2023
BOD <sub>5</sub>	2.1	2.3	2.7
COD	15.6	15.8	13.5
SST	4.9	4.9	7.0
NH <sub>4</sub> <sup>+</sup>	1.0	0.8	0.8
phosphorous	0.7	0.8	0.7

(\*) The San Colombano waste water treatment plant (600,000 population equivalent) treats about half of Publiacqua's global waste water.

**OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS (2021-2023) (\*)**

parameter	average values (mg/l) 2021	average values (mg/l) 2022 (**)	average values (mg/l) 2023
BOD <sub>5</sub>	2.1	2.3	2.5
COD	17.1	16.5	13.5
SST	4.7	4.8	6.2
NH <sub>4</sub> <sup>+</sup>	1.1	1.1	0.9
phosphorous	0.8	0.9	0.8

(\*) The figures include 39 treatment plants, including San Colombano, which treat a total of 98% of wastewater and 96% of the organic load (COD) of Publiacqua.

(\*\*) Some figures for 2022 have been updated following consolidation.

**PURIFICATION EFFICIENCY SAN COLOMBANO TREATMENT PLANT (2021-2023)**

parameter	average values (%) 2021	average values (%) 2022	average values (%) 2023
$100 \times (\text{COD}_{in} - \text{COD}_{out}) / \text{COD}_{in}$	93.2	87.4	89.9
$100 \times (\text{SST}_{in} - \text{SST}_{out}) / \text{SST}_{in}$	92.3	91.2	88.4
$100 \times (\text{NH}_4^+_{in} - \text{NH}_4^+_{out}) / \text{NH}_4^+_{in}$	95.8	97.3	96.8
$100 \times (\text{PO}_4^{3-}_{in} - \text{PO}_4^{3-}_{out}) / \text{PO}_4^{3-}_{in}$	72.7	73.7	74.6

**PURIFICATION EFFICIENCY OF THE MAIN TREATMENT PLANTS (2021-2023) (\*)**

parameter	average values (%) 2021	average values (%) 2022 (**)	average values (%) 2023
$100 \times (\text{COD}_{in} - \text{COD}_{out}) / \text{COD}_{in}$	88.4	89.3	91.0
$100 \times (\text{SST}_{in} - \text{SST}_{out}) / \text{SST}_{in}$	93.9	92.7	90.8
$100 \times (\text{NH}_4^+_{in} - \text{NH}_4^+_{out}) / \text{NH}_4^+_{in}$	95.8	96.7	96.7
$100 \times (\text{PO}_4^{3-}_{in} - \text{PO}_4^{3-}_{out}) / \text{PO}_4^{3-}_{in}$	73.0	73.4	74.3

(\*) The figures include 39 treatment plants, including San Colombano, which treat a total of 98% of wastewater and 96% of the organic load (COD) of Publiacqua.

(\*\*) Some figures for 2022 have been updated following consolidation.



## ACQUE

Acque SpA manages the Integrated Water Service in the area of Optimal Territorial Conference 2 Lower Valdarno on the basis of the concession agreement issued by the Autorità Idrica Toscana (AIT), consisting of 55 Municipalities in the provinces of Pisa, Lucca, Florence, Pistoia and Siena, with a total population of over 761,000 user accounts served.

During the year, the merger by incorporation took place of Acque Servizi Srl into Acque SpA, following which, the 2023 figures referring to human resources, training, accidents and energy consumption include the information for Acque Servizi SpA.

## MANAGEMENT SYSTEMS

Acque has implemented and certified an **Integrated Management System for Quality, Environment, Safety, Energy Efficiency and Social Responsibility, Road Safety and the Prevention of Corruption**. In addition, the laboratory is accredited pursuant to the **UNI CEI EN ISO/IEC 17025:2018** standard and the Pagnana treatment plant in Empoli has **EMAS IV registration**.

