ProcuraMED

Innovative and Green Procurement towards sustainable economy in MED area Euro-MED0200775

D.1.1.1 Strategic Procurement Unified Platform

WP1 - Strategic Procurement to accelerate technology transfer of green innovations
Activity 1.1 - Integration and development of Strategic Procurement Unified Platform

Developed by: UPatras

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ProcuraMED | Interreg Euro-MED | Co-funded by the European Union

Content

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All partners provided input concerning the national/regional state of the art and reviewed the document.			

1. INTRODUCTION

1.1 GENERAL SCOPE

The European Commission has identified Strategic Procurement as a crucial element in guiding Europe's transition towards an innovative and sustainable economy. In line with this vision, the ProcuraMED project has been established to accelerate the adoption of advanced green technologies and innovation capacities in the Mediterranean region. By promoting the use of Green Public Procurement (GPP) and Public Procurement of Innovation (PPI), ProcuraMED facilitates the integration of green innovations into public services, thus fostering competitive, sustainable, and resilient ecosystems.

To achieve these goals, ProcuraMED engages a wide range of stakeholders, including local, regional, and national public authorities, SMEs, business support organizations, research institutions, and sectoral agencies. Through activities such as awareness-raising, capacity building, skills development, and knowledge transfer, these groups are empowered to increase their expertise in strategic procurement procedures and adopt specialized tools.

In the centre of these efforts is **Activity 1.1 - Integration and Development of the Strategic Procurement Unified Platform**. This activity focuses on merging the GPP Unified Platform, developed under the GRASPINNO project, with the guidelines, examples, documentation, and best practices on PPI from the PROMINENT MED project.

Specifically, PROMINENT MED played a key role in promoting PPI by developing and testing approaches in small municipalities across four Mediterranean countries—Italy, Spain, Portugal, and Croatia—and producing comprehensive guidelines translated into English and French. These guidelines were further adapted by PROMINENT PLUS to suit the legal and social contexts of Slovenia, Greece, and Bosnia. Meanwhile, GRASPINNO, implemented in eight Mediterranean countries, created the GPP Unified Platform, which includes:

- **GRASPINNO databases**: Provides a repository of green products and services, and in parallel a pool of SMEs and public authorities interested in GPP.
- **eGPP supporting tool**: assisting public authorities in designing green procurement processes by collecting green specifications and preparing tender documents.
- **Life Cycle Costing (LCC)**: Allowing public authorities to assess all cost parameters for proposed solutions, such as lifetime, maintenance, energy performance, and disposal/resale.

Before the integration of the tool, the framework conditions for the use of green and innovative tenders in the transfer countries were analysed, and the guidelines for the application of GPP and PPI were adapted according to the results of the context analysis in each transfer country.

The result is a **Strategic Procurement Unified Platform** - key deliverable and output of ProcuraMED project - designed to be widely applicable across the Euro-MED cooperation area. It consolidates the results of the previous projects into one platform, offering all the necessary information, guidelines and support tools for both GPP and PPI.

The Strategic Procurement Unified Platform can be accessed via this link. This document presents the Platform, and in particular its tools, the user types, the specific functionalities and the results of its use.

1.2 STRUCTURE OF THE DELIVERABLE

The present deliverable is developed as follows:

- ✓ Chapter 2 presents the **Databases**
- ✓ Chapter 3 presents the **eGPP supporting tool**
- ✓ Chapter 4 presents **the Life Cycle Costing (LCC) tool**
- ✓ Chapter 5 presents the additions made to the platform concerning the updated **GPP** and **PPI** application **guidelines**, including the **background analysis** carried out during the first year of the ProcuraMED project, as well as the "Do No Significant Harm" (DNSH) principle

2. Databases

2.1 MAIN INFO AND TYPES OF USERS

There are 3 groups of users:

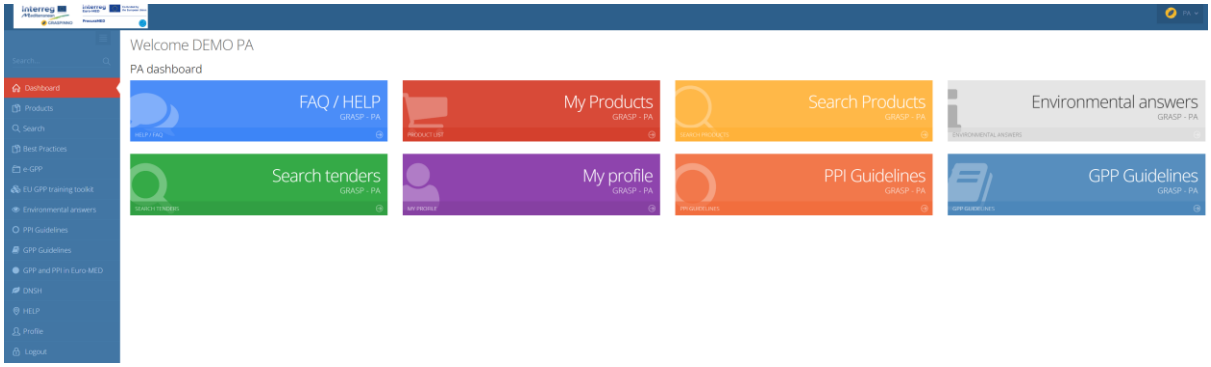
- Administrators,
- PA users (Public Authorities' users)
- SMEs users (Small and Medium Enterprises' users)

Strategic Procurement Unified Platform is a web-based application developed according to the following web frameworks:

- PHP programming language. PHP is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language.
- Bootstrap framework. Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.
- JQuery. jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.
- MySQL database.

2.2 PUBLIC AUTHORITY (PA) USERS

The Public Authority users can access the Unified Strategic Platform by following the url: http://grasp-egpp.eu/login.php.



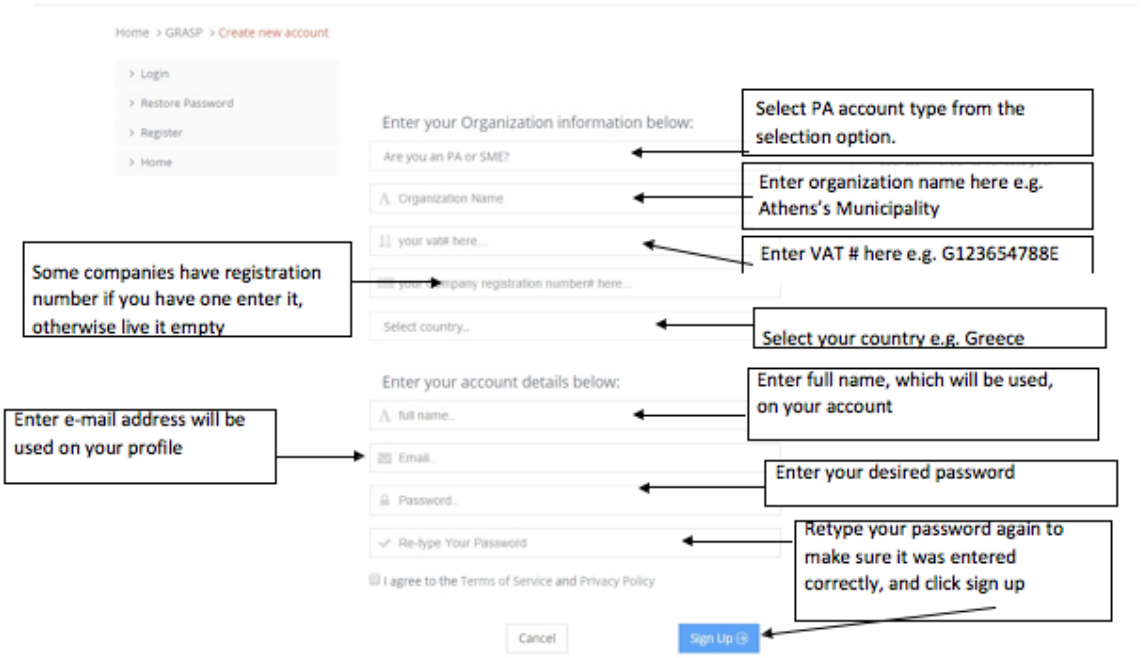
2.2.1 The PA administration panel – short description

A short description of what PA account can administer at the Strategic Procurement Unified Platform is following:

- They can edit their profile details like:
    - Organization information,
    - Personal information,
    - Specify Operating field,
    - Add Green certification,
    - Manage their GRASPINNO account.
- Manage products:
    - They cannot edit products,
    - They can view product details and,
    - They can compare them,
    - They can search for products.
- They can publish an e-tender by using e-GPP tool.
- They can access LCC tool.

