

# How to identify and structure your demand for climate services: **Climate-resilient water solutions**

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22<sup>nd</sup> September 2023



# Objectives

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- What are climate services and why does defining them matter?
- What is the role of PCP in climate services?
- What is the role of resilient water solutions in addressing climate challenges?
- How do local authorities prioritize resilient water solutions?
- How do resilient water solutions relate to other climate hazards?
- How is the awareness around resilient water solutions distributed within the organization?
- How to improve the analyses of needs and structure the demand in view of a PCP?

# What is PROTECT?

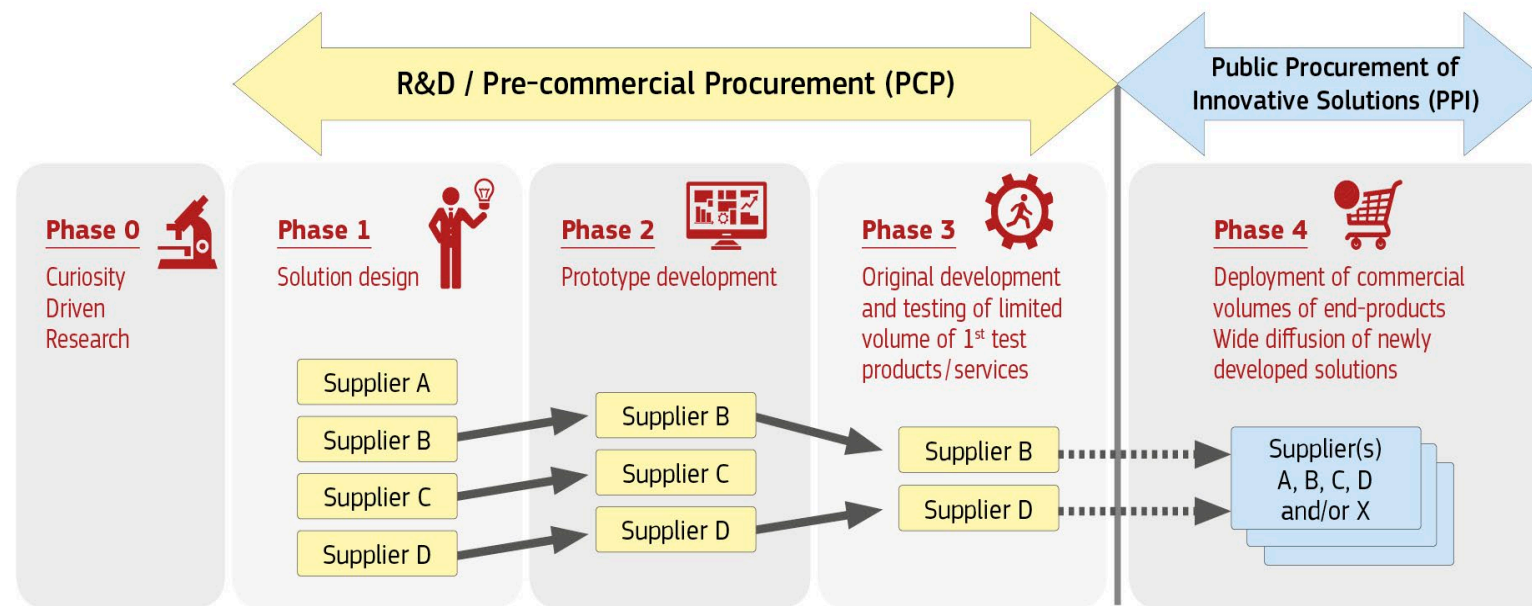
HEurope project aiming at **raising awareness** and **building capacity** for the use of pre-commercial procurement schemes in the co-development of climate services.

This is in preparation of a future Pre-Commercial Procurement (PCP) fully funded by the European Commission to be launched in 2024 with a funding amount of up to EUR 19 million: **HORIZON-CL6-2024-GOVERNANCE-01-5: Customisation/pre-operationalisation of prototypes end-user services in the area Climate Change Adaptation and Mitigation**

We look for service developers and public procurers – public authorities (regions, cities, national and regional agencies, etc.) that may be interested in exploring innovative procurement for tackling adaptation and mitigation issues in one of the 4 challenges below, in order to stimulate the market of (EO-based) climate services:

- **Flood mapping and prediction**
- **Climate resilient water solutions** (predicting, collecting data, planning)
- **Sustainable & resilient infrastructure in vulnerable urban & regional areas** (integrated sustainable re-development, restoring & adaptation of old and existing buildings)
- **Fires prediction & prevention** (tracing, identifying – e.g. illegal waste dump fires)

# The main principles of a PCP: Competitive development in phases, risk-benefit sharing, separation from market entry



- **Competitive development in phases**
- **Risk-benefit sharing under market conditions**
- **Separation from the deployment of commercial volumes of end-products / services**

Source: EC

# Welcome to the PROTECT training curriculum workshops!



## Training Curriculum

Structure your demand for climate services (PCP & beyond)





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## Structuring and optimising the demand for climate services

# Climate Services

- **Climate services are customised solutions** that **transform climate-related data** together with other relevant information to help address a wide range of needs.
- They include for instance **projections, forecasts, economic analyses, assessments, counselling on best practices**, or any other solution or service in relation to climate that may be of use for the society at large.
- Because **CS allow all categories of end-users** to access and action relevant climate-related data, climate services are essential to support their needs related to climate mitigation and adaptation.
- The potential for new, innovative, connected climate services is untapped.



