

Policy Brief: The Benefits of Pre-Commercial Procurement and PROTECT for Development Agencies

The PROTECT Project

PROTECT supports urgent action for **climate adaptation, mitigation, and resilience**. It enables public authorities to use state-of-the-art public procurement approaches in order to identify solutions – **Climate Services (CS) based on Earth Observation** – that best fit the specific and systemic needs of the public demand. The focus is on five application domains, namely: Energy & Utilities, Sustainable Urban Communities, Agriculture, Forestry and other Land use, Marine and Coastal Environments and Civil Security and Protection. PROTECT will source and assess existing and high-potential CS solutions and technologies that use Earth Observation data. It will engage with an extensive and varied community of procurers, facilitate the definition and aggregation of their needs and functional requirements for climate services, explaining, fostering and supporting a 'buying with impact' approach. PROTECT will **prepare the operational ground for one or more joint, cross border or coordinated pre-commercial procurement (PCP) processes**. At policy level, it will provide decision-makers for procurement, climate and policy, at EU, national, regional and local levels, with practical recommendations and guidelines to boost the use of innovation procurement for climate action.

Summary

- Pre-commercial procurement (PCP) is an effective tool for public authorities to incentivise the market to provide goods and services that are needed but not currently available.
- A prime example of its application are climate services, which help mitigate and adapt to the most severe impacts of climate change.
- As PCPs fall outside of international public procurement agreements, place of performance conditions can be applied, thus favouring local businesses.
- Because of their intermediary role between government (demand) and business (supply), Regional Development Agencies are in a unique position to help overcome barriers to PCP.

Recommendations

- Encourage your authorities to issue PCPs for climate services to mitigate and adapt to the impacts of climate change on your territory in a timely manner.
- Encourage local companies to apply for PCPs, as this is an excellent way to open up the procurement market for them and to participate in the research and development of future technologies.
- Analyse your local PCP ecosystem, potential barriers, and ways to overcome them.
- Think about how to bring supply (businesses) and demand (procuring authorities) together, e.g., via an online marketplace/platform.

Box 1: Pre-Commercial Procurement

Pre-commercial Procurement (PCP) is a specific approach to procure R&D services that involves competitive development in phases, risk-benefit sharing under market conditions, and where there is a clear separation between the PCP and the deployment of commercial volumes of end-products (potential follow-up **Public Procurement of Innovative solutions - PPI**). PCP identifies the best possible solutions the market can develop, by comparing alternative solution approaches from different technology vendors in parallel. By steering the development of innovative solutions towards concrete public sector needs, PCP may trigger industry to initiate R&D that was previously unthought-of. In PCP, procurers are thus demanding customers, who are articulating advanced solution requirements as potential future early adopters of the developed solutions (which will be selected in a separate PPI procurement that follows the completion of the PCP).

Introduction

The impact of climate change on European territories has become omnipresent. Droughts, floods and forest fires are only the most visible phenomena due to their immediate and catastrophic nature. Biodiversity loss and the need to adapt agricultural land to climate change are less visible but no less urgent issues, to name but a few.

European territories need to mitigate, adapt and prepare for the impacts of climate change. To this end, they need to understand what impacts climate change is most likely to have on their territories, what

measures need to be taken to adapt to the most drastic impacts, and consequently what adaptation and mitigation services need to be procured.

However, even when the specific impacts of climate change on a territory are known (e.g., high risk of flooding in rivers or on coasts), the services needed for adaptation are often not available (e.g., early warning systems). Buying something that is not yet available on the market can be a major challenge for authorities and thus a major obstacle to taking the necessary and urgent steps to adapt to and mitigate climate change. This is where pre-commercial procurement comes into play.

Regional development agencies are entrusted with the development of their territories and are uniquely positioned to help overcome such obstacles due to their intermediary role between government (demand) and business (supply).