2.2.2 Registration – sign up for a GRASPINNO PA account

Every user can register to the Strategic Procurement Unified Platform as PA user following the url: http://grasp-egpp.eu/register.php



There are some major changes at the Strategic Procurement Unified Platform registration form. Some of them are described below:

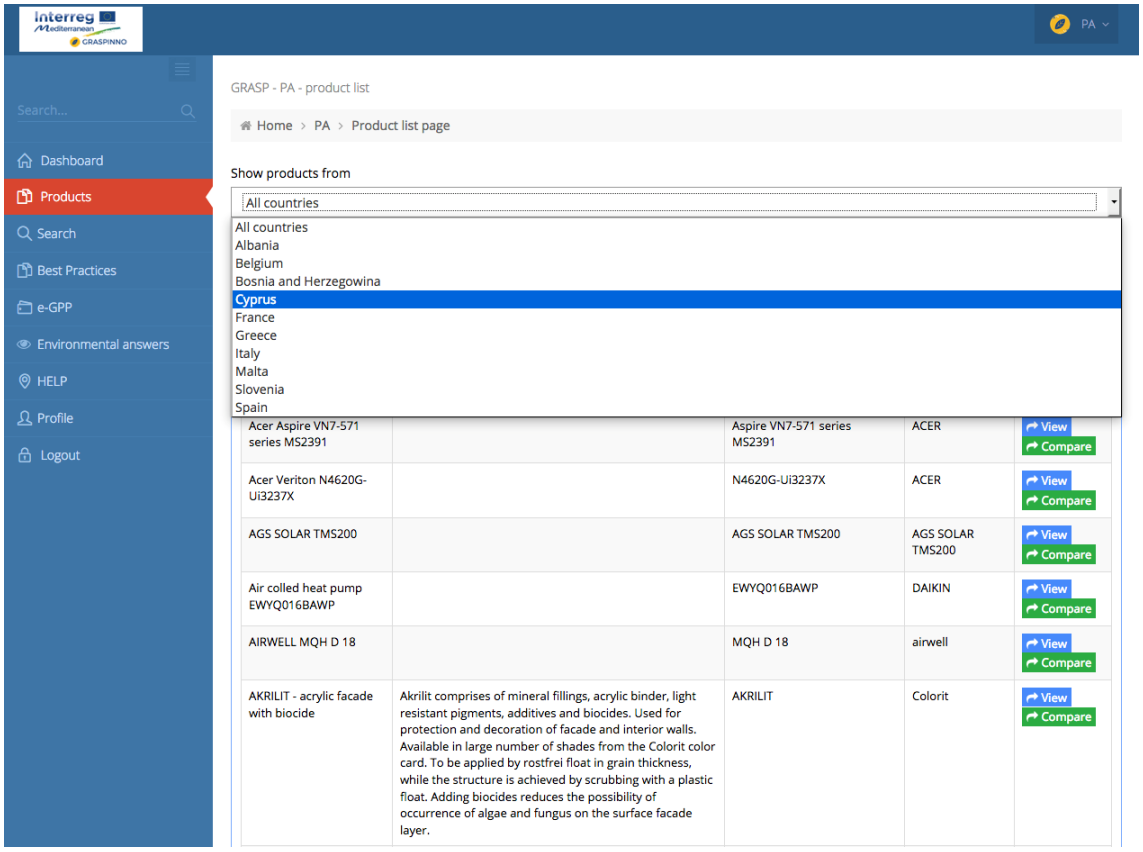
- A new mail function used for sending e-mails to a Public Authority. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the platform.
- The limit of the characters of the text fields of the registration form was extended.
- There are also some changes at the submenu of the registration form, like remove the link for the home page and add a link for a list of the already registered users.

2.2.3 Restore password

A Public Authority can access the platform even though has forgotten its password. By following the url: http://grasp-egpp.eu/forgot.php the PA has the ability to reset its

password. A new mail function used for sending e-mails to a Public Authority. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the platform.

2.2.4 Product list page

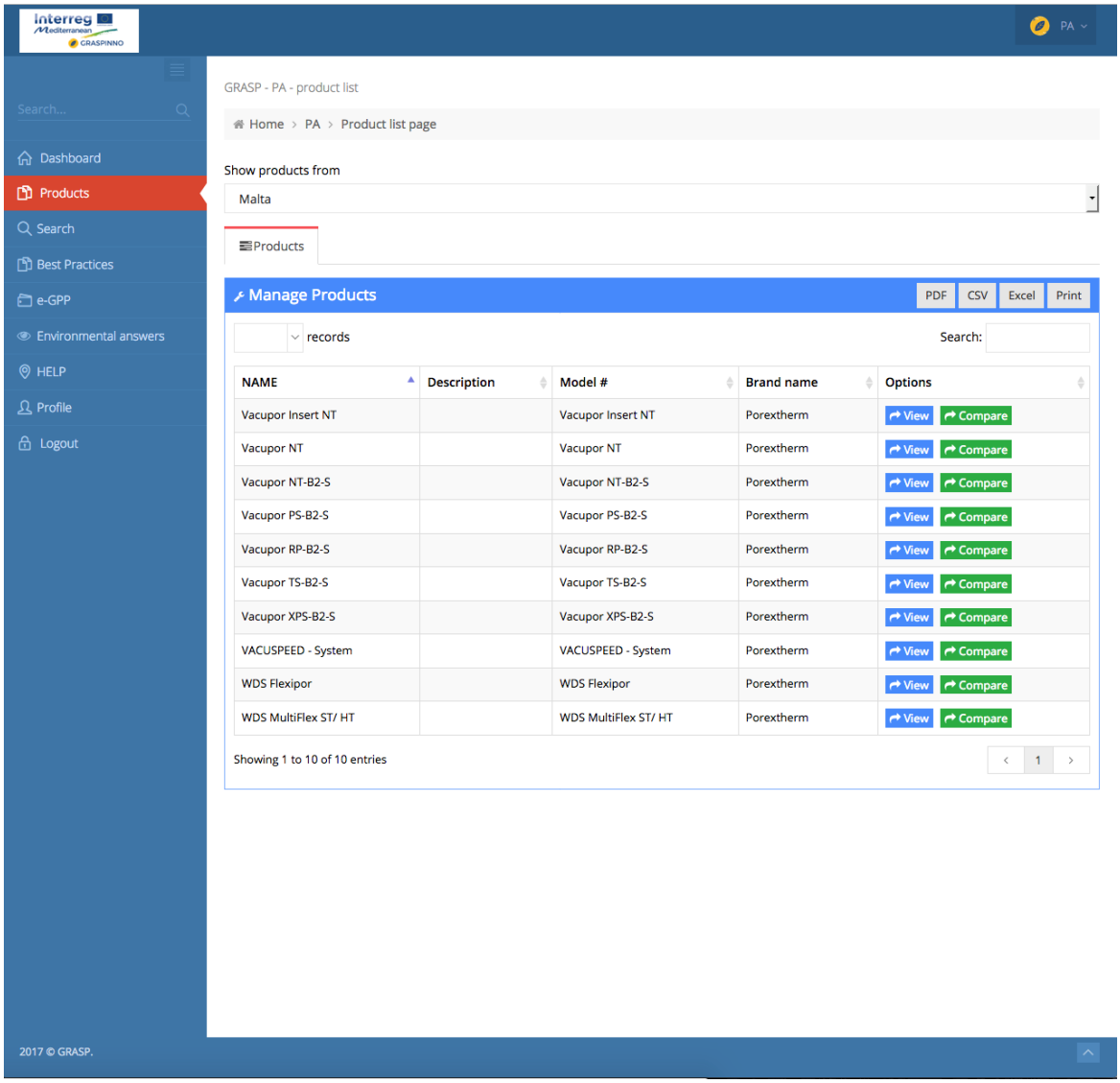


On the Product List page a PA user can view or compare product details. The PA can also Print, export to pdf, excel or csv the table of the products. The PA can use the live search at the top of the table where the PA can search by any word in the products table.
If they want to search more product details, they should use Search for products page.

