

Open Market Consultation

SUSTAINABLE INFRASTRUCTURES Challenge

PROTECT consortium

16 November 2023, 14:30 - 16:00



SUSTAINABLE INFRASTRUCTURE Challenge – 16 Nov

14:30 – 16:00

Time	Topic	Speaker
14:30 – 14:40	Introducing PROTECT & objectives of the OMC	Mélissa Campagno, GAC
14:40 – 15:00	Presentation of the State-Of-The-Art analysis for the SUSTAINABLE INFRASTRUCTURE challenge, insights from providers, OMC report	Ana Lucia Jaramillo, Corvers
15:00 – 15:30	Presentation of the SUSTAINABLE INFRASTRUCTURE challenge and use cases by the group of buyers	Mr. Martin Jonker, City of Haarlem Sami Sahala, Forum Virium Helsinki Albert Vendrell Roca, Provincial Council of Barcelona
15:30 – 15:50	Open discussion with providers	All
15:50 – 16:00	Next steps and closure	Mélissa Campagno, GAC

Introducing PROTECT & objectives of the OMC

Mélissa CAMPAGNO

GAC, project coordinator



What is PROTECT about and who is it for?

An Horizon Europe (HE) CSA project aimed at **raising public and private buyers' awareness, building their capacity, and preparing them** for undertaking a joint cross-border Pre-Commercial Procurement (PCP) fully funded under another HE [PCP call](#).

Key actors:

- **Buyers** – public authorities (regions, cities, national and regional agencies, etc.) that may be interested in exploring innovative procurement for tackling adaptation and mitigation issues.
- **EO-based climate services providers** willing to collaborate with the public demand to overcome pressing challenges in the area of climate adaptation by co-designing a new solution 'climate service' based on EO data **NOT YET AVAILABLE** on the market.

An innovative and strategic public governance and procurement approach to climate change adaptation and mitigation

What is the PCP call about?

The Pre-Commercial Procurement (PCP) call “*Customisation/pre-operationalisation of prototypes end-user services in the area Climate Change Adaptation and Mitigation*” is open and available on the Funding and Tenders Portal: [here](#).



19M EUR FULLY funded by Horizon Europe programme



Opened on **17 October 2023**

Close on **28 February 2024 at 17:00 CET**

Estimate start of the PCP: Sep 2024

The PCP should deliver successful innovative and fully tested product(s) and/or service(s) that meet the common needs of a buyers' group (consortium of procurers) to *procure research, develop innovative marketable solutions, speed up the time-to-market, and provide best value for money.*



PROTECT supports the preparation of future candidate applications to the PCP call by working both with the demand (**buyers**) and supply side (**providers**) of Earth Observation (EO)-based climate services.

Key expected outcomes of the PCP

- Build on the **Copernicus Services** & respond to the common needs and **beyond state-of-the-art performance targets** of the buyers group;
- **Reduce the fragmentation** of demand for innovative solutions by enabling public procurers to collectively implement a Pre-Commercial Procurement (PCP) in the area of climate adaptation and mitigation, which, due to their nature, are **better addressed jointly**, or which they would not have been able to tackle independently;
- **Create new opportunities** for wide market uptake and economies of scale for the supply side through the use of joint specifications, wide publication of results and – where relevant – contribution to standardization, regulation or certification to remove barriers for introducing innovations into the market and create new products, processes and/or services ready for market uptake



PCP call requirements & eligibility criteria

- The PCP must be executed by:
 - **One or more public buyer(s)** plus possibly one or more private and/or NGO procurer(s) that provide similar services of public interest
 - Entities with a **mandate** from one or more of these procurers to act on their behalf in the procurement (public utilities companies, central purchasing bodies, etc.)
- The **‘lead procurer’** is a public procurer and is the beneficiary appointed by the buyers’ group to coordinate and **lead the procurement activities**. They can be either one of the procurers in the buyers’ group or another beneficiary in the action who is established or designated by the procurers.
- The PCP must address **ONE (only) concrete procurement need identified as a common challenge**, which requires new R&D and is described in the common specifications of the joint PCP call for tender.
- Addressing the common challenge in different countries may require the development and testing of **additional local functionality or adaption of solutions** by each procurer due to differences in the **local context**.
- A PCP that addresses a challenge consisting of **several facets** (sub-challenges or building blocks) is considered one joint PCP, as long as all procurers in the buyers’ group share the need for it.
- Projects applications submitted should have a **maximum duration of 3 years**. Projects of a longer duration will not eligible!



Reach out to info-protect@group-gac.com for more info!