## QUALITY DELIVERED: MAIN INTERVENTIONS ON THE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTE WATER

### SIZE OF NETWORK, MAIN WORKS, METERS AND CHECKS ON DRINKING WATER AND NETWORKS (2023)

<b>size of drinking-water network - data in GIS(*)</b>	<b>6,186 km</b>
TYPE OF WORK	
interventions due to network failure/leak detection	<b>12,821 interventions</b> (11,888 due to faults, 933 leak detection)
meter installations (new installation and replacement)	<b>28,408 interventions</b> (6,438 new installation, 21,970 replacements)
network extension	<b>4.8 km of expanded network</b>
network reclamation	<b>45.5 km of reclaimed network</b>
drinking water quality control	<b>11,177 samples</b> collected and <b>312,817 tests</b> performed

### SIZE OF NETWORK, WORKS AND CHECKS ON SEWERAGE WATER AND NETWORKS (2023)

<b>size of sewerage network (*) - data in GIS</b>	<b>3,114 km</b>
TYPE OF WORK	
interventions due to network failure	<b>3,748 interventions</b>
planned interventions	<b>1,685 interventions</b>
network extension	<b>26 km of expanded network</b>
network reclamation	<b>8.5 km of reclaimed network</b>
quality control on wastewater for sewerage networks	<b>8,723 samples</b> collected and <b>105,894 tests</b> performed

(\*) Estimated figure equal to the figure for 2022.

## HUMAN RESOURCES IN FIGURES

### GENERAL DATA ON PERSONNEL (2022-2023)

(no.)	2022			2023		
	men	women	total	men	women	total
<b>composition of the staff</b>						
executives	2	2	4	3	2	5
managers	8	4	12	9	5	14
clerical workers	103	167	270	141	178	319
workers	157	1	158	260	1	261
<b>total</b>	<b>270</b>	<b>174</b>	<b>444</b>	<b>413</b>	<b>186</b>	<b>599</b>
<b>contract type</b>						
staff with permanent contract	259	173	432	396	181	577
<i>of which part-time staff</i>	2	34	36	3	39	42
permanent staff	1	1	2	3	5	8
staff under apprenticeship contracts	10	0	10	14	0	14
<b>total</b>	<b>270</b>	<b>174</b>	<b>444</b>	<b>413</b>	<b>186</b>	<b>599</b>
<b>changes</b>						
<b>incoming staff</b>	<b>30</b>	<b>15</b>	<b>45</b>	<b>28</b>	<b>10</b>	<b>38</b>
<b>outgoing staff</b>	<b>14</b>	<b>6</b>	<b>20</b>	<b>13</b>	<b>6</b>	<b>19</b>
turnover rate (%)	16.3	12.1	14.6	9.9	8.6	9.5
incoming rate (%)	11.1	8.6	10.1	6.8	5.4	6.3
outgoing rate (%)	5.2	3.5	4.5	3.1	3.2	3.2

The increase in the staff component from 444 units in 2022 to 599 in 2023, mainly refers to the merger of Acque Servizi Srl into Acque SpA referred to above. Certain activities were also internalised by Le Soluzioni Scarl, with the consequent acquisition of staff and new hires.

**INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2022-2023)**

	2022	2023
accidents (no.) (*)	7	5
total days of absence (**)	317	178
hours worked	667,351	943,191
<b>frequency index (FI) (number of accidents per 1,000,000/working hours)</b>	<b>10.49</b>	<b>5.30</b>
<b>severity index (SI) (days of absence per 1,000/working hours)</b>	<b>0.48</b>	<b>0.19</b>

(\*) Considering typical occupational accidents and other accidents due to causes not pertaining to work (excluding commuting). In 2023, there was one occupational related accident, with the others referring to causes not pertinent to work or taking place in places not relevant to the workplace (e.g. public roads).

(\*\*) The value also excludes days of absence related to persistent or reopened injuries from previous years.