Products per country

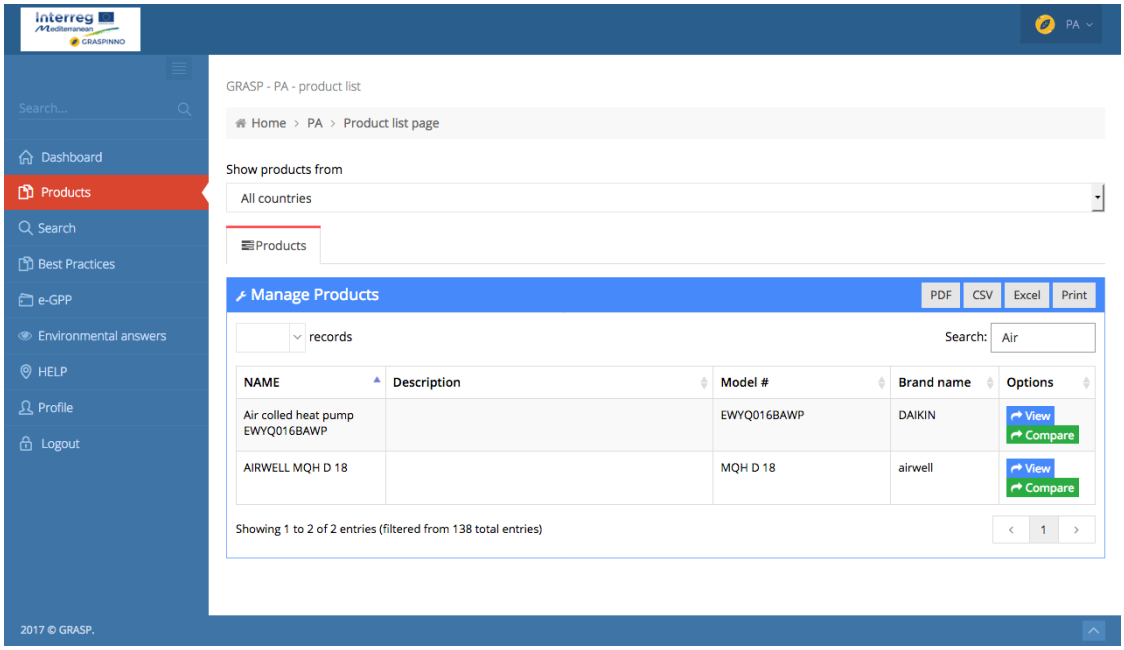
The upgraded feature of the Product list page is that a PA user can filter products per countries. The system, actually, has the ability to filter the products of the database

according the country of the SME, which has inserted specific products to the database. For example, a PA user wants to see which products have been inserted to the database by SMEs of Malta. The user selects from the dropdown list Malta country and the system appears a table with products only from Malta.



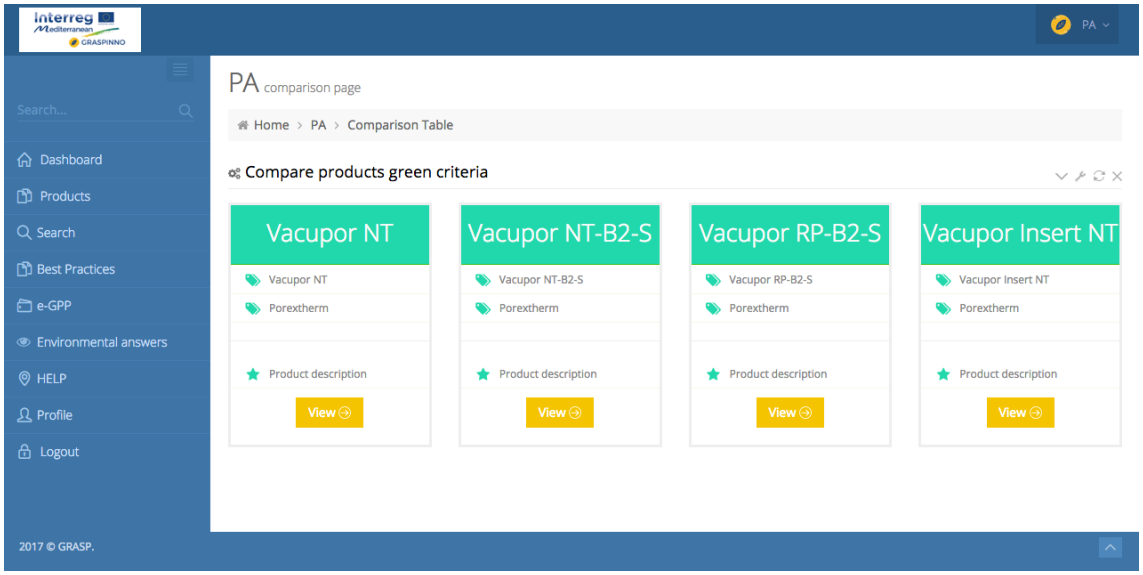
Search products

The PA user can use live instant search to search for products. The PA user writes in the search box the name of the product, or any other word related to product details and automatically the product that matches to their search criteria will be shown below.



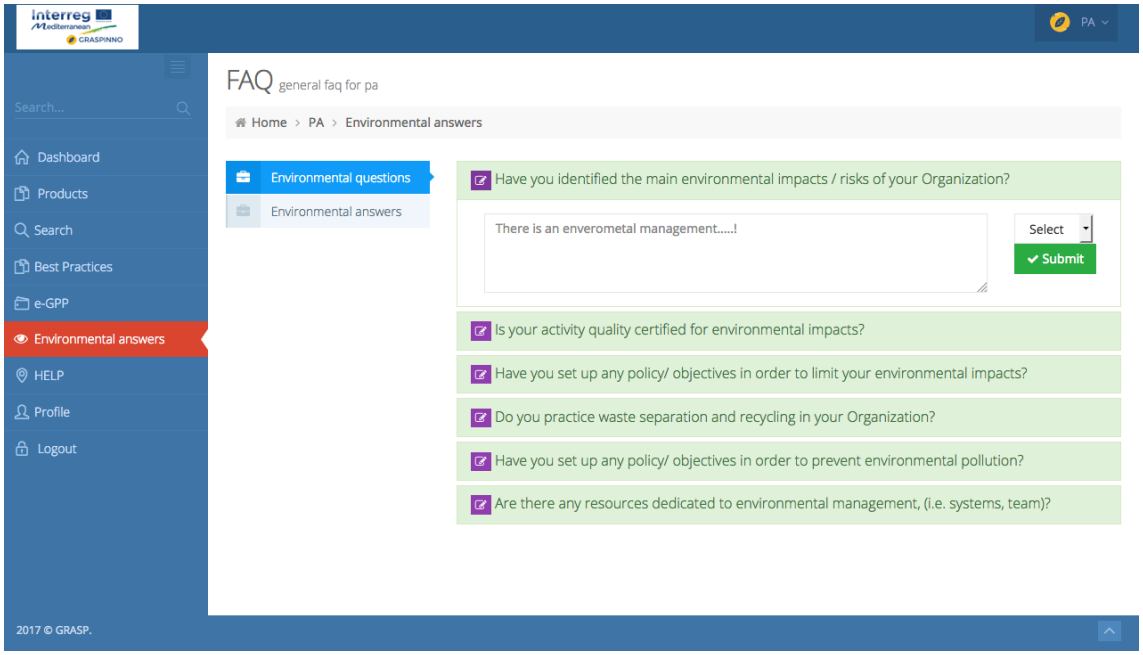
Compare products

The PA user can compare products. The PA searches for a product and then can click product name to see product details or click the compare button to see the comparison with other products. If the PA clicks the “compare” button, the system automatically will display a comparison table with all products related to this product.