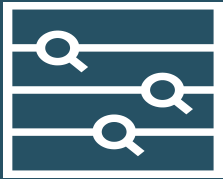


Process towards the 4 OMCs and the PCP call

Mapping of climate challenges at EU regional level



Mapping of EO climate service providers at EU level



Consultations with buyers to identify 4 pressing challenges and finetune their needs



E-pitching sessions with EO climate service providers to complement the SOTA analysis



4 Open Market Consultations on key challenges to inform market providers



Identifying *lead buyer* to build 4 consortia of buyers willing to prepare a joint cross-border PCP application



4 pressing challenges identified



Lead buyer identified

1



Mapping and predicting **FLOODS** (marine, riverine and other sources)

2



Prediction and prevention of **FIRES** and tracing and tracking responsible sources (waste, forest/nature, other)

3



Climate resilient **WATER** solutions (prediction, connecting data, planning, supply-demand)

4



Sustainable & resilient **INFRASTRUCTURE** (sustainable re-development, buildings restoring & adaptation).



Open Market Consultation Objectives



Validate the findings of the State-Of-The-Art (SOTA) analysis and discuss the viability of possible technical and financial provisions/ functionalities.



Raise awareness of the industry and relevant stakeholders (including other users) regarding the upcoming PCP.



Collect insights from the industry and relevant stakeholders (including users) to finetune the tender specifications.

**State-Of-The-Art analysis for the
SUSTAINABLE & RESILIENT
INFRASTRUCTURES challenge,
insights from providers, and
OMC report**



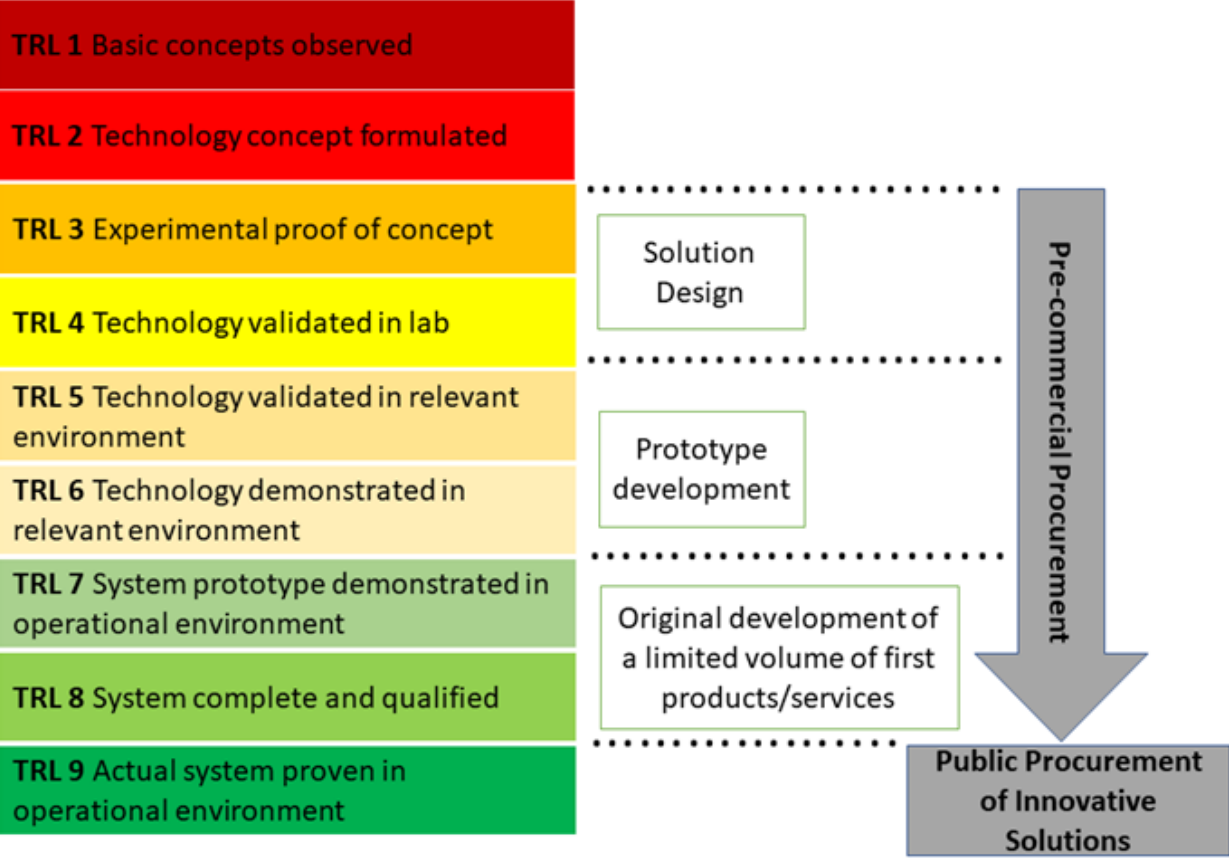
Corvers Procurement Services B.V.
project partner