**TRAINING 2022-2023**
**course type, hours provided and costs (\*)**

course type	courses (no.)		training (hours)		costs (€)	
	2022	2023	2022	2023	2022	2023
IT	4	8	1,000	1,046	1,320	0
new hires	1	1	2,162	3,495.75	0	0
technical-specialised	35	72	1,857	4,791.75	29,600	16,176
managerial	4	10	311	1,470.5	2,800	3,900
safety	27	40	3,325	6,268.5	21,208	31,860
environment	3	1	50	4	2,701	110
cross-cutting	9	12	311	452.5	6,386	4,780
training pursuant to Legislative Decree no. 231/01	1	3	41	190	0	1,336
e-learning training	11	1	77	124	0	0
<b>total</b>	<b>95</b>	<b>148</b>	<b>9,134</b>	<b>17,843</b>	<b>64,015</b>	<b>58,162</b>

**employees trained**

(no.)	2022			2023		
	men	women	total	men	women	total
	274	161	435	406	180	586

**breakdown of training hours by qualification**

executives	99.5	70.5	170	217	130	347
managers	229.5	112.5	342	564	216.5	780.5
clerical workers	3,251	3,610	6,861	3,761.75	6,423.5	10,185.25
workers	1,740	21	1,761	6,508.75	21.5	6,530.25

(\*) Emergency tests are excluded; by new hires, we mean the coaching of new staff by more experienced workers. E-learning training and training on the integrated management system accessible via the Acea Group On-Boarding.

**ENVIRONMENTAL ACCOUNTS**
**PRODUCTS AND ANALYTICAL TESTS**

	u. m.	2021	2022	2023	Δ% 2023/2022
<b>WATER BALANCE (*)</b>					
<b>drinking water from the environment</b>	<b>Mm<sup>3</sup></b>	<b>74.4</b>	<b>73.5</b>	<b>73.5</b>	-
from the surface	Mm <sup>3</sup>	3.1	3.1	3.1	-
from wells	Mm <sup>3</sup>	57.5	57.7	57.7	-
from springs	Mm <sup>3</sup>	6.3	5.5	5.5	-
of which water from other aqueduct systems	Mm <sup>3</sup>	7.5	7.2	7.2	-
<b>total drinking water leaving the aqueduct system (e) = (a+b+c+d)</b>	<b>Mm<sup>3</sup></b>	<b>47.3</b>	<b>47.0</b>	<b>47.0</b>	-
<b>total drinking water dispensed and billed in the network (a)</b>	<b>Mm<sup>3</sup></b>	<b>44.2</b>	<b>43.3</b>	<b>43.3</b>	-
measured volume of water delivered to users	Mm <sup>3</sup>	43.9	43	43	-
volume consumed by users and not measured	Mm <sup>3</sup>	0.3	0.3	0.3	-
<b>total drinking water authorised and not billed in the network (b)</b>	<b>Mm<sup>3</sup></b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	-
measured unbilled authorised consumption	Mm <sup>3</sup>	0.1	0.02	0.02	-
unmeasured unbilled authorised consumption	Mm <sup>3</sup>	0.2	0.3	0.3	-
<b>drinking water exported to other systems (c)</b>	<b>Mm<sup>3</sup></b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	-
<b>measured process losses (d)</b>	<b>Mm<sup>3</sup></b>	<b>1.6</b>	<b>2.2</b>	<b>2.2</b>	-

## LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR

water leaks	Mm <sup>3</sup>	27.1	26.8	26.8	-
water loss percentages	%	36.7	36.5	36.5	-
TREATED WASTE WATER					
<b>water treated in the main treatment plants</b>	<b>Mm<sup>3</sup></b>	<b>44.6</b>	<b>41.9</b>	<b>45.2</b>	<b>7.9</b>
ANALYTICAL TESTS ON DRINKING WATER AND WASTE WATER					
<b>no. analytical tests on drinking water (including analytical tests on surface water)</b>	<b>no.</b>	<b>297,342</b>	<b>362,759</b>	<b>312,817</b>	<b>-13.8</b>
<b>no. analytical tests on waste water</b>	<b>no.</b>	<b>122,803</b>	<b>116,775</b>	<b>105,894</b>	<b>-9.3</b>

(\*) The figures for 2022 have been restated after the consolidation. The 2023 figures are estimated to be equal to those for 2022.

