**Pollution of water resource occurs** when contaminants are discharged into the surrounding environment without adequate removal treatment, leading to **potential dangers to human health and the ecosystem**.

Facing and managing an **environmental emergency** of water resource pollution is very complex, particularly if environmental contaminants are evaluated as emerging, i.e. not regulated by legislation, because they are not considered alarming at the moment. A **timely and effective intervention**, aimed and well coordinated at once, is of fundamental importance for **protecting the environment and the health of the citizens**. It is necessary to predict how the pollutant already introduced is propagating in order to **act in a specific way** even in territorial areas not yet affected.

The **LIFE PHOENIX project** (co-financed by the EU through the LIFE Programme) proposes an **innovative and multidisciplinary approach** to the management of environmental contamination, at the same time involving institutional bodies and the world of scientific research in decision-making actions.

## COORDINATOR

REGIONE DEL VENETO


## Contacts

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## PARTNERS

REGIONE DEL VENETO AZIENDA ZERO

arpav – Agenzia Regionale per la Prevenzione e Protezione Ambientale del Veneto

IRSA CNR

Università degli Studi di Padova

**Budget**

2.176.493 €
EU co-financing: 1.264.369 €

**Duration**

from 01/09/2017
to 31/03/2021


WITH THE CONTRIBUTION OF THE LIFE FINANCIAL INSTRUMENT OF THE EUROPEAN UNION
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Perfluorinated compounds
HOlistic ENvironmental
Interinstitutional eXperience

# Preventing, Ensuring, Promoting

# LIFE PHOENIX Project

An integrated approach for the effective management of water pollution risks from emerging contaminants

## **Guiding principles** that inspire the LIFE PHOENIX Project

Active involvement of stakeholders, experts, citizens and school districts in the area of environmental protection and health safeguard.

### Preventing

in an effective and timely manner the risks associated with the spread of emerging contaminants in the environment

### Ensuring

systematically the safety of a drinking water system, the quality of the water supplied and the protection of consumer health

### Promoting

at all levels a sustainable and aware use of water, in line with the European objective of water resources preservation

## Innovative **aspects** and expected **results** of the LIFE PHOENIX Project

- A **new model of inter-institutional governance**, supported by expert working groups and accurate forecasting systems, to promptly and effectively manage the problems arising from water contamination caused by mobile and persistent organic substances (PMOC).
- A **long-term action plan** (*policy measures, prevention protocols, guidelines, recommendations*) complemented by the use of innovative technologies, able to assist public decision makers in the process of assessing, preventing and mitigating risks for the environment and for human health.
- A **smooth information and statistical system** (*data warehouse* and *web portal*), integrated with numerous databases from various local, regional and national institutions, and organized in different thematic topics to facilitate specialists in the necessary technical and scientific elaborations.
- An **effective testing process** supported by pilot plants for water purification, with *upscaling* to real-scale for irrigation water in three wet areas identified in the project zone between the provinces of Vicenza, Verona and Padua (about 930 km²) in the Veneto Region.
- A **series of fast and integrated tools**, supported by methods based on risk analysis (mathematical models and bio-indicators), to estimate the diffusion of contaminants (PMOC) in the different environmental matrices and to set biological and eco-toxicological early warning systems.
- A **replicable work methodology**, based on the *know-how* and results deriving from the multidisciplinary approach, that can be transferred and adapted in other European geographical contexts or nearby areas characterized by similar environmental contaminations.

*"Strategic project aimed at timely, effective and efficient action in case of pollution of drinking water and irrigation water"*

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## The **LIFE Programme** of the EU

The LIFE programme is the EU's funding instrument for the environment. The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental policy and legislation by co-financing pilot or demonstration projects with European added value.

## Emerging contaminants | PMOC & PFAS

*"Emerging contaminants" represent a heterogeneous group of substances. These are compounds not subject to regulatory rules, and recently identified as a possible concern, which are often found in products used in daily life, such as medications, body care articles, surfactants, plasticizers and industrial additives.*

*In particular, PMOCs (Persistence Mobile Organic Compounds) are polluting organic substances which have considerable persistence and mobility in the water cycle. Exposure to PMOCs could produce negative effects on health, although scientific knowledge is still limited.*

*The approach proposed by the LIFE PHOENIX project is applied to the so-called "short-chain" PFAS (short-chain per-fluoroalkyl compounds). The territory taken into consideration is part of that area of the Veneto region already affected by the class of contaminants known as long chain PFAS.*