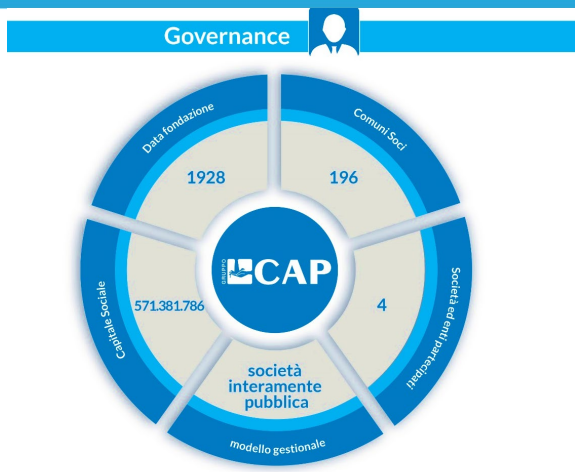
GRUPPO CAP
LA TUA ACQUA IN BUONE MANI

Drinking water quality in Water Safety Plan

Gruppo CAP Palazzo U10 – Assago MI-
11 febbraio 2020

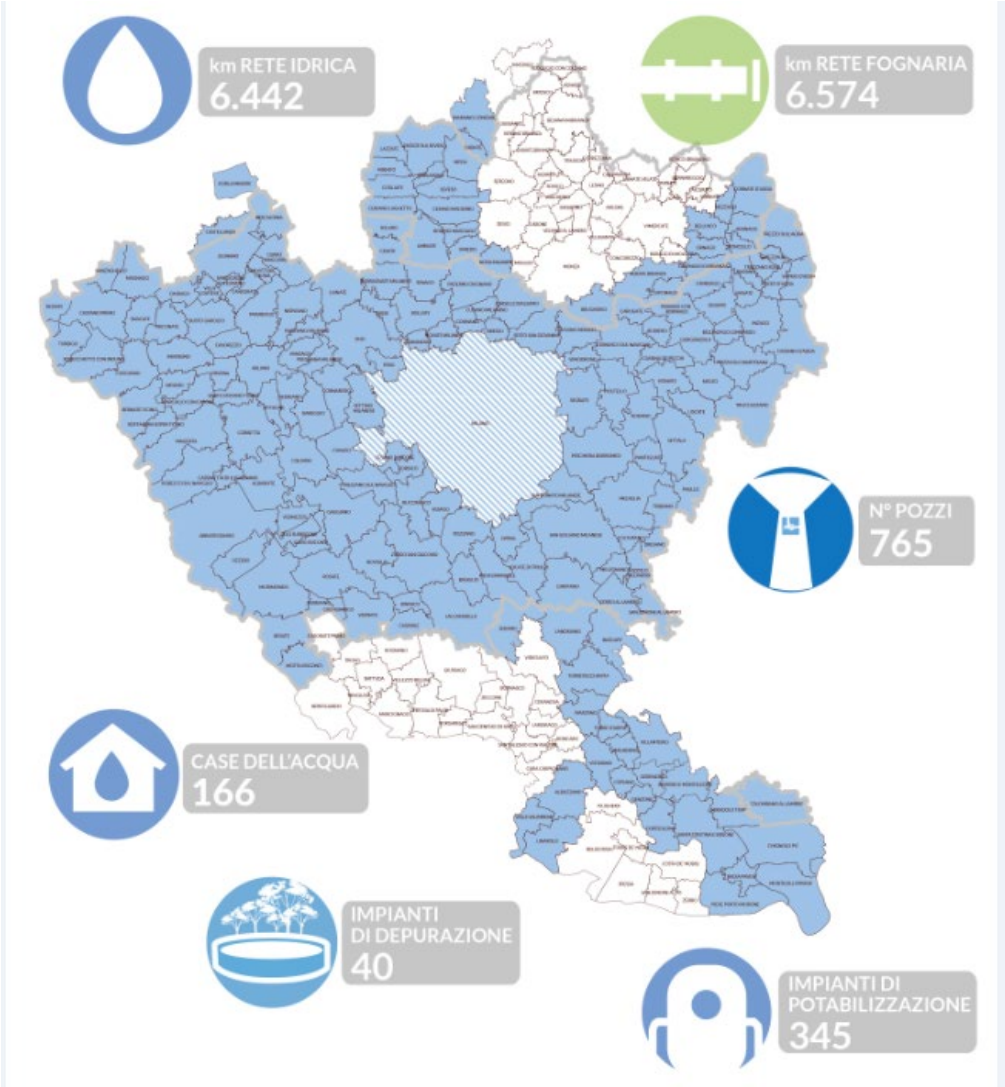
SERVIZIO IDRICO INTEGRATO

GRUPPO CAP: DRINKING WATER FOR EVERYBODY



- GRUPPO CAP: DRINKING WATER FOR EVERYBODY
- CURRENTLY ACTIVE LEGISLATION ON DRINKING WATER
- REVISION OF THE EU DRINKING WATER DIRECTIVE
- STAKEHOLDERS' VIEW
- FUTURE STEPS

AREA OPERATED



ABITANTI SERVITI
2,5 MILIONI

GRUPPO CAP: DRINKING WATER FOR EVERYBODY

500 M²
of laboratories

SALAZZURRA
CENTRORICERCHEGRUPPOCAP

Environment

DRINKING WATER LABORATORY

25.770 SAMPLES

730.073 ANALYSES

WATER LABORATORY

5.035 SAMPLES ANALYSED

74.759 PARAMETERS ANALYSED

KWH 4.041.044
ENERGY PRODUCED BY THE TREATMENT PLANTS

CURRENTLY ACTIVE LEGISLATION ON DRINKING WATER

The Drinking Water Directive (Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption) is the **currently active legislation on drinking water in EU**.

The consolidated text of the Directive with its latest amendments including Commission Directive (EU) 2015/1787 of 6 October 2015 can be found in the Directory of European Union consolidated legislation.

Decreto Legislativo 2 febbraio 2001, n. 31

"*Attuazione della direttiva 98/83/CE relativa alla qualità delle acque destinate al consumo umano*«

Il Decreto del Ministero della Salute del 14 Giugno 2017 ha introdotto alcune modifiche agli allegati II e III del Decreto Leg. 31/2001 che riguardano i parametri microbiologici e chimici.