RESOURCES USED	u. m.	2021	2022	2023	Δ% 2023/2022
COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER (*)					
<b>materials</b>					
laboratory reagents (chemical section and microbiological section)	t	2	2	2	-
sodium hypochlorite	t	231	240	258	7.5
hydrochloric acid	t	339	343	445	29.7
potassium permanganate	t	4	5	4	-20.0
aluminium polychloride	t	194	210	198	-5.7
DREFLO 908 PG powder	t	0	1	0.85	-15.0
salt in bags	t	1	0	1	-
sodium chloride	t	362	341	407	19.4
caustic soda	t	1	2	1	-50.0
citric acid	t	1	0	0.71	-
alifons L	t	0	0.05	0.09	80.0
oxalic acid	t	0	0.025	0	-100
sodium hydroxide sol. 30%	t	0	0.25	2	300.0
DRYFLOC™ Polyelectrolyte EM494SFC	t	0	0.10	0.90	800.0
WASTE WATER TREATMENT					
<b>materials</b>					
polyelectrolyte emulsion	t	194	194	151	-22.2
aluminium polychloride	t	8	6	0	-100
ferric chloride for sludge dehydration	t	546	570	392	-31.2
sodium hypochlorite for final disinfection	t	11	42	105	150.0
acetic acid	t	0.05	0	0	-
sulphuric acid	t	0	0	0	-
caustic soda (sodium hydroxide) - Solvay	t	1	0	0	-
citric acid removed	t	0.05	0.15	0	-100
biotek base L - biological reactivator	t	0	0	0	-
biotek clar - biological reactivator	t	0.3	0	0	-
desmell Bio L - odorogenic emissions treatment	t	0.1	0.1	0	-100
nutrients	t	1,320	867	912	5.2
hydrochloric acid 9%	t	0	0.5	0.3	-40.0
OTHER CONSUMPTION (*)					
<b>drinking water</b>	<b>m<sup>3</sup></b>	<b>295,508</b>	<b>320,865</b>	<b>320,865</b>	<b>-</b>
<i>drinking water consumed for non-industrial water uses (offices, outside showers, etc.)</i>	<i>m<sup>3</sup></i>	<i>225,835</i>	<i>306,135</i>	<i>306,135</i>	<i>-</i>
<i>drinking water consumed for process water uses (washing machinery and bays, etc.)</i>	<i>m<sup>3</sup></i>	<i>69,673</i>	<i>14,730</i>	<i>14,730</i>	<i>-</i>

(\*) The 2022 figures have been restated following consolidation and differ from those previously published. The 2023 figures are estimated to be equal to those for 2022.

In 2023, Acque reused approximately **448,094 m<sup>3</sup>** of water, equally divided between **recovered water for washing the sheets** of the sludge dehydration equipment (belt presses) and **water used for backwashing the filters** at the Pollino (LU) water plant. Because it

was not possible to determine the quantity of reused water during the last year at the Pollino plant due to a fault with the meter, the figure for this year has doubled.