State-Of-The-Art analysis

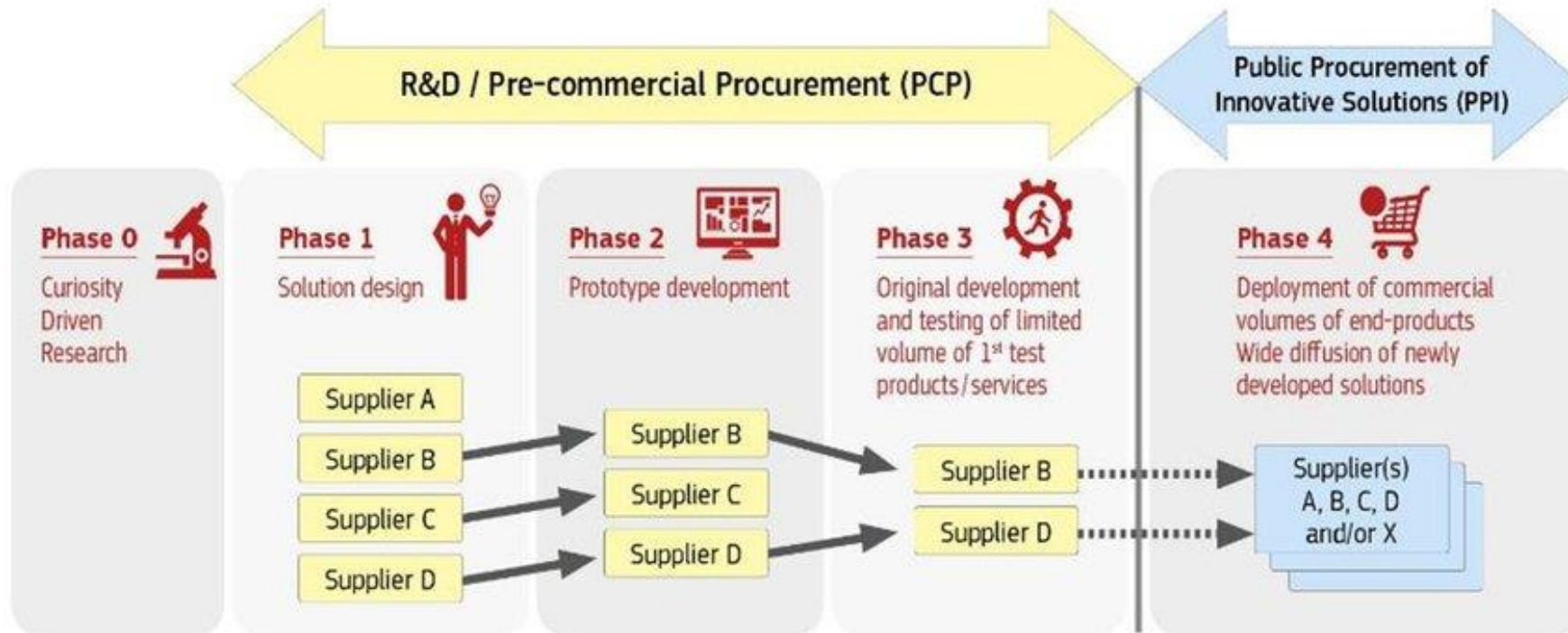
SOTA analysis

Pre-Commercial Procurement (PCP): TRL 3 - 8

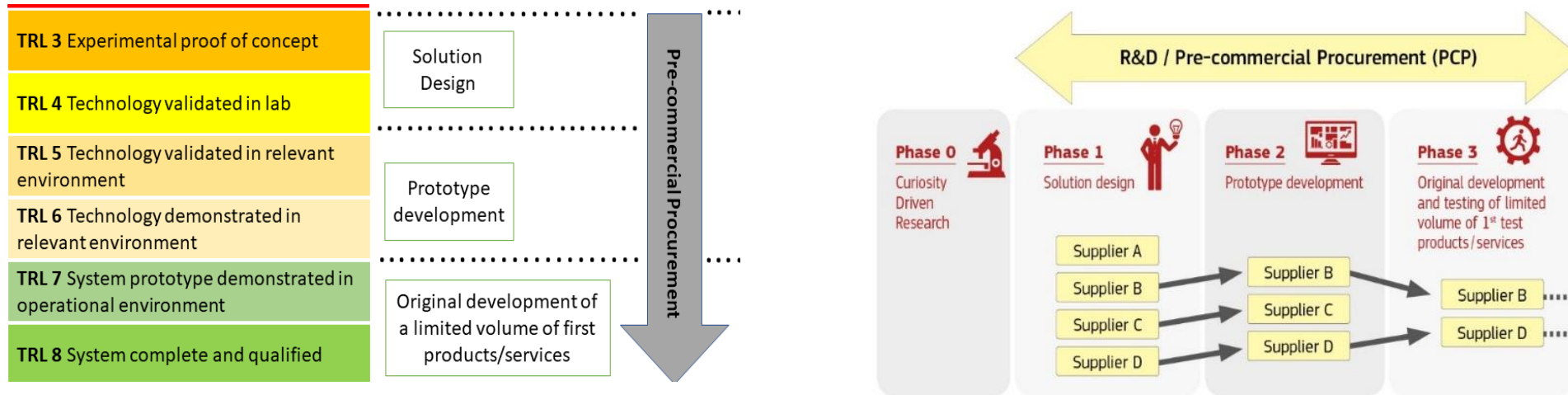


Pre-Commercial Procurement (PCP)