# Why is it important to know about types of climate services and what is important to know about their taxonomies?

- **It helps to know the structure of the market** → knowing where to search for a service provider or for someone with similar needs as your own (e.g. for a PCP)
- **If the taxonomy categories do not match your needs, it probably means that there is a market gap** → and probably the service you are looking for does not exist off-the shelf (i.e. you may need a PCP)  
→ Either way, you may need/benefit from PCP
- **And even if you are not doing a PCP, knowing the market can help formulate your demand, or assess if the climate services you are currently using correspond to your needs**

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## Introduction to climate-resilient water solutions as a “challenge”

# Taxonomy of (water-related) climate services

PROTECT domain	Sub-domain	Category of climate services
Energy and utilities	Drinking water	Climate data and modelling for drinking water monitoring and management
Sustainable urban communities	Urban planning and monitoring	Urban modelling, 3D modelling, Digital Twins
AFOLU	Environmental monitoring	Inland water monitoring
AFOLU	Operations management	Farm management systems
AFOLU	Operations management	Pastureland management
AFOLU	Operations management	Precision irrigation
AFOLU	Weather services for agriculture	Snow and ice
AFOLU	Weather services for agriculture	Climate services for agriculture
AFOLU	Weather services for agriculture	Weather forecasting for agriculture
Marine and coastal environment	Environmental monitoring	Marine pollution monitoring
Marine and coastal environment	Maritime engineering	Dredging
Marine and coastal environment	Ocean services	Metocean
Marine and coastal environment	Aquaculture	Climate data and modelling for aquaculture
Civil security and protection	Critical infrastructure	Design of infrastructure
Civil security and protection	Critical infrastructure	Infrastructure monitoring

# Water issues in regional adaptation

- **Water quality and availability risks figure prominently in major risk assessments and adaptation strategies in regions across Europe:**
  - a) Marine & coastal: Quality degradation of coastal waters [FR], increased saltwater intrusions, salinization, freshwater shortages [FR-w,IT-c,ES,NL], decreased water quality [LT,IT-c], eutrophication of water bodies, damaged ecosystem services (ES-n,IT-c,DE-n)
  - b) Sustainable urban communities: Water quality and quantity affecting a.o. energy and utilities [southern Europe, now also concerning BE,NL,DE-s]
  - c) Energy & utilities: Increased frequency of droughts and of heatwaves [LT,PL,BE,DE,ES,FR,IT] with consequences on water quality and quantity;
  - d) Agriculture, forestry and other land use: More frequent and longer droughts [DE,IT-n,NL,ES], often coupled with water quality and quantity concerns [BE,IT,ES-n,FR,LT], competition for water between urban and agricultural use; threats of lower water recharge and decrease in aquifer levels [FR-se,IT-s,ES,NL], risks on pastures and fodder [PL]; reduced river flows, higher transpiration and water stress [ES,FR]; impacts aggravated as more frequent or abundant irrigation required in agriculture [DE-w,IT-n,ES]



# Resilient water solutions challenge: problem statement

Currently, there is **unpredictability in the demand for fresh water**, and there is a lack of connection between supply and demand. Regulations exist in each EU Member State that determine the use of water from various sources, such as channels, treated sewage water, and drinking water. However, there is a lack of a common language among different stakeholders involved in the water cycle chain.

**Local communities and residents** who rely on freshwater resources for drinking water, agriculture, and other daily needs

**Industrial sectors** such as manufacturing, mining, and energy production that use freshwater for cooling, processing, or hydropower generation.

**Agriculture and farming industries** that rely on freshwater for irrigation and livestock

**Recreational users** such as boaters, anglers, swimmers, and tourism operators

**International bodies and agencies**, such as the UN and the EU, dealing with transboundary freshwater issues and diplomacy.

**Water utilities and service providers** responsible for supplying safe and clean drinking water to consumers.

**Government agencies and policymakers** responsible for managing and regulating freshwater resources.

**Environmental organizations** and conservation groups advocating for the protection and restoration of freshwater ecosystems.

**Financial institutions and investors** interested in water-related projects, infrastructure, and sustainability.

# Resilient water solutions: objectives and path

1. Gaining a comprehensive understanding of the status quo
2. Exploring how drought-related issues regarding water supply and demand are addressed
3. Utilizing database-driven solutions to enhance the distribution of water
4. Provide accurate information to water authorities regarding who needs to collect water,
5. Establishing a resilient system where different stakeholders, including water companies, farmers, and industries, collaborate during drought periods. This collaboration should be based on a comprehensive understanding of the water conditions and quality requirements for different purposes. Guidance and decisions from a policy perspective should be achieved to comprehend the consequences and combine relevant data throughout the entire water cycle chain under a unified taxonomy.

The **desired outcome** is a **predictable demand for fresh water**.

- system capable of effectively handling stress situations through **data-driven decision making and interventions**
- supply and demand for fresh water are interconnected based on needs of diverse users
- considering the specific conditions and water quality requirements for different purposes

# Interactive session 1: Exploring processes & identifying externalities

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# Interactive session 2: Internalizing externalities: takeouts for PCP (and beyond)

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# Join us at the upcoming PROTECT training curriculum workshops!



## Training Curriculum

Structure your demand for climate services (PCP & beyond)