Box 2: Climate Services

Climate services describe the transformation of **climate-related data** — together with other relevant information — into customized products such as projections, forecasts, information, trends, economic analysis, assessments (including technology assessment), counselling on best practices, development and evaluation of solutions and any other service in relation to climate that may be of use for the society at large. As such, these services include data, information and knowledge that support adaptation, mitigation, and disaster risk management (DRM) [1].

Procuring Innovation

When public authorities purchase goods and services, they do so in a regulated, transparent and competitive procedure called public procurement. A procedure that is much more difficult when the goods or services needed are not available on the market. One option would be for public authorities to wait for the market to provide the needed goods and services. **Or, in an effort to incentivise the market to provide the needed goods or services, public authorities can instead buy research and development (R&D) services that meet public needs in the medium to long term.**

However, procuring innovations (R&D services) instead of market-ready or proven goods and services involves risks for both contracting authorities and suppliers. In 2007, pre-commercial procurement (PCP) was introduced in the EU [2], which allows risk-benefit sharing between the contracting authority and the participating companies on market terms. The contracting authority reserves the right to use the results but does not acquire exclusive rights of use. The participating developers have the option of marketing their solutions

themselves if they drop out in the course of the procedure or if their solution is not purchased by the contracting authority. This not only allows the providers to exploit their solutions with other clients or in other markets, but the early feedback also helps them further in their development, which can shorten the time to market.

Example 1: PCP

A prime example of the benefits of pre-commercial procurement can be witnessed in the acquisition of so-called “long-endurance unmanned surface vehicles” by the UK National Oceanography Centre (NOC) in 2014 [3]. Multiple government operations require Autonomous Surface Vehicles (ASVs) that are able to cover longer distances/duration, are more cost-effective and are more resource-efficient than the ones previously available. Therefore, the NOC launched a pre-commercial procurement call in 2013 where five tenders were awarded contracts to kick-start the concept study. Thereafter, two promising concepts were developed into prototypes that would be extensively tested during the PCP’s development and testing phase. Ultimately, the contractors opted to procure both products that are in use to this very moment. The phased approach in this PCP not only ensured the involvement of medium and smaller enterprises but also exhibits the broader principles of PCP by accelerating time to market and encompassing rather modest procurement investment.

Through pre-commercial procurement, public authorities can therefore drive demand-side innovation while encouraging companies to engage in research and development. PCP has also proven to bring new players, particularly SMEs, into the procurement market, which accounts for no less than 14% of European GDP. “73.5% of PCP contracts are won by SMEs, 61.5% of total values of PCP contracts, more than twice the average in public procurement across Europe (29%)” [4].

It is important to note that PCPs are not covered by international agreements on public procurement such as the WTO Government Procurement Agreement. Therefore, **PCPs can use place of performance conditions that require participating contractors to carry out most of the activities performed for the PCP contract in EU Member States or in specific regions.**

As PCP and R&D processes take time, it is particularly important to initiate them as soon as possible so that the goods or services needed can meet the demands of the territories as quickly as possible.

Climate Change Adaptation & Mitigation

When it comes to measures to be taken by European territories in response to climate change, it is usually either **adaptation** or **mitigation**. Failure to take either of these two measures may have catastrophic consequences.

Climate adaptation means taking measures to anticipate and prepare for both the current and future impacts of climate change. This can mean both anticipating the negative impacts of climate change and taking appropriate measures to prevent or minimise the damage they may cause, or taking advantage of opportunities as they arise [5]. Examples are the construction of infrastructures to prevent flood damage or the cultivation of crops that can better cope with changing climatic conditions.

Climate mitigation means reducing or avoiding the emission of greenhouse gases in order to prevent future climate impacts. Since climate change is mainly caused by greenhouse gases released from the burning of coal, oil and gas, reducing or improving the storage of emissions is an important step in mitigating the negative impact on the climate.