*Innovation Procurement happens when **public buyers** acquire the **development or deployment of pioneering innovative solutions** to address specific mid-to-long term public sector needs.*



PCP approach

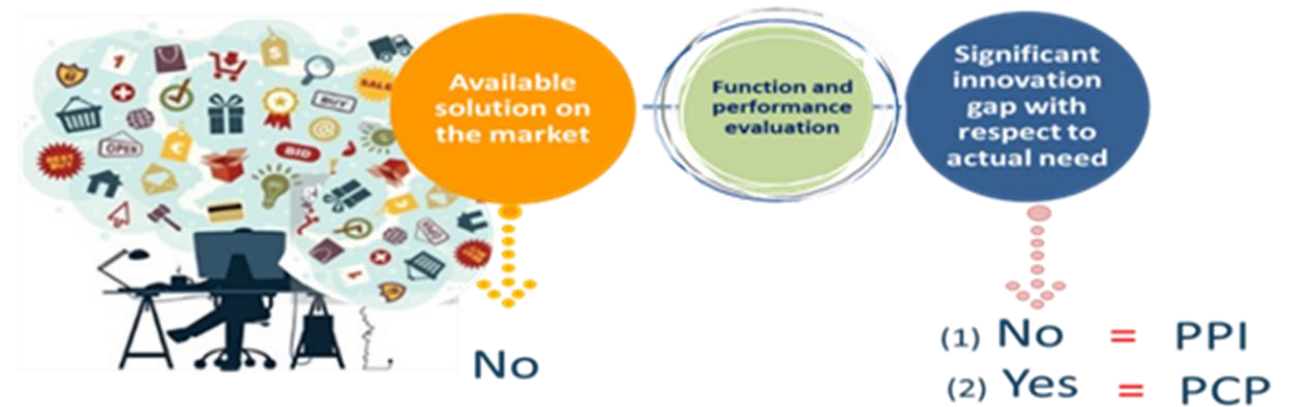


PCP is a public procurement of Research and Development (**R&D**) **services** characterized by:

- ✓ **competitive** development in **phases**
- ✓ **risk-benefit sharing** under market conditions → Public procurer does not pay the full cost of the R&D performed under the contract
- ✓ a clear **separation** between the procurement of the R&D from the deployment of **commercial volumes of end-products**

PCP approach

- R&D is needed to identify an **innovative solution** to satisfy public procurers' needs.
- **No solutions exist yet on the market** that meet public procurers' needs and based on a search conducted by the procurers, it does not seem that such a solution will be available on a short-term notice.



- (1) Improvements are needed but don't require new and significant R&D (only integration, incremental adaptations and improvement, customization...), so authority can act as early adopter of innovative commercial end-solutions newly arriving on the market
- (2) There isn't any solution or the problem is so technologically demanding that a radical and breakthrough new solution and significant R&D is needed.

Challenge 4 Sustainable Infrastructure – SOTA preliminary results

- The analysis revealed research on the
 - After event evaluation of the affected area
 - Creation of a thermal map of a region
 - Urban heat island detection method
 - Systems and methods are provided for processing observation data.
 - Analysis of urban morphology
 - Methods for monitoring and managing urban water resources and hydrology through a network of stations
 - Early warning-prediction
 - Methods for identifying risk level
- Technologies & tools: digital aerial and satellite imagery, photography, computer vision, artificial intelligence, multi sensor input (drones etc), image analysis, statistical analysis and mathematical analysis, airborne and spaceborne sensors, deep learning, ground-based data gathering, remote sensing data, data modelling, open source geographical data, image processing, remote sensing image and high-resolution remote sensing image.

List of keywords used

- Earth Observation
- urban heat islands
- urban planning
- Infrastructure
- satellites
- mapping urban areas
- Ground sensors
- heat island effect
- rural areas
- neighbourhoods

Insights from providers

From the e-pitching & EU Survey questionnaire

Insights from providers – e-pitching

- No one solution tackles all the functionalities.
- Possible combination of technologies.
- Potential solutions would be in TRL 5-6
- Potential synergies between providers for the PCP.