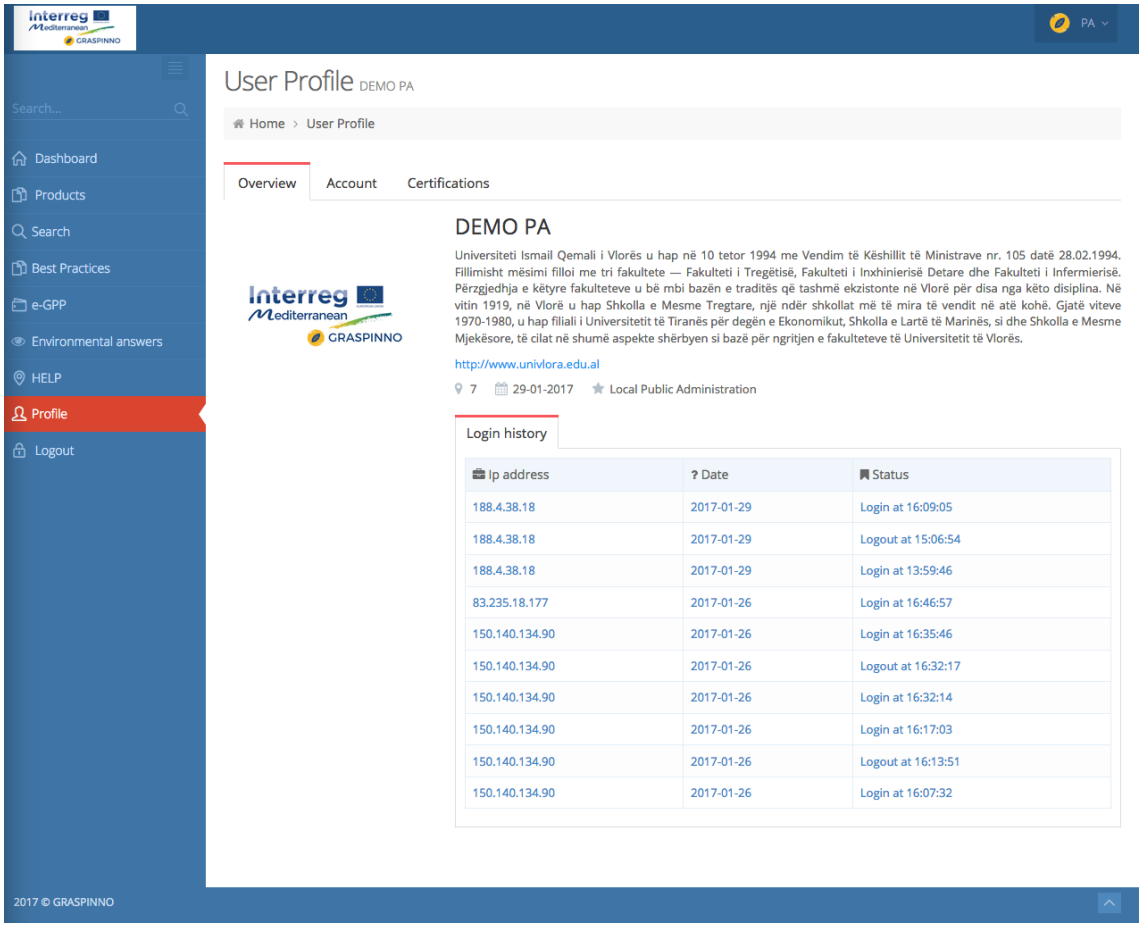


2.2.5 Environmental answers page

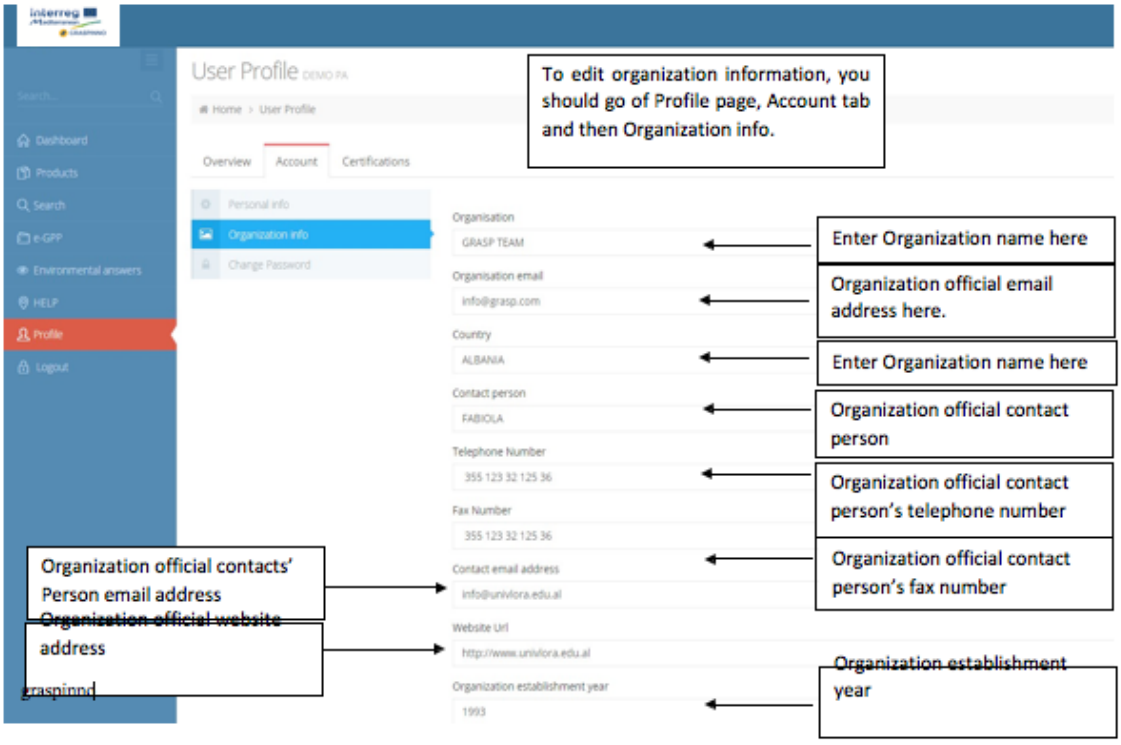
The PA user can answer environmental questions by using this section. The PA clicks the edit icon on the left of the question, and then the question form is appeared, where the PA should complete their answer. The PA writes their comment on the text area provided, selects yes or no, and then clicks the “ok” button. The PA can delete the answer if there is something wrong and add it again later.

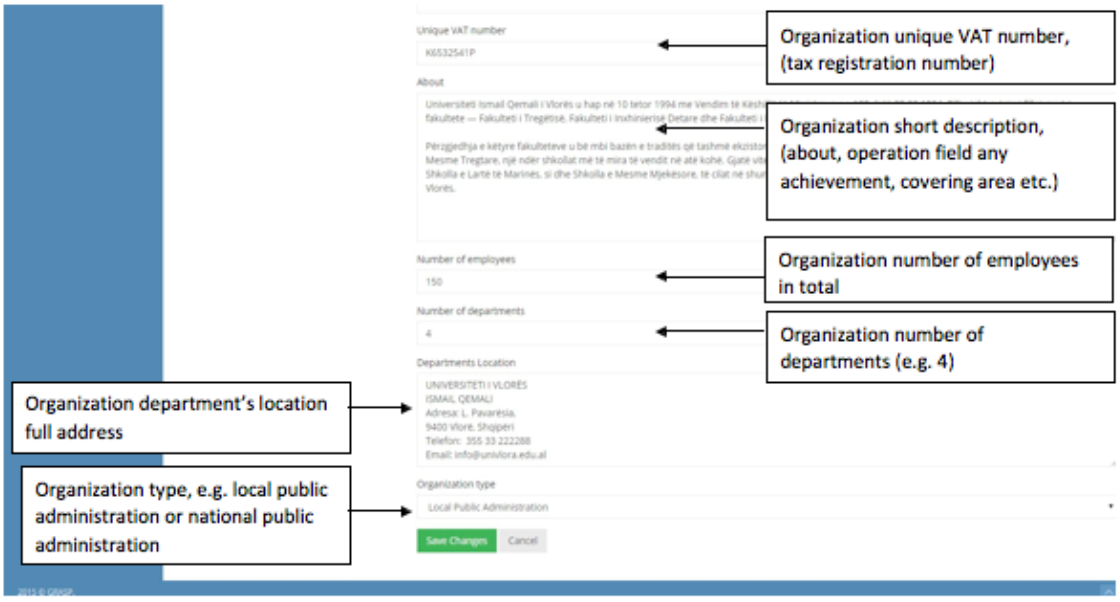


2.2.6 Managing profile

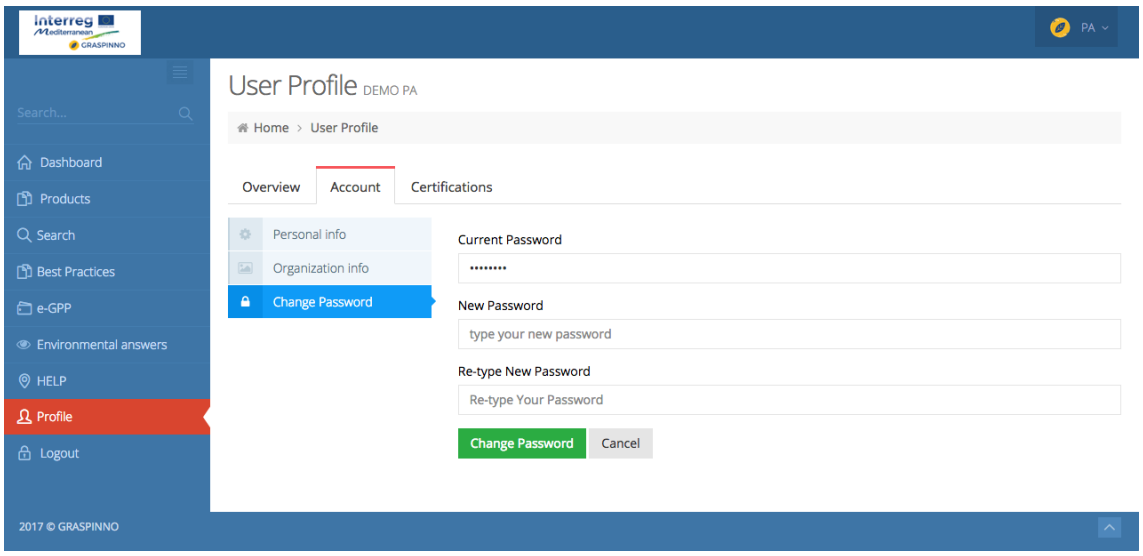


The Public Authority can edit only full name from personal information. The PA cannot edit user-name or e-mail address as this identifies their account.