Box 3: Earth Observation

Environmental observation involves collecting and monitoring information and data regarding changes and trends in industrial, economic, and global environments. These pieces of data help researchers understand changing environments to inform potential changes in things like climate change policies and disaster relief plans [6]. **Earth Observation (EO)** is defined as the process of acquiring observations of the Earth's surface and atmosphere via remote sensing instruments. The acquired data is usually in the form of digital imagery [7]. EO satellites have been essential to identifying and monitoring climate change and it supports mitigation and adaptation measures by providing vast amount of EO data.

Climate Services & Earth Observation Data

Specific climate services can be procured to meet a territory's climate change adaptation or mitigation needs that often make use of aerospace technologies such as Earth Observation.

Earth Observation (EO) data can be of enormous value for detecting and monitoring climate change and thus supporting climate change adaptation and mitigation measures. Earth Observation is defined as the process of capturing observations of the Earth's surface and atmosphere

through remote sensing instruments (i.e., satellites). "Satellite-based EO relies on the use of satellite-mounted payloads to gather imaging data about the Earth's characteristics. The images are then processed and analysed in order to extract different types of information that can serve a very wide range of applications and industries" [8].

Climate services that use Earth Observation data therefore often have the potential to meet the climate adaptation and mitigation needs of public authorities. The challenge then is for the procuring authorities to clearly identify and articulate their needs that could be met by climate services, whether or not they are based on Earth Observation data. While some support structures are in place at the European level, at regional level a close look needs to be taken at how well PCP is being used by the respective procuring authorities and what barriers might prevent them from doing so. **This is also where Regional Development Agencies can step in and take on the role of analysing the regional PCP ecosystem.**

At European level, individual procurers can receive financial support from the European Structural and Investment Funds. In addition, the Horizon programmes co-finance the establishment of public procurer networks to prepare the launching of PCPs and the undertaking of joint PCPs on topics of common interest. One of these projects is PROTECT.

PROTECT

The Horizon Europe funded PROTECT project empowers public authorities by sharing content and formats that can be easily used by non-specialists to promote the benefits of EO-based climate services. For example, PROTECT sourced and assessed existing and high-potential climate services solutions and technologies that use Earth Observation data. Sharing the current state of the art in the climate services market aids public procurers in better assessing the benefits and potential of climate services.

Longer term, PROTECT is preparing the operational ground for joint, cross-border PCP processes on four identified challenges:

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

A [range of relevant resources](#) regarding the PCP of climate services has been developed by PROTECT.

The Role of Regional Development Agencies

Due to their unique intermediary position supporting both public authorities (demand) and local businesses (supply), **Regional Development Agencies (RDA) can help overcome barriers to PCPs of climate services and thus increase the uptake of this important tool for adaptation and mitigation of climate change impacts.** This is especially true because PCPs fall outside of international public procurement agreements and can thus use place of performance conditions.

Regional Development Agencies can:

- Analyse the current use and uptake of PCP by regional procuring authorities;
- Analyse the need/demand for PCP by regional procuring authorities;
- Identify barriers to the adoption of PCP and create incentives for authorities to overcome them;
- Analyse the regional ecosystem of businesses that have the potential to provide the needed (climate) services;
- Create incentives for regional businesses to participate in PCP calls and thereby engage in research and development;
- In this way, both supply and demand are driven and brought together by RDAs.

Example 2: RDAs & PCP

An illustrative example of the role Regional Development Agencies can play in PCP is exemplified by ACCIÓ, the Catalan government agency for business competitiveness which serves as an intermediary between regional enterprises with innovative solutions and public buyers [9]. ACCIÓ hosts an online platform that collects tenders and allows entities to make searches based on various criteria [10]. Furthermore, ACCIÓ provides a mailbox for innovative proposals where enterprises submit their innovative solutions to known issues for public buyers. In case of interest in the particular solution, ACCIÓ initiates public market consultations further underlining the connecting role RDAs play between the demand and supply side of PCP.

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References:

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