ENERGY CONSUMPTION (*)	u.m.	2021	2022	2023	Δ% 2023/2022
<b>FUELS</b>					
<b>process fuels - drinking water/non-drinking water</b>					
diesel fuel	l	2,050	1,100	2,500	127.3
<b>process fuels - wastewater</b>					
diesel fuel	l	500	550	0	-100
<b>heating fuels</b>					
methane	Sm <sup>3</sup>	55,583	49,576	55,559	12.0
lpg	l	17,847	11,130	9,128	-18.0
<b>vehicle fuels</b>					
diesel	l	240,882	247,012	569,628	130.6
petrol	l	26,950	44,215	51,884	17.3
methane	kg	15,308	9,589	13,573	41.5
<b>ELECTRICITY (**)</b>					
<b>total electricity for drinking water</b>	<b>GWh</b>	<b>51.0</b>	<b>53.3</b>	<b>52.8</b>	<b>-0.9</b>
<i>electricity for water pumping stations</i>	<i>GWh</i>	<i>50.3</i>	<i>52.6</i>	<i>52.1</i>	<i>-1.0</i>
<i>electricity for offices</i>	<i>GWh</i>	<i>0.7</i>	<i>0.7</i>	<i>0.7</i>	<i>-</i>
<b>total electricity for waste water</b>	<b>GWh</b>	<b>31.9</b>	<b>30.3</b>	<b>30.5</b>	<b>0.7</b>
<i>electricity for treatment</i>	<i>GWh</i>	<i>24.5</i>	<i>23.9</i>	<i>24.5</i>	<i>2.5</i>
<i>electricity for pumping stations</i>	<i>GWh</i>	<i>7.0</i>	<i>6.0</i>	<i>5.6</i>	<i>6.7</i>
<i>electricity for offices</i>	<i>GWh</i>	<i>0.4</i>	<i>0.4</i>	<i>0.4</i>	<i>-</i>

(\*) The 2023 figure referring to energy fuels includes consumption for Acque Servizi Srl based on the aforementioned merger with Acque SpA.

(\*\*) The 2023 figures are estimated, based on the invoices received at 31.01.2024.

A project was launched towards the end of 2022 to improve the procurement of energy via renewable sources. The following objectives were achieved in 2023:

- work was undertaken to install a turbine at the Montecatini water plant, which should be completed by the end of February 2024;

- the design of a photovoltaic field was completed for the Paganico (LU) water plant, with the tender awarded.
- the necessary information was obtained to apply for white certificates and the preliminary assessment application was sent to the GSE.

**ENERGY EFFICIENCY (2021-2023)**

action	energy savings achieved (kWh)		
	2021	2022 (*)	2023 (**)
Pieve a Nievole (PT) inter-municipal treatment plant: implementation of microbubbles oxidative section Line 2	303,095	331,916	0
treatment plant via Hangar Pontedera (PI): implementation of microbubbles oxidative section	208,020	198,328	0
La Fontina (PI) treatment plant: replacement of air distribution plates lines 1 and 2	472,605	589,760	0
C.le Caldaccoli (PI) – replacement pumps S. Giuliano T.me network	-	-	35,609

(\*) The figures for 2022 have been updated following consolidation.

(\*\*) Work on the treatment plants no longer provide energy savings.

WASTE	u.m.	2021	2022	2023	Δ% 2023/2022
<b>specific waste from treatment of waste water</b>					
treatment sludge	t	20,247	18,660	17,560	-5.9
sand and sediment from treatment	t	1,413	1,359	1,083	-20.3
<b>WASTE EXCLUDING SLUDGE AND SAND</b>					
hazardous waste	t	16.8	20.2	32.98	63.3
non-hazardous waste (*)	t	63,778	59,025	51,060	-13.5

(\*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

**TOTAL COD IN INPUT AND OUTPUT (2021-2023) (\*)**

(t/year)	2021	2022	2023
COD <sub>in</sub>	22,021	16,860	17,430
COD <sub>out</sub>	1,212	988	756

(\*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

**OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY ACQUE (2021-2023) (\*)**

parameter	average values (mg/l) 2021	average values (mg/l) 2022	average values (mg/l) 2023
BOD <sub>5</sub>	4.7	7.2	4.0
COD	24.3	32.0	23.0
SST	5.9	8.3	5.3
NH <sub>4</sub> <sup>+</sup>	3.3	3.9	2.6
phosphorous	2.2	2.6	2.5