Insights from providers - questions

- Are there requirements on “financial stability” or “minimum revenue of the company to participate?”
 - → **Low thresholds of PCP to allow a start-up or SME to participate.**
- What are the associated countries able to participate?
 - → [list-3rd-country-participation_horizon-euratom_en.pdf \(europa.eu\)](#)
- Can you make a list of the PCP requirements to make it easier to recognize them and address them?
 - → **The tender documents will include further specifications for a specific challenge**
- What kind of data do you use? Do you use raster data?
 - → **Differences between Public buyers**

Insights from providers - questions

- Are there any restrictions for each budget?
 - → **more than 50% should be allocated to R&D activities as defined by Frascati.**
[Concepts and definitions for identifying R&D | Frascati Manual 2015 : Guidelines for Collecting and Reporting Data on Research and Experimental Development | OECD iLibrary \(oecd-ilibrary.org\)](#)
- Is there any payment plan already envisioned?
 - → **initial % to start and payment based on milestones and at the end of each phase of the PCP, based on satisfactory completion. The tender documents will detail the payment scheme.**
- Is Critical Infrastructure considered?
 - → **It is relevant to all challenges. More details will be described in the tender documents.**
- What are preferred data sources, target users (non-expert, casual, expert), etc?.
 - → **Public buyers will provide more information.**

Insights from providers - questions

- Are you interested in offering INSPIRE-compliant raster data if this is possible straightforward?
- Are you interested in timeseries visualization and analysis services?
- Would you be interested in vendor presentations on the state of the art?



OMC Report

Follow up steps

OMC Report

- Summary of OMC activities conducted.
- Anonymized OMC report based on the feedback from providers and users.
- Information on the next steps.
- To be published on the website of PROTECT and in EU Survey.

<https://ec.europa.eu/eusurvey/runner/PROTECT-PCP-2023>



PROTECT OMC timetable

Date	Event
20 September 2023	Publication of the Prior Information Notice (PIN) on TED
25 September 2023	Publication of the OMC documents in the project's website and EU Survey: https://ec.europa.eu/eusurvey/runner/PROTECT-PCP-2023 Open registration for the events and submission of questions
10 November 2023	Deadline to submit questions (17:00 CET)
14 November 2023	Deadline to register for the webinars (17:00 CET)
15-16 November 2023	4 OMC webinars
17 November 2023	Publication of the Q&A document in the project's website
20 November 2023	Deadline to fill in the EU Survey (17:00 CET)
25 November 2023	Publication of the OMC report
30 November 2023	Closure of the OMC

[Services - 574857-2023 - TED Tenders Electronic Daily \(europa.eu\)](#)

[PROTECT-OMC-document-2023-FINAL-updated.pdf \(protect-pcp.eu\)](#)

<https://ec.europa.eu/eusurvey/runner/PROTECT-PCP-2023>

Questions?

Ana Lucia Jaramillo

Corvers Procurement Services B.V.



Presentation of the **SUSTAINABLE INFRASTRUCTURES** challenge and use cases by the group of buyers

City of Haarlem, Forum Virium
Helsinki, Provincial Council of
Barcelona





Scope of the problem → definition of challenge



Interregional dimension & geographical coverage preferences



Examples of situations → users, use cases, type of environmental problem, frequency



Providers' training to buyers



Data available → what the organisation has now / any studies



Data needed → what type of EO the organisation needs, spatial resolution, update frequency



Functions of expected solutions → predict, prevent, alert, cooperate



City of Haarlem



- Demographic data
 - 165.400 inhabitants
 - 13th largest municipality in the Netherlands
 - Located in the west of Amsterdam
 - City with the most petrified* neighborhoods in the Netherlands

**A neighborhood is labeled petrified if it does not meet the standard of 75 square meters of green per home or does not contain more than 1 hectare of contiguous greenery per neighborhood.*

- Strategy on Spatial Planning and the Environment (Omgevingsvisie)

Mixing and compacting
Neighbourhood-oriented development
Promote healthy living environment

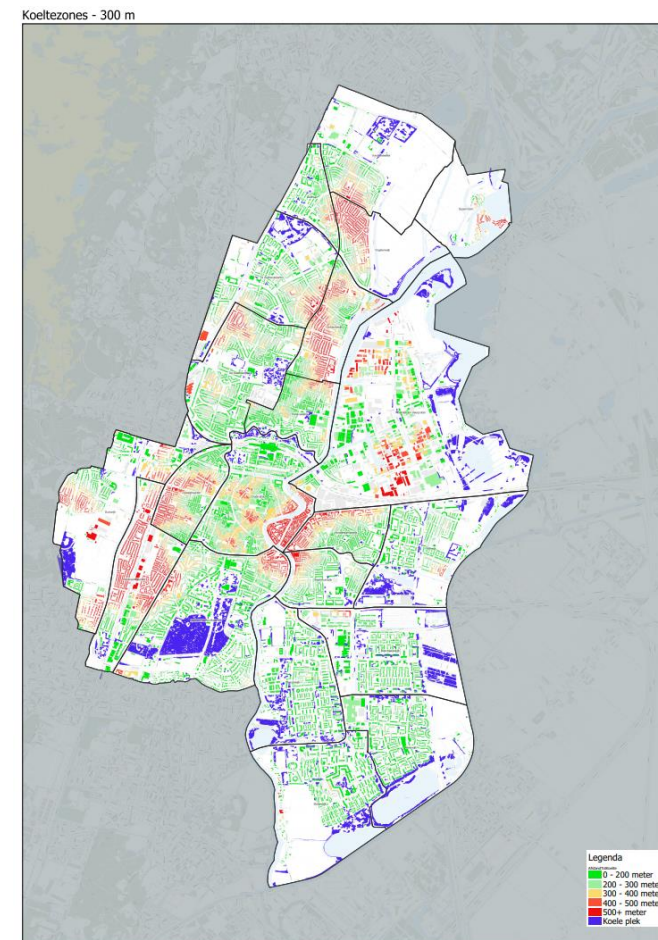
Greening and watering
Energy transition
Mobility transition