CURRENTLY ACTIVE LEGISLATION ON DRINKING WATER

EUROPEAN UNION DRINKING WATER DIRECTIVE 98/83/CE

- WHO: COMPETENT AUTHORITIES
- WHERE: POINT OF COMPLIANCE
- WHEN: MONITORING FREQUENCIES
- WHAT: PARAMETERS
- HOW: ANALYTICAL METHODS
- **WHY: HUMAN HEALTH!**

Each Member State transposes the directive into their own national legislation

Each MS shall set parametric values but they shall not be less stringent then those set by European Union

ITALIAN LAW *D.Lgs 31/2001 updated 2017*

CURRENTLY ACTIVE LEGISLATION ON DRINKING WATER

The directive requires Member States to monitor and regularly test 48 microbiological, chemical and indicator parameters.

- The two microbiological parameters, Escherichia coli (E. coli) and enterococci must be absent from samples.

- 26 chemical parameters, (such as arsenic, nickel, lead and pesticides), are set because of their impact on human health: therefore, exceedances of the values set for them require Member States to take remedial action.

- Most of the 20 indicator parameters, (such as chloride, sodium, taste, odour and turbidity), do not pose a direct threat to human health; nonetheless, they have indirect relevance for water quality.

These parameters are generally based on the *guidelines for drinking water of the World Health Organization (last update was in 2017)* and on opinion of the Commission's Scientific Advisory Committee.

MICROBIOLOGICAL PARAMETERS

Parameter	Value (number / 100 ml)
Escherichia Coli	0
Enterococci	0

CHEMICAL PARAMETERS

Compound	Value	Unit of measure	Compound	Value	Unit of measure
Acrylamide	0,10	µg / l	1,2 dichlorethane	3,0	µg / l
Antimony	5,0	µg / l	Epichlorohydrin	0,10	µg / l
Arsenic	10	µg / l	Fluoride	1,5	mg / l
Benzene	1,0	µg / l	Lead	10	µg / l
Benzo(a)pyrene	0,010	µg / l	Mercury	1,0	µg / l
Boron	1,0	mg / l	Nickel	20	µg / l
Bromate	10	µg / l	Nitrate	50	mg / l
Cadmium	5,0	µg / l	Nitrite	0,50	mg / l

CHEMICAL PARAMETERS

Compound	Value	Unit of measure		Compound	Value	Unit of measure
Chromium	50	µg / l		Pesticides each	0,10	µg / l
Copper	2,0	mg / l		Total pesticides	0,50	µg / l
Cyanide	50	µg / l		PAH	0,10	µg / l
Selenium	10	µg / l		Vinyl chloride	0,5	µg / l
Tetrachloroethene	10	µg / l				
Trichloroethene						
THM	100	µg / l				

INDICATOR PARAMETERS

Compound	Value	Unity		Compound	Value	Unity
Aluminium	200	µg / l		Odor	Acceptable	
Ammonium	0,50	mg / l		Oxidability	5,0	mg / l O_2
Chloride	250	mg / l		Sulphate	250	mg / l
Clostridium Perfringens	0	n/100 ml		Sodium	200	mg / l
Colour	Acceptable			Taste	Acceptable	
Conductivity	2500	µS/cm		Coliform Bacteria	0	n/100 ml
pH	6,5<pH<9,5	pH		Colony count	No abnormal change	
Iron	200	µg / l		TOC	No abnormal change	
Manganese	50	µg / l		Turbidity	Acceptable	

CURRENTLY ACTIVE LEGISLATION ON DRINKING WATER

The Drinking Water Directive applies to:

- **all distribution systems serving more than 50 people** or supplying more than 10 cubic meter per day, but also distribution systems serving less than 50 people/supplying less than 10 cubic meter per day if the water is supplied as part of an economic activity;

- **drinking water from tankers**;

- **drinking water in bottles or containers**;

- **water used in the food-processing industry**, unless the competent national authorities are satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form.

Proposal for the revision of the Drinking Water Directive was adopted by European Commission on 2nd of February 2018.

REVISION OF THE EU DRINKING WATER DIRECTIVE

- ***Modernization of the 20 years old Directive***
- ***Follow up of the Right2Water Initiative*** from 2013 which collected over 1.8 million signatures and to which the Commission responded positively.
- **Transition to the circular economy** and reduction of unnecessary water loss.
- **Alignment with the UN Agenda 2030 and SDG 6 on** universal provision of drinking water.
- **A 2017 study supporting the revision of the EU Drinking Water Directive** that has demonstrated a number of weaknesses (water quality in small water supply zones, not harmonized national approval systems for materials; low consumer satisfaction with the information provided on water quality).

MAIN ELEMENTS OF THE REVISION

UPDATING EXISTING SAFETY STANDARDS – 18 new or revised parameters were introduced. Microplastics are addressed in the proposal as an issue of emerging concern and, when considered relevant on the basis of a hazard assessment, would be regularly monitored in water bodies used for the abstraction of drinking water.

INTRODUCING A RISK-BASED SAFETY ASSESSMENT TO THE MONITORING OF WATER (WATER SAFETY PLAN APPROACH)

IMPROVING RULES ON TRANSPARENCY AND CONSUMERS' ACCESS TO UP-TO-DATE INFORMATION

HARMONISE STANDARDS FOR PRODUCTS IN CONTACT WITH DRINKING WATER

REQUIRING MEMBER STATES TO IMPROVE ACCESS FOR ALL PEOPLE, ESPECIALLY FOR VULNERABLE AND MARGINALISED GROUPS (Article 13)

MAIN ELEMENTS OF THE REVISION

New microbiological parameters
Clostridium perfringens spores, limit 0 UFC/100mL
Coliform bacteria, limit 0 UFC/100mL
Somatic coliphages, limit 0 UFC/100m
Heterotropic plate counts (HPC) 22°C, no abnormal change
Legionella, in case the parametric value <1.000 UFC/liter is not met, resampling for *Legionella pneumophila* shall be done. If *Legionella pneumophila* is not present, the parametric value for *Legionella* is <10.000 UFC/liter

Microbiological parameters changing from indicators
Enterococci: limit 0 UFC/100mL
Escherichia coli: limit 0 UFC/100mL

Inclusion of turbidity in the list of microbiological parameters
The limit will become 1 NTU. The new directive suggests to be monitored in all kind of water.

STAKEHOLDERS' VIEW

Aqua Publica Europea, the European association of public water operators, welcomes the proposal, but warns that it needs to take better account of the complex realities of the water sector in terms of

- governance
- technical limitations
- social implications

It also points out that the requirement to monitor the **occurrence of certain substances, such as microplastics and endocrine disruptors**, will create considerable technical and financial challenges, among other things because of **the lack of standardised methods to measure** them.

LAST and FUTURE STEPS

23 October 2018 – European Parliament Plenary Session on revising the 1998 European Drinking Water Directive - on plans to improve consumers' trust in drinking water from the tap, which is much cheaper and cleaner for the environment compared to bottled water.

EXPECTED OUTCOMES

- Trust in tap water
- Cost savings at household level
- Reduction of plastic waste

(EU Plastics Strategy presented on 16 January 2018)

NEXT STEPS - Parliament will enter into negotiations with Council once EU ministers have set their own position on the file.

GRUPPO CAP: WATER SAFETY PLAN

GRUPPO CAP
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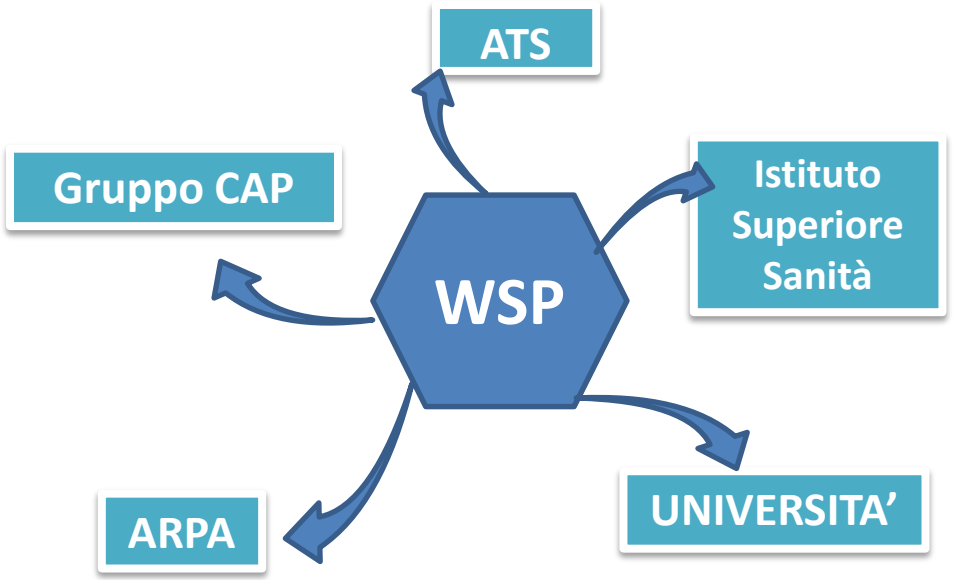
#Acquadabere

We were the FIRST IN ITALY to adopt the **Water Safety Plan** introduced by European legislation, conclude the pilot phase and obtain the support from the Istituto Superiore di Sanità, which, in a note of 29 December 2016, recommended "application of the risk matrix elaborated in the model proposed to other water supply systems". It was a sort of benchmark for future implementations across the whole country.

The adoption of the **Water Safety Plan** is part of the actions envisaged by GRUPPO CAP within the CAP21 program, internal system of 21 commitments for coping with the effects of climate change, and has required a considerable effort, which has also allowed the company to contribute concretely to the European discussion that led to the **review of the Drinking Water Directive.**

WATER SAFETY PLAN

A new approach
- integrated
- multidisciplinary
- safety driven
- sharing know-how



Risk assessment

1. Drinking water system description
2. Identification of unsafe events
3. Risk assessment from captation to tap
4. Upgrade of control tools
5. Definition of action priority

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THANK YOU FOR YOUR KIND ATTENTION

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