(\*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

**TREATMENT EFFICIENCY OF THE MAIN TREATMENT PLANTS MANAGED BY ACQUE (2021-2023) (\*)**

parameter	average values (%) 2021	average values (%) 2022	average values (%) 2023
$100 \times (\text{COD}_{\text{in}} - \text{COD}_{\text{out}}) / \text{COD}_{\text{in}}$	95.4	94.1	95.7
$100 \times (\text{SST}_{\text{in}} - \text{SST}_{\text{out}}) / \text{SST}_{\text{in}}$	98.2	97.3	98.4
$100 \times (\text{NH}_4^+_{\text{in}} - \text{NH}_4^+_{\text{out}}) / \text{NH}_4^+_{\text{in}}$	92.7	91.9	94.2
$100 \times (\text{PO}_4^{3-}_{\text{in}} - \text{PO}_4^{3-}_{\text{out}}) / \text{PO}_4^{3-}_{\text{in}}$	68.3	71.3	72.5

(\*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

## Overseas activities

Acea operates abroad, in the water sector<sup>258</sup>, with regards to **technical aspects or the commercial management of the service**. In particular, it is present in Honduras, Dominican Republic and Peru through companies created **in partnership with local and international stakeholders**, in an area with approximately 10 million people.

### AGUAS DE SAN PEDRO

Aguas de San Pedro SA holds a 30-year contract and operates the integrated water service in San Pedro Sula in Honduras, which

began in 2001, and, in 2023, it continued with the projects for the **expansion, treatment and improvement of the water service and sewerage network** in the city. The water network stretches 2,186 km and the sewerage network 1,281 km.

The Company has a **Quality Management System** certified according to the **UNI ISO 9001:2008** standard and the laboratories accredited according to the **UNI ISO/IEC 17025:2005** standard. In 2022, it also obtained a certificate for the **Anti-bribery Management System** according to the **UNI ISO 37001:2016** standard.

### AGUAS DE SAN PEDRO SA – MAIN COMPANY AND OPERATING DATA

country (area)	Honduras (San Pedro Sula)
users	124,384
inhabitants served	801,287 (estimated figure)
customer	municipal administration
duration of the contract	01.02.2001 – 01.02.2031
purpose of the project	concession of the integrated water service for the town of San Pedro Sula
shareholders	Acea International 60.65%, IRETI SpA 39.35%
no. of employees	419
turnover (in € thousand)	46,347

258 Overseas activities have a limited incidence from an economic and financial viewpoint, in terms of consolidation percentage, but a brief description of them is given here because of their social importance.

With the aim of enhancing and developing people’s skills, in 2023, the Company provided **training courses** including virtually, on a variety of subjects, such as Quality Management Systems (for ISO 9001:2015 and 17025 certifications), on the prevention of corruption, environmental sustainability, health and safety in the workplace, and courses on medical assistance and psychological-physical well-being.

**66 courses** were provided on the Human Resources Management Plan aimed at **skills development**, involving 1,037 people. Compared to last year, 15 activities were added in this context to consolidate Knowledge Management.

Furthermore, during the year, **13 initiatives** were undertaken to promote **female empowerment, gender equality, equality and inclusion**, for a total of 573 attendances. The initiatives aimed at promoting equality and inclusion, involved employees with disabilities in corporate culture promotion campaigns, such as the rational use of water and the promotion of inclusion (sign language).

To promote a culture of **health and safety**, **78 training courses** were provided, with 7,051 attendances. On average, in 2023, every employee participated in 17 activities focusing on health protection, provided via educational meetings, on psychological-physical health, health at the workplace and activities aimed at ensuring a safe and healthy work environment.

In addition, during the period under review, the Company supported **community and environmental initiatives**, especially in the **El Merendón Nature Reserve**, which has been designated a protected area for water production in San Pedro Sula. In this area, the Company has implemented the reforestation project “*Un millón de árboles para el Merendón (One Million Trees for el Meredón)*”, which was launched in 2006 to restore degraded areas of the reserve,

with the target of planting **1,113,106 million fruit and timber trees** on **981.6 hectares** achieved in 2023. Support was provided to 356 producers in 2023, in the scope of the Aguas de San Pedro project: 95 producers received technical assistance, 261 benefited from the creation of 105.3 hectares of fruit and timber trees planted and agro-forestry systems. Producers are spread across 39 rural communities within the reserve.