Climate-proof city →



“Within the city we travel as much as possible on foot or by bicycle, the trips to and from the city we do as much as possible by public transport and by bicycle and we only use the (electric) car only if there is otherwise.”

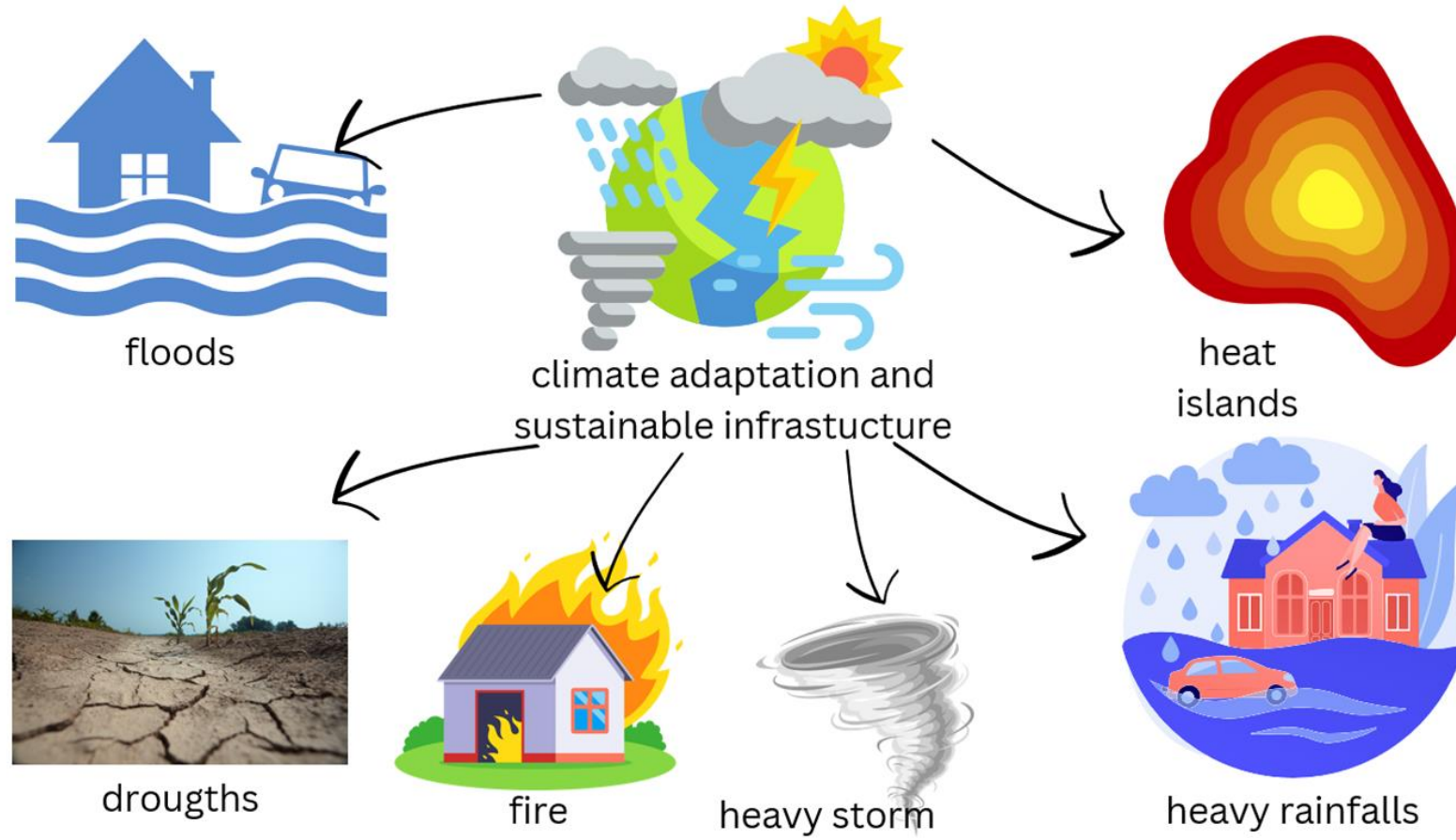
→ Regulated Parking



*NB. Deze kaarten geven een eerste indicatie en moeten nog verder verrijnd worden.