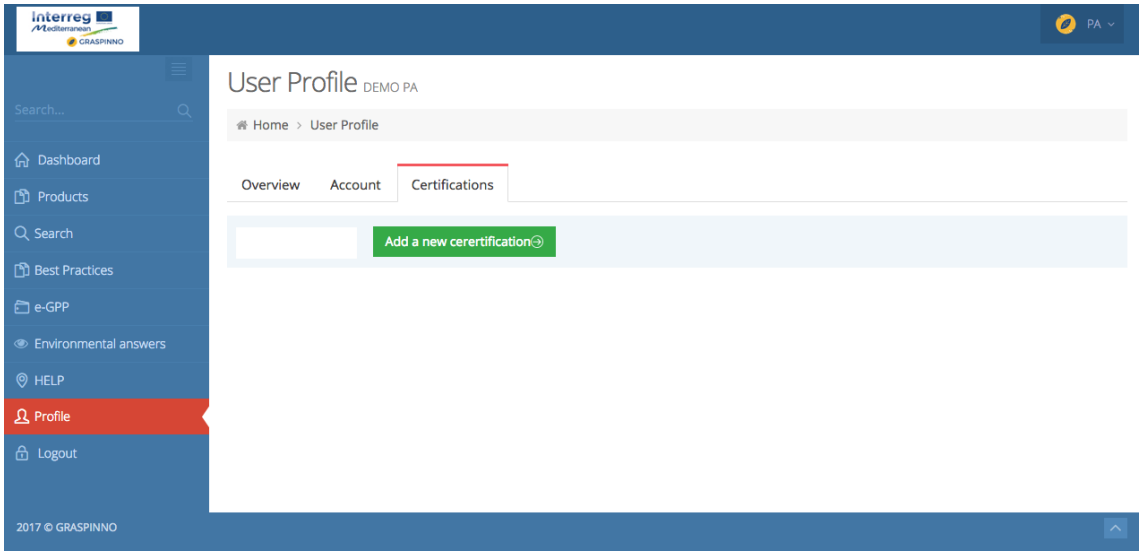


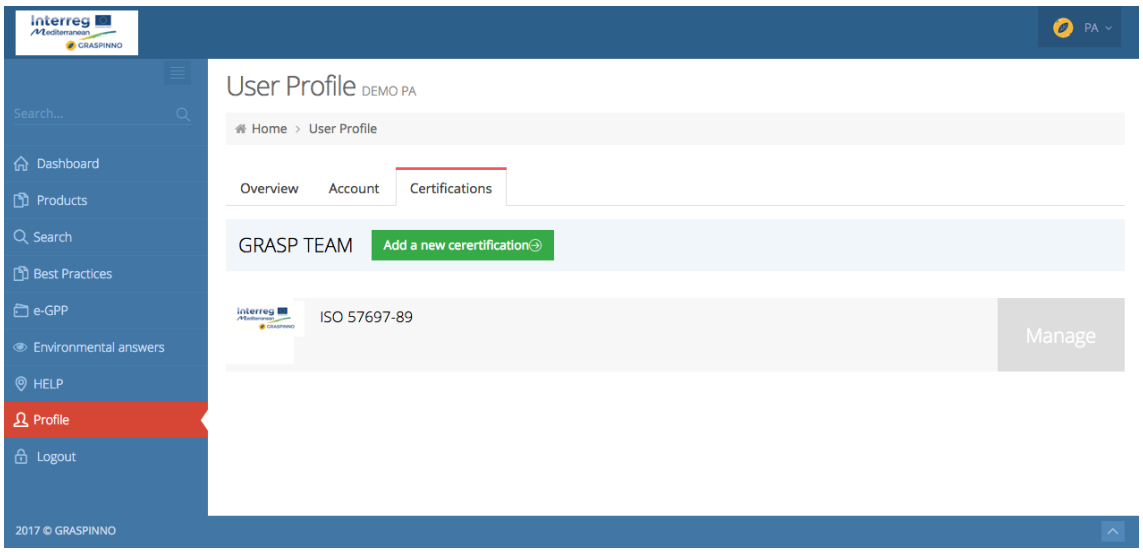


The PA can change or update its password at any time. The PA has to provide the old password, enter the new password in the new password field, and click "change password" button.



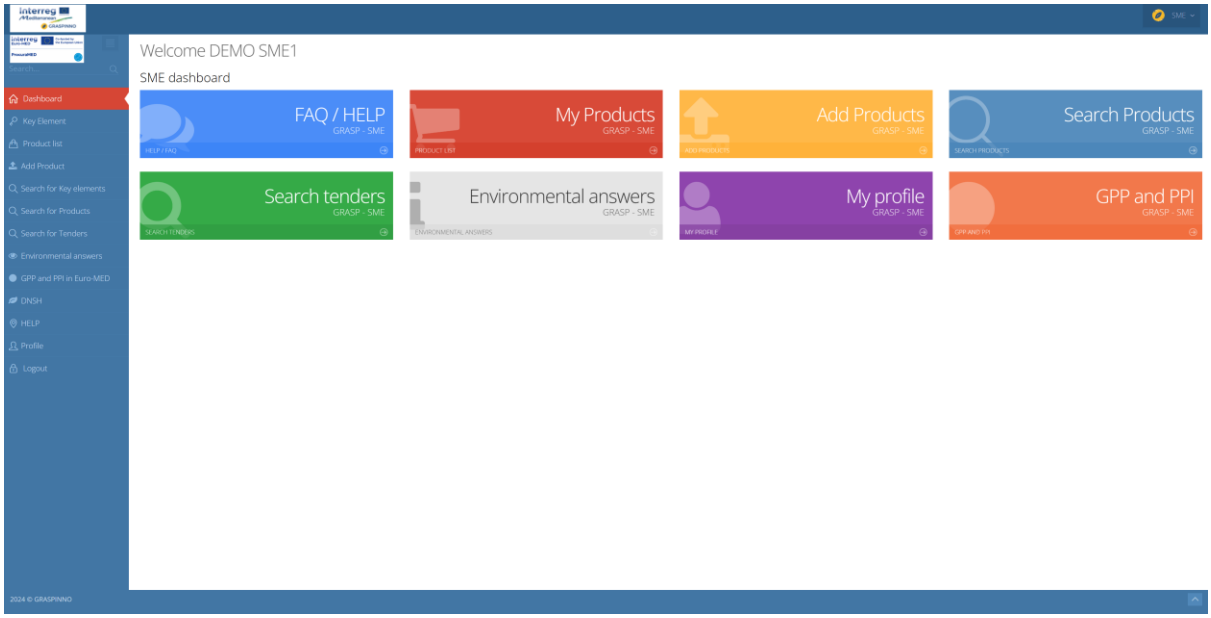
The Public Authority can upload certificates on its profile page, certification section. The PA clicks “Add certification” button. In the form provided, the PA enters certification code (e.g. ISO123654), certification description (e.g. 4-5 sentences summarizing its certification) and attaches certification document. The Attached document should be in .pdf file format. The PA can add as many certifications as they have.




PA
User Profile DEMO PA
Search...
Home › User Profile
Dashboard
Products
Search
Best Practices
e-GPP
Environmental answers
HELP
Profile
Logout
Overview
Account
Certifications
GRASP TEAM
Add a new cerertification
ISO 57697-89
Manage
2017 © GRASPINNO

2.3 SMALL & MEDIUM ENTERPRISES (SME) USERS

The Small & Medium Enterprises users can access the Strategic Procurement Unified Platform by following the url: http://grasp-egpp.eu/login.php .



2.3.1 The SME administration panel – short description

A short description of what Small & Medium Enterprises account can administer at the Strategic Procurement Unified Platform is following:

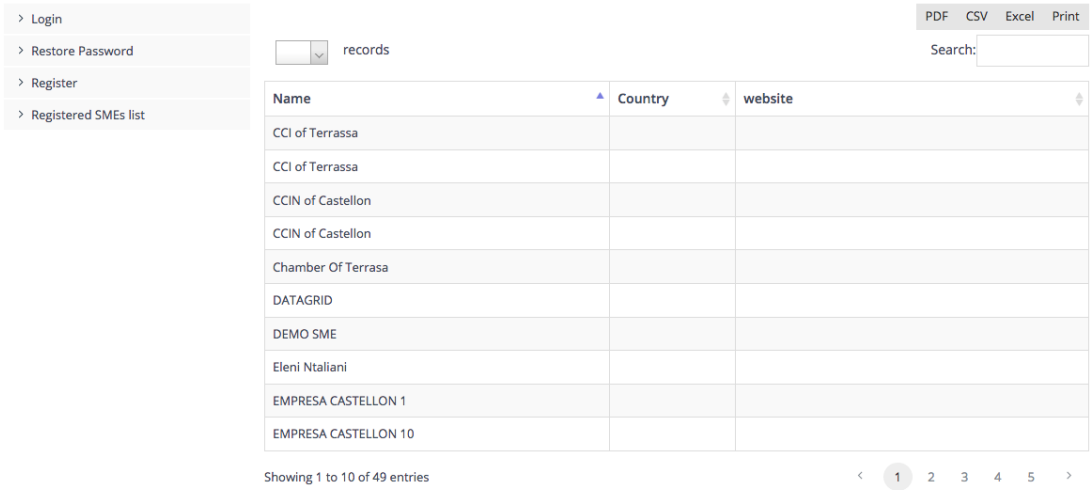
- They can edit their profile details like:
    - Organization information,
    - Attach a VAT Certificate,
    - Specify Operating field,
    - Select Affiliated Industrial,
    - Add Green Certification,
    - Manage platform account.
- Manage products:
    - They can add products,

- They can edit products,
- They can view product's details and,
- They can delete products,
- They can add green criteria to products,
- They can add service to the products.