The **fire prevention/extinguishing** activities continued: thanks to the observation towers built in the past, a dedicated team managed to intercept and stop the outbreak of several fires. Of the 19 bush fires that broke out in the reserve in 2023, the teams at Aguas de San Pedro were directly involved in managing 12 bush fires that affected 111.54 hectares.

With regard to the **rural communities in Merendón**, specifically the communities in the micro-basins of the Manchaguala, Frío and El Palmar rivers, Aguas de San Pedro organised **18 workshops** to understand the phenomena of climate change and global warming, as well as other information workshops on environmental issues.

Finally, 3 new Children’s Health Committees were established, and monitoring continued on the existing committees.

**ACEA DOMINICANA SA**

Acea Dominicana deals with the commercial management of the water service **in the northern and eastern areas of Santo Domingo** in the **Dominican Republic**. The activities include the management of customer relations, the billing cycle and cost estimates, the installation of new meters, maintenance of existing meters and directing the works for new connections.

The Company implemented a **Quality Management System** certified according to the **UNI ISO 9001:2015** standard, which covers all activities performed.

**ACEA DOMINICANA SA – MAIN CORPORATE AND OPERATING DATA**

<b>country (area)</b>	Dominican Republic (north and east Santo Domingo)
<b>users served</b>	198,301
<b>customers</b>	Corporación del Acueducto y Alcantarillado de Santo Domingo (CAASD) and Corporación de Acueducto y Alcantarillado de Boca Chica (CORAABO)
<b>duration of the contract</b>	01.10.2003 - 30.09.2023 CAASD 01.10.2013 - 30.09.2024 CORAABO
<b>purpose of the project</b>	commercial management of the water service
<b>shareholders</b>	Acea International 100%
<b>no. of employees</b>	134 in September 2023, 40 in December 2023
<b>turnover (in € thousand)</b>	4,102

Acea Dominicana provides **training** on a number of topics to promote the development of employees’ skills, such as the management of wages, writing and spelling, internal audits and the Microsoft Excel tool, for a total of 1,881 training hours.

To improve relations with customers and promote digital services, a **chat** was developed for customer services on the CAASD project.

**OPERATING COMPANIES IN PERU**

The Consortia operating in Lima (Peru) manage part of the water services on behalf of the local, publicly owned water company SEDAPAL (drinking water and sewerage service in Lima) with projects defined in their calls for tenders. This refers to **Consorcio Agua Azul, Consorcio Acea, Consorcio Acea Lima Norte, Consorcio Acea Lima Sur e Acea Peru with the PTAR Norte contract**.

The company **Consorcio Servicio Sur**, which was responsible for the extraordinary maintenance necessary for the operation of the water and sewerage service, improving sanitation and environmental conditions, ended operations in August 2022 and is currently being liquidated.

## MAIN CORPORATE AND OPERATING DATA

country (area)	Peru (Lima)
customer	Sedapal (Drinking water and sewerage service in Lima, state owned)
duration of the contracts	<b>Consorcio Agua Azul:</b> 07.04.2000 – 18.06.2027 <b>Consorcio Acea:</b> 5.12.2020 – 5.12.2023 (contract extended for an additional 10 months) <b>Consorcio ACEA Lima Norte:</b> 7.01.2021 – 7.01.2024 <b>Consorcio Acea Lima Sur:</b> 18.12.2021 – 18.12.2024 <b>PTAR Norte - Acea Peru:</b> 8.08.2022 – 08.08.2024
shareholders	<b>Consorcio Agua Azul:</b> Acea SpA (44%), Marubeni Co. (29%), Inversiones Liquidas S.A.C (27%) <b>Consorcio Acea:</b> Acea Peru SAC (99%), Acea Ato 2 (1%) <b>Consorcio ACEA Lima Norte:</b> Acea Peru SAC (99%), Acea Ato 2 (1%) <b>Consorcio Acea Lima Sur:</b> Acea Peru SAC (99%), Acea Ato 2 (1%) <b>PTAR Norte - Acea Peru:</b> contract with Acea Peru SAC
no. of employees	<b>Consorcio Agua Azul:</b> 31 <b>Consorcio Acea:</b> 1,014 <b>Consorcio ACEA Lima Norte:</b> 537 <b>Consorcio Acea Lima Sur:</b> 210 <b>PTAR Norte - Acea Peru:</b> 127
turnover (in € thousand)	<b>Consorcio Agua Azul:</b> 15,716 <b>Consorcio Acea:</b> 8,493 <b>Consorcio ACEA Lima Norte:</b> 12,639 <b>Consorcio Acea Lima Sur:</b> 6,432 <b>PTAR Norte - Acea Peru:</b> 2,357