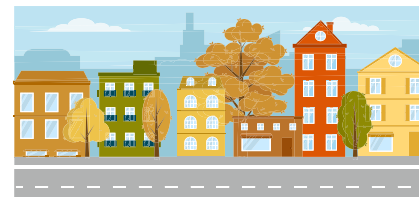
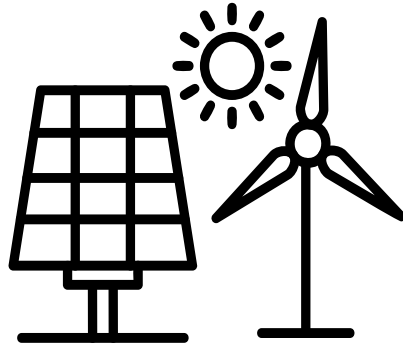
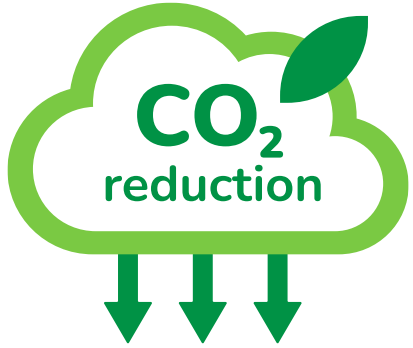
Percentage of cool spots (minimum 200 m²) are available within walking distance (maximum 300 metres). Current: 64%

Buyers input: Climate adaptation of existing neighbourhoods, City of Haarlem

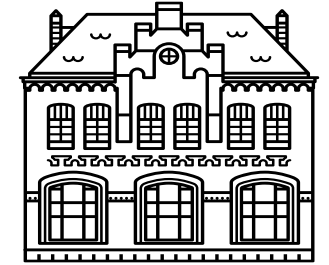


Aims:

- Safe and attractive city
- CO2 reduction
- Renewable energy
- Greening city
- Parking and mobility

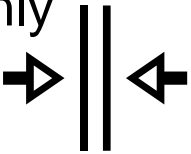


Buyers input: Climate adaptation of existing neighbourhoods, City of Haarlem



Limitations:

- Historical buildings with restrictions
- Narrow streets of e.g., only 10-meter wide
- Subsidence of the ground (about 1 cm a year)
- High density of pipes and cables in the ground



Buyers input: Climate adaptation of existing neighbourhoods, City of Haarlem

Need:

Calculation of scenarios for making existing neighborhoods climate adaptive*.

- *Climate adaptive: adapted to floods due to heavy rainfalls, drought, water scarcity, heat, fire, storms.
- *Given limitations, aims and strategy
- *Preference for solutions that address the various climate adaptation challenges

Buyers input: Climate adaptation of existing neighbourhoods, City of Haarlem

Needs, challenges and limitations:

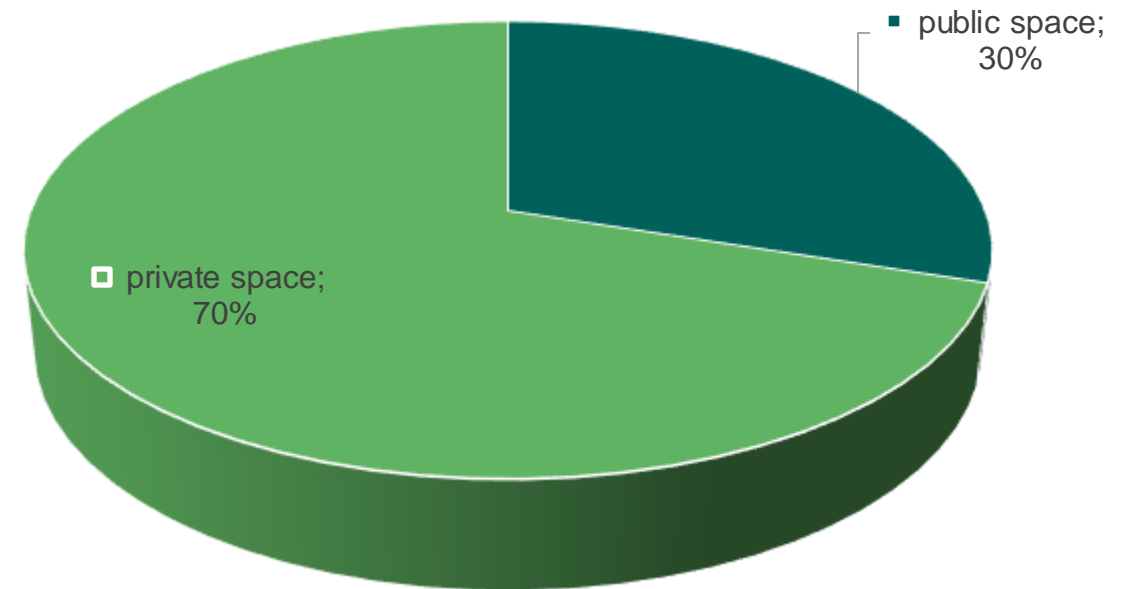
- **Calculation of scenarios for making existing neighbourhoods climate adaptive** (floods due to heavy rainfalls, drought, water scarcity, heat, fire, storms). *Limitations:* narrow streets, historical buildings, subsidence of the ground in Haarlem (about 1 cm a year).
 - **Calculation of scenarios regarding cooling of the city**, especially for areas with children and elderly people, e.g. by greening the city. *Limitations:* narrow streets of e.g., only 10-meter wide, historical buildings with restrictions, etc.
 - **Calculation of scenarios for realisation of the climate adaptive measures** (e.g., so-called wadi's*), using information about pipes and cables in the ground, combined with other indicators and climate services information. *Limitations:* a lot of pipes and cables in the ground), subsidence of the ground.
- * A wadi is a green ditch in the urban area. In the Netherlands, the Arabic word is an abbreviation of Water Drainage Drainage and Infiltration. A wadi stores rainwater and purifies it, after which the water infiltrates into the subsurface. The wadi thus helps against floods and droughts.

Buyers input: Climate adaptation of existing neighbourhoods, City of Haarlem

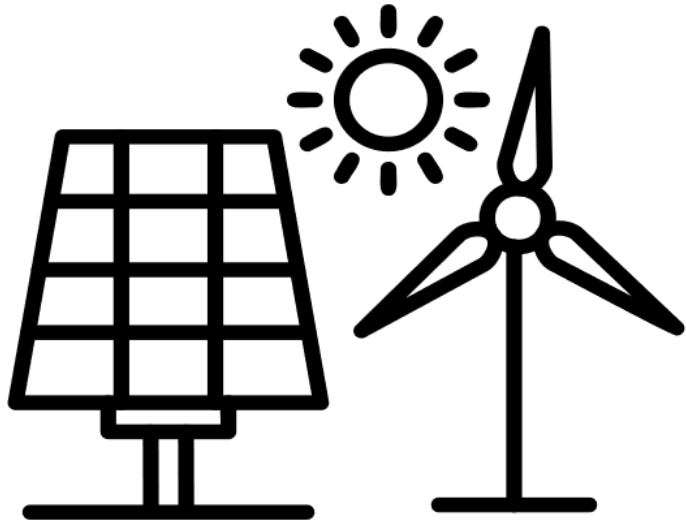
Impact on:

- Scenario public space
- Scenario public space and public buildings
- Scenario public space and front and private space
- Scenario Public and private spaces.

Public and private space in Haarlem



Buyers input: Renewable energy of existing neighbourhoods, Provincial Council of Barcelona



Challenges and limitations:

- Renewable energy
- Historical buildings with restrictions
- Existing neighbourhoods



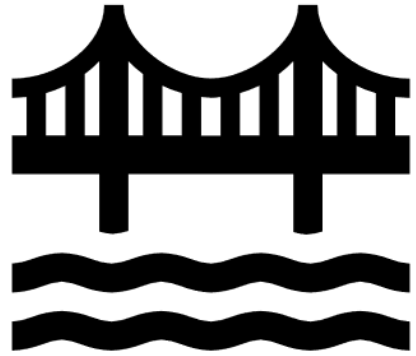
Buyers input: Renewable energy of existing neighbourhoods, Provincial Council of Barcelona

Need:

- **Climate Plan:** To become climate neutral by 2030 and self sufficiency in energy
- **Renewable energy making use of existing urban infrastructure** e.g., small wind-turbines on the buildings. *Limitations:*
 - Urban environments with a low regime of wind
 - Historical buildings with restrictions.

Buyers input: Prediction of maintenance of existing infrastructure and monitoring, Forum Virium Helsinki

Challenges and limitations:



- Data not combined
- Narrow streets
- Historical building and infrastructure with restrictions



Buyers input: Prediction of maintenance of existing infrastructure and monitoring, Forum Virium Helsinki

Needs:

- **Prediction of maintenance of public infrastructure and monitoring**, e.g., office buildings, bridges, roads etc.
- **Use of existing data to solve challenges city is dealing with.** Combining data of climate services could solve different challenges.

Open discussion with providers

Marc Pattinson, GAC



Wrap-up and next steps



Next steps

- Publication of the OMC report – 25 Nov 2023
- Final webinar with providers – Jan/ Feb 2024
- Building consortium/a of buyers & aggregation of needs – up to Feb 2024
- Final PROTECT Project event – Q1 2024



How to get involved?



Sign up for the **Community Platform** to get access to its ever-expanding Knowledge Hub on Innovation Procurement, Climate Services and Earth Observation (EO) data, get invited to all PROTECT webinars, and stay up to date through our newsletter.



Join a PROTECT Buyers Group each targeting one of the identified and selected common challenges.



Access to the relevant material and documentation to best prepare for the PCP call, please visit: <https://www.protect-pcp.eu/relevant-resources/>