2.3.2 Registered SMEs list

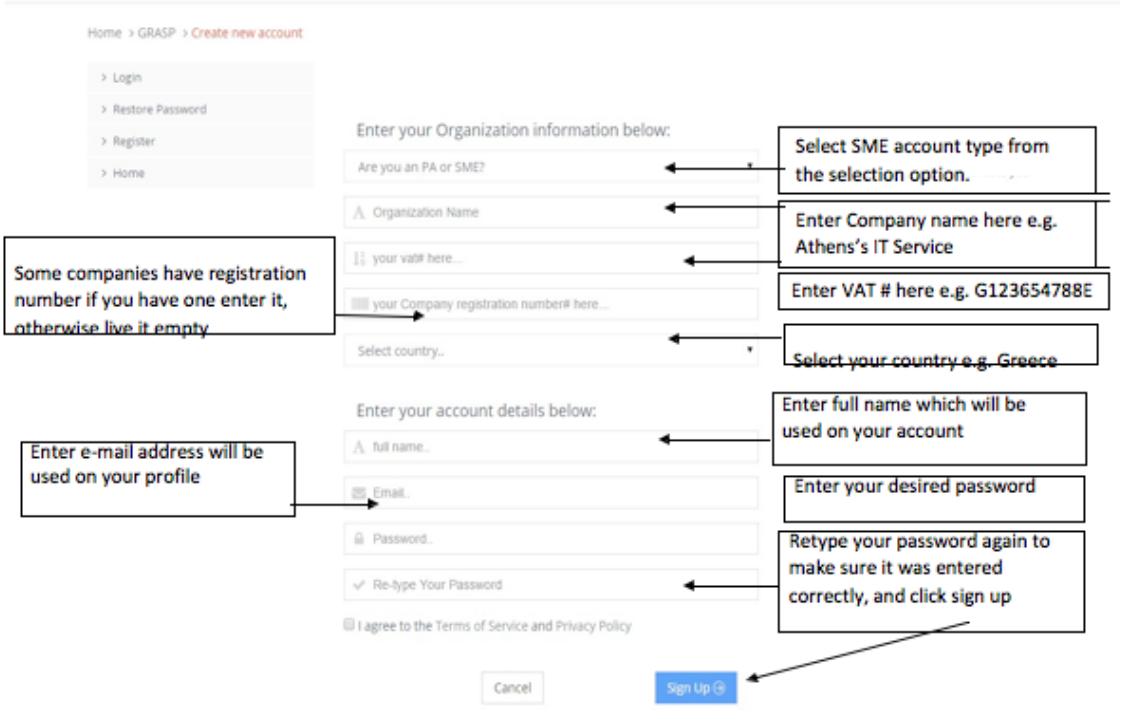
The upgraded of the Strategic Procurement Unified Platform has a new feature. There is a web page (http://grasp-egpp.eu/sme_list.php) that represents the already registered Small & Medium Enterprises (name, country, website) to the Strategic Procurement Unified Platform.

The users see the whole list, export this list to pdf, csv or excel format or print it. Additionally, all users have an advanced search box to search for specific enterprise.



2.3.3 Registration – sign up for a SME account

Every user can register to the platform as SME user following the url: http://grasp-egpp.eu/register.php



There are some major changes at the registration form. Some of them are described below:

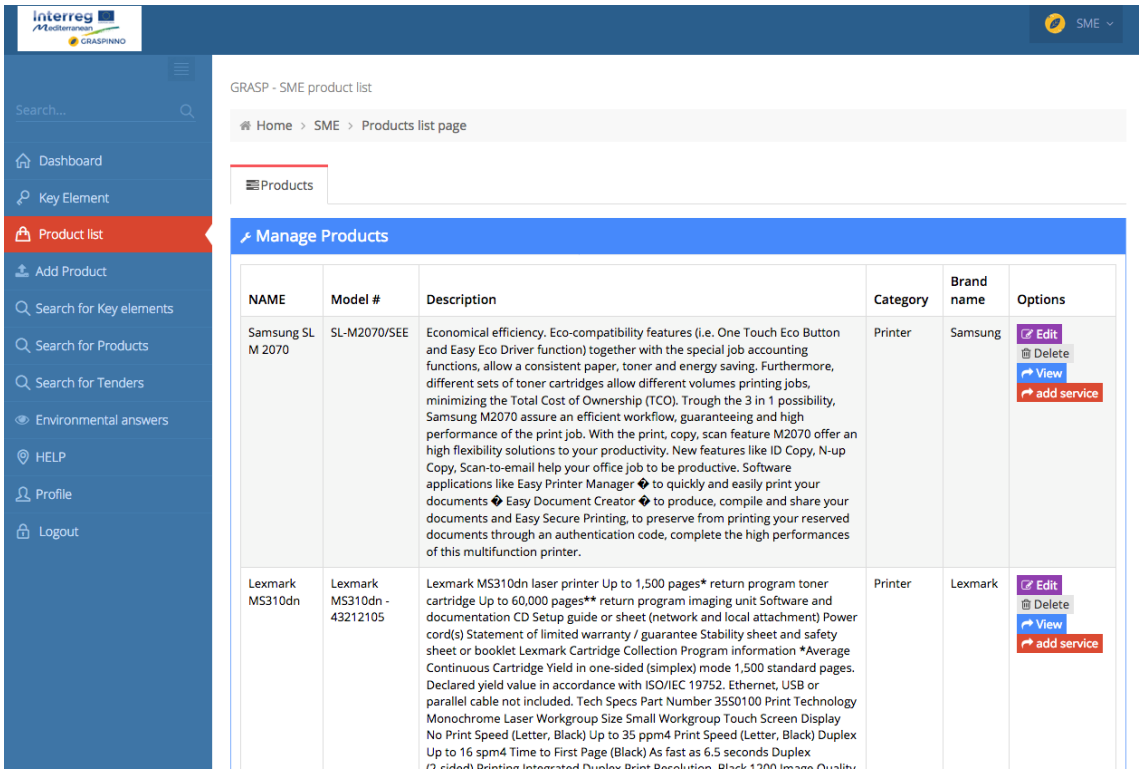
- A new mail function used for sending e-mails to am SME. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the platform.
- The limit of the characters of the text fields of the registration form was extended.
- There are also some changes at the submenu of the registration form, like remove the link for the home page and add a link for a list of the already registered Small & Medium Enterprises.

2.3.4 Restore password

A Small & Medium Enterprise can access the platform even though has forgotten their password. By following the url: http://grasp-egpp.eu/forgot.php the SME has the ability to reset their password. A new mail function used for sending e-mails to a Small & Medium Enterprise. The SMTP mail function used for sending e-mails. The SMTP is a standard protocol for sending e-mails and its full name is Simple Mail Transfer Protocol. All the e-mails of the outgoing from the server using the TLS, Transport Layer Security in order to encrypt and secure the e-mail communications of the platform.

2.3.5 Product list page

On the Product List page the Small & Medium Enterprise can edit, delete or view product details. The SME can also Print, export to pdf, excel or csv the table of the products.