Specifically:

- **Consorcio Agua Azul**, a subsidiary of **Acea International**, manages the treatment and supply of drinking water in the **northern area of Lima**.
- To this end, using the surface and underground waters of the Chillón river it built a water treatment plant capable of satisfying the drinking water needs of the area, which it will manage until 2027, when it will be transferred to the State;
- **Consorcio Acea**, controlled by **Acea Peru** manages 262 pumping stations for drinking water serving the **Ate, Breña and San Juan de Lurigancho areas in the central area of Lima**;
- The **Consorcio Acea Lima Norte**, owned by Acea Peru, manages maintenance for the drinking water and sewerage infrastructure for the **Comas and Callao areas in the northern part of Lima**;
- the **Consorcio Acea Lima Sur**, a subsidiary of **Acea Peru**, carries out corrective maintenance activities on the drinking water and sewerage systems for the **Surquillo area in the southern area of Lima**.
- the **PTAR Norte** contract, incorporated into the company **Acea Peru**, includes the maintenance and upkeep of the Wastewater Treatment Plants (PTAR) in the areas north and east of Lima.

Below is some significant information from the standpoint of sustainability relating to the various Consortia operating in Peru.

The **Consorcio Agua Azul** has adopted an **Integrated Quality and Environment System** according to **UNI ISO 9001:2015** and **UNI ISO 14001:2015**, aimed at optimising production processes and reducing the environmental impact through energy efficiency and the limited use of materials.

The Consortium has continued its **occupational safety and first aid training programme**, which has made it possible to **maintain the result of zero accidents at work** in 2023. In addition, specialised staff training continued, including support for the **undergraduate and graduate education** of two employees.

In 2023, in the scope of activities aimed at consolidating relations with the community, Consorcio Agua Azul completed the implementation of **new hygiene services in 7 schools** in the area. In the same schools, **2,288 educational kits were delivered** with the goal of **boosting school attendance and contributing to education**. For the Christmas holidays, children at local schools and the children of employees were delivered toys and Christmas packages.

The consortia administering the management and maintenance contracts for the water network, namely **Consorcio Acea, Consorcio Acea Lima Norte, Consorcio Acea Lima Sur and PTAR Norte**, follow the regulations referring to the certified management systems obtained by the parent company Acea Peru. Specifically, Acea Peru has an **Anti-bribery Management System** according to the **UNI ISO 37001:2016** standard, a **Quality System** according to the **UNI ISO 9001:2015** standard, and an **Occupational Health and Safety Management System** according to the **UNI ISO 45001:2018** certification. The first two certificates cover the activities of Consorcio Acea Lima Norte and Consorcio Acea Lima Sur, while the third covers the activities of Consorcio Acea Lima Norte and Consorcio Acea.

In 2023, the Consortia continued with **employee training initiatives on inclusion and organisational wellness**, covering subjects such as gender equality and healthy nutrition, as well as **occupational health and safety**.

In the scope of **health prevention and raising awareness on vaccinations**, 38 training hours were provided by Consorcio Acea, 22 hours by Consorcio Acea Lima Norte, 16 hours by Consorcio Acea Lima Sur and 12 hours by PTAR Norte – Acea Peru.

To protect the land, Consorcio Acea, Consorcio Acea Lima Norte and Consorcio Acea Lima Sur have taken measures to lessen their environmental impact by disposing of 100% of electromechanical, uniform, and PPE waste appropriately.