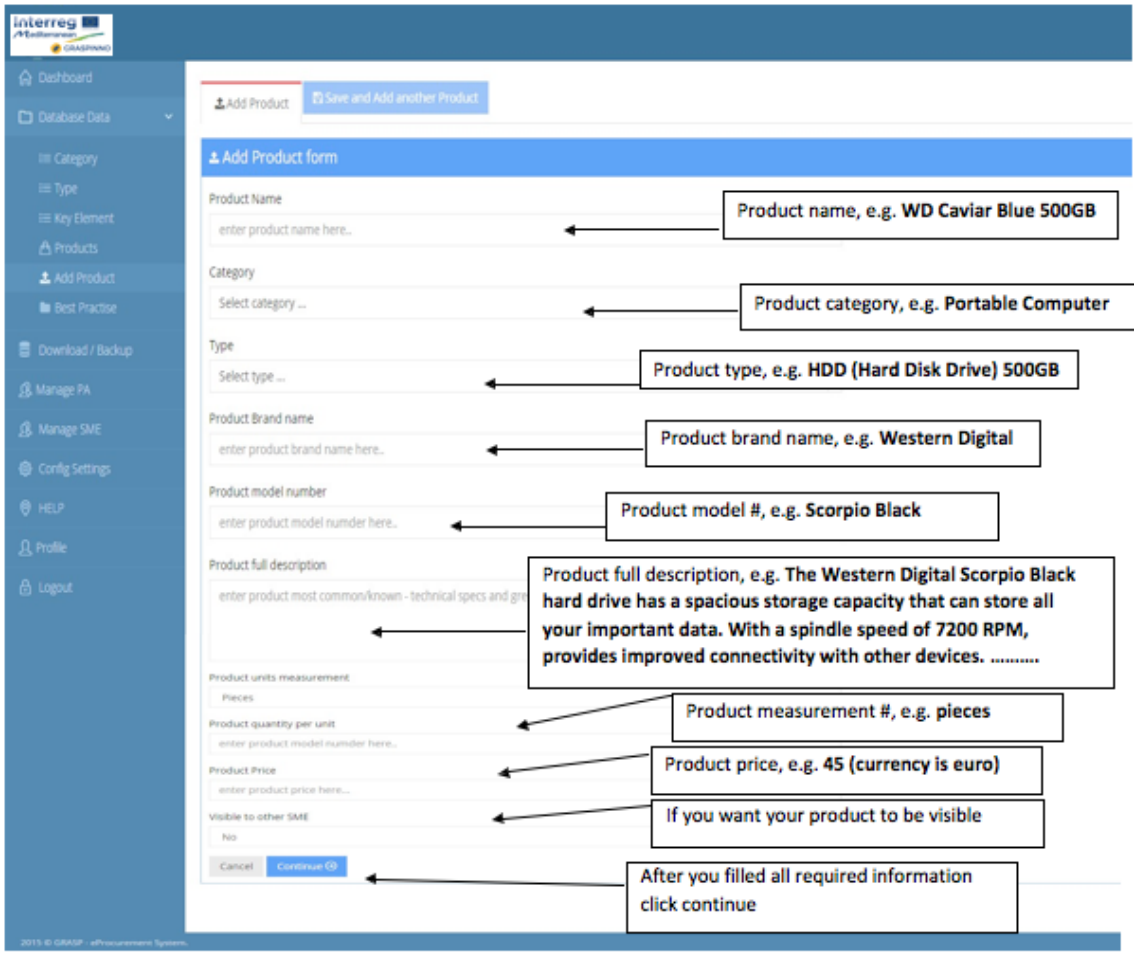
2.3.6 Add product page

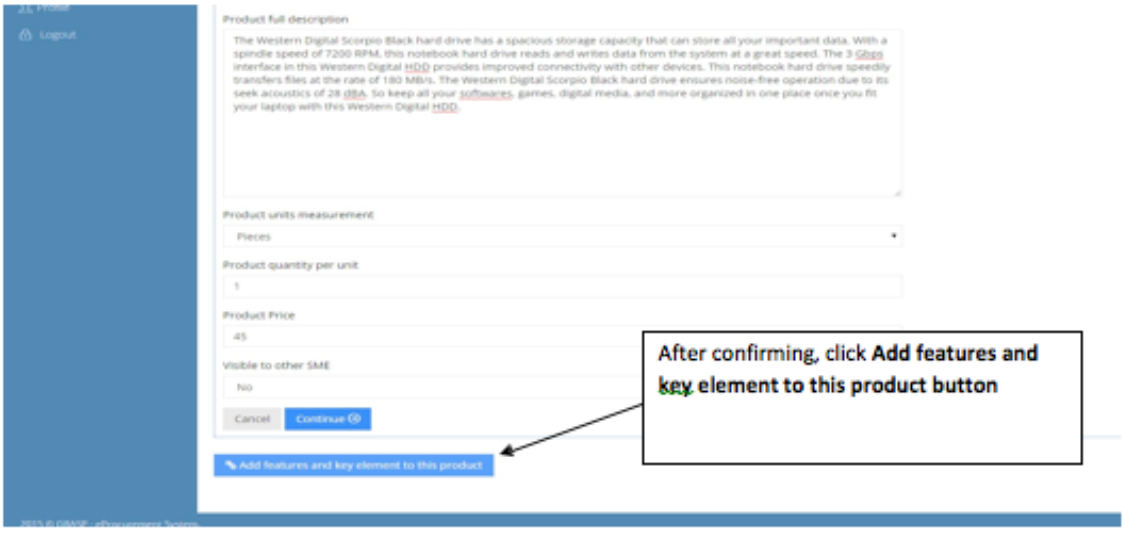
To add a product, the Small & Medium Enterprise has to fill in all the fields listed on the page.

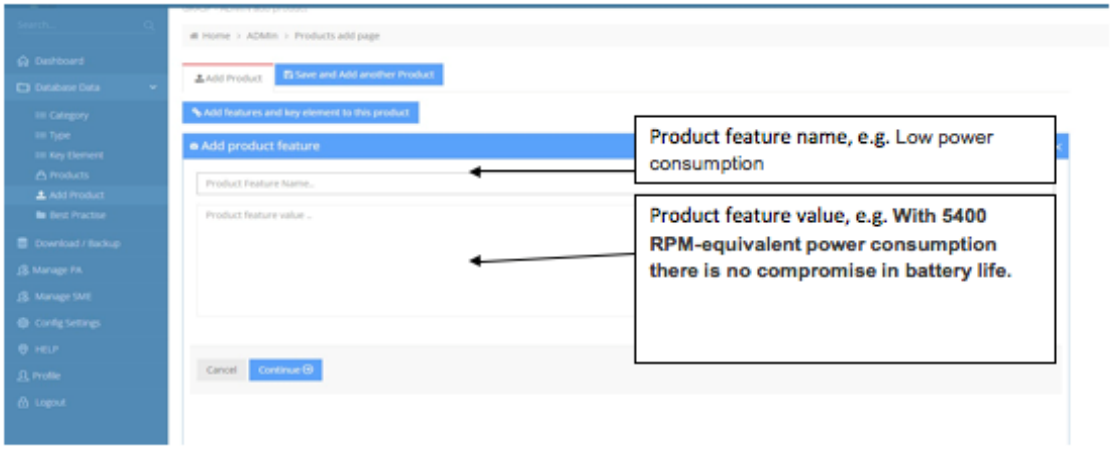
The SME has to select the product category first and the product type will be filtered automatically if it exists.

In the Product full description field, the SME can enter product full description.

After the SME fills in all the required fields, it will be shown a form to add green criteria. The SME can attach related green criteria by clicking the corresponding button.


Dashboard
Database Data
Category
Type
Key Element
Products
Add Product
Best Practise
Download / Backup
Manage PA
Manage SME
Config Settings
HELP
Profile
Logout
Add Product
Save and Add another Product
Add Product form
Product Name
enter product name here..
Product name, e.g. WD Caviar Blue 500GB
Category
Select category ...
Product category, e.g. Portable Computer
Type
Select type ...
Product type, e.g. HDD (Hard Disk Drive) 500GB
Product Brand name
enter product brand name here..
Product brand name, e.g. Western Digital
Product model number
enter product model number here..
Product model #, e.g. Scorpio Black
Product full description
Product full description, e.g. The Western Digital Scorpio Black hard drive has a spacious storage capacity that can store all your important data. With a spindle speed of 7200 RPM, provides improved connectivity with other devices. .....
Product units measurement
Pieces
Product measurement #, e.g. pieces
Product quantity per unit
Product Price
Product price, e.g. 45 (currency is euro)
Visible to other SME
No
If you want your product to be visible
Cancel
Continue
After you filled all required information click continue


Logout
Product full description
The Western Digital Scorpio Black hard drive has a spacious storage capacity that can store all your important data. With a spindle speed of 7200 RPM, this notebook hard drive reads and writes data from the system at a great speed. The 3 Gbps interface in this Western Digital HDD provides improved connectivity with other devices. This notebook hard drive speedily transfers files at the rate of 180 MB/s. The Western Digital Scorpio Black hard drive ensures noise-free operation due to its seek acoustics of 28 dBA. So keep all your softwares, games, digital media, and more organized in one place once you fit your laptop with this Western Digital HDD.
Product units measurement
Pieces
Product quantity per unit
1
Product Price
45
Visible to other SME
No
Cancel
Continue
Add features and key element to this product
After confirming, click Add features and key element to this product button

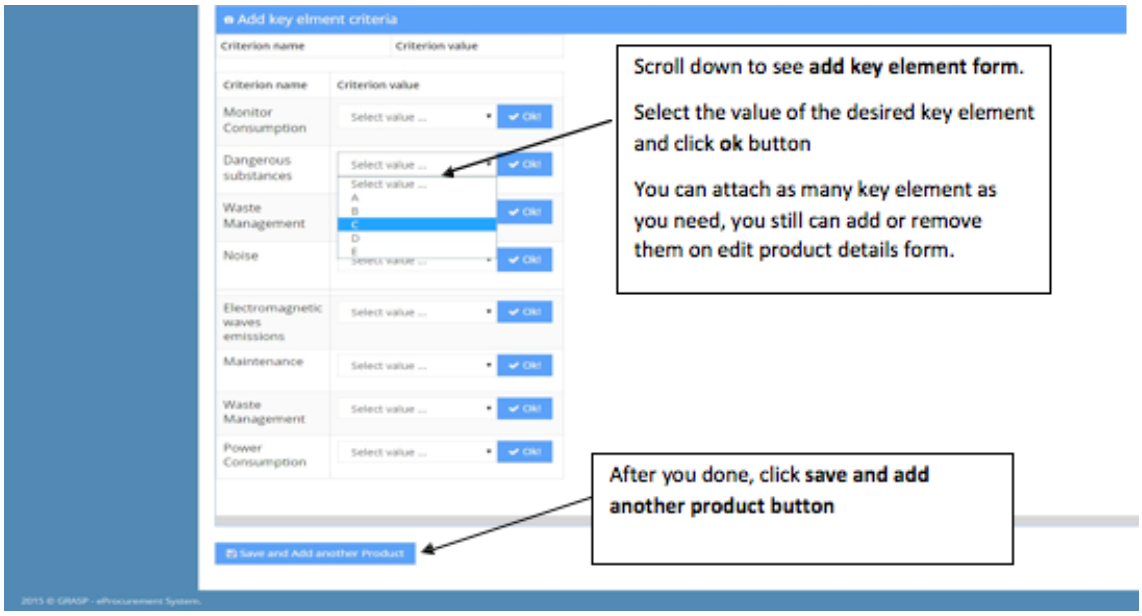


2.3.7 Add green criteria to a product

The Small & Medium Enterprises can add green criteria to a product after they have inserted the product or when they edit the product. Firstly, they have to specify a value 1 to 5 for the green criteria they want to attach and then click the “ok” button.

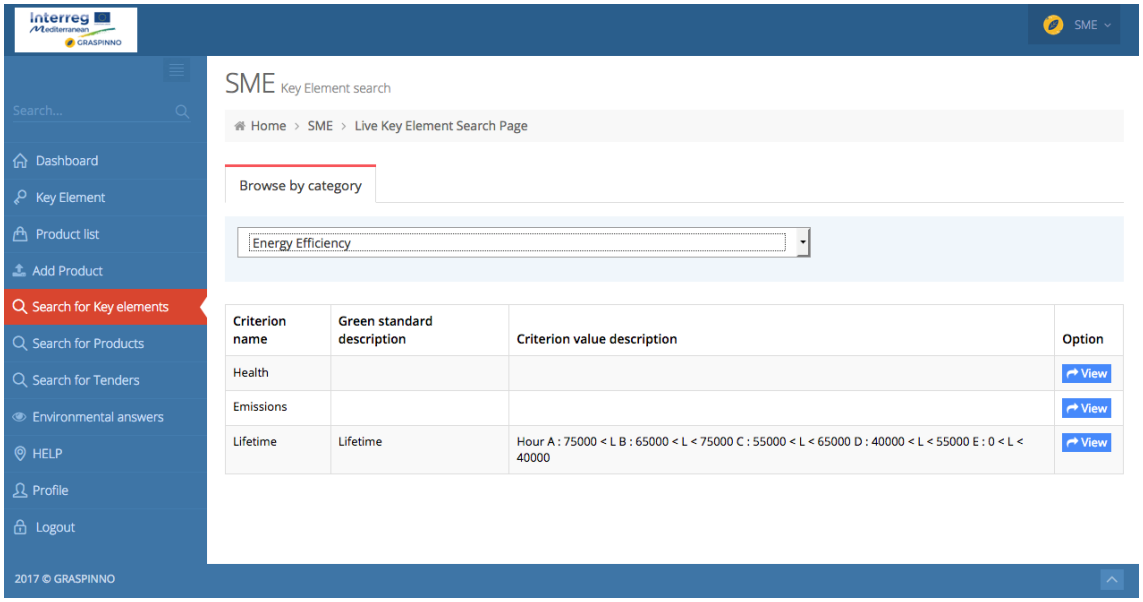
Each Product can be rated from A to E with respect to each CRITERION, where:

A=very low;
B=low;
C=medium;
D=high;
E=very high



2.3.8 Search for key element – green criteria

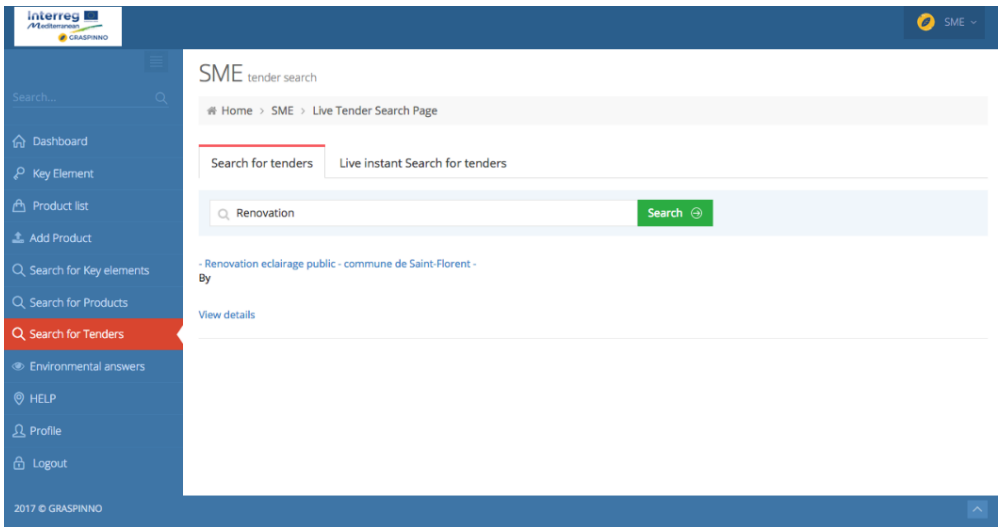
The SME can search for any key elements – green criteria in the database by using search for key element's page. The SME selects category and the results appear below the dropdown list. Then the SME can view every green criterion by clicking the "View" button.



2.3.9 Search for tenders page

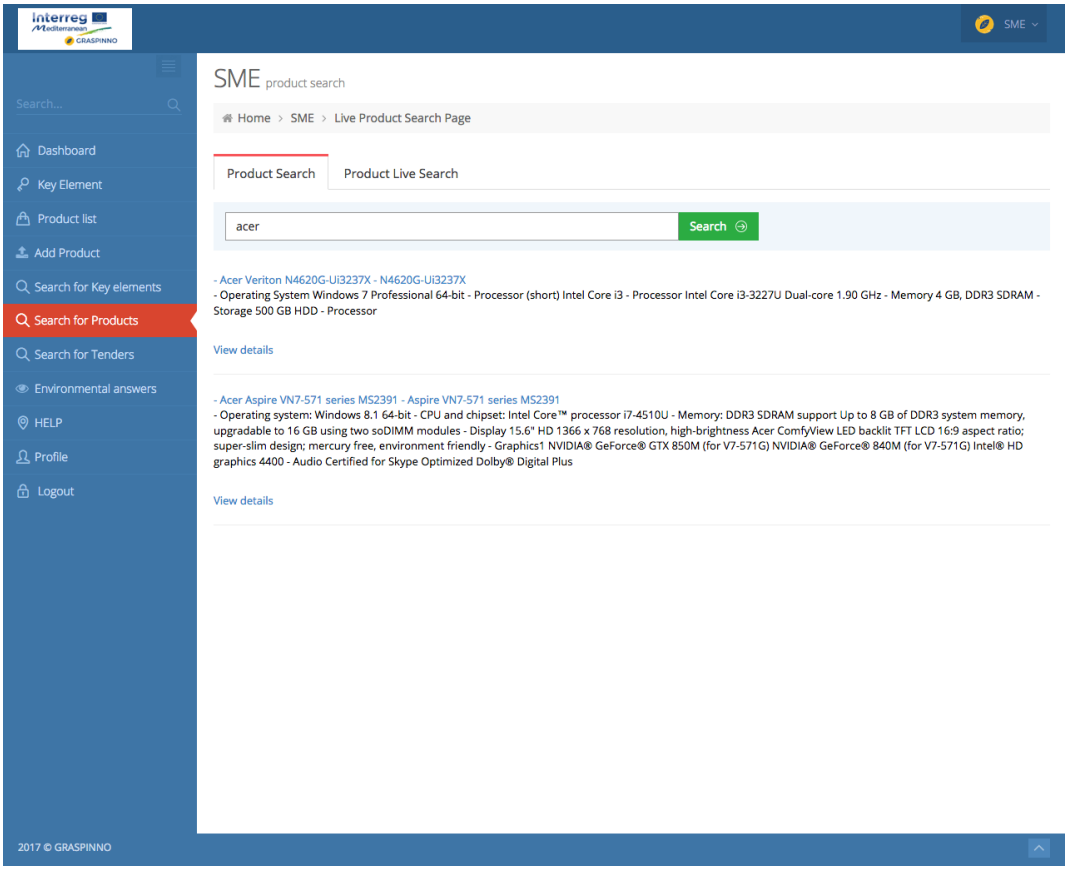
The SME can search for any tenders by using search for tender's page. The SME can type any word in the search box and if there are any tenders matching their search criteria will be shown below the search box.

Then the SME can click the tender name to see its details, like opening and closing date, organization and tender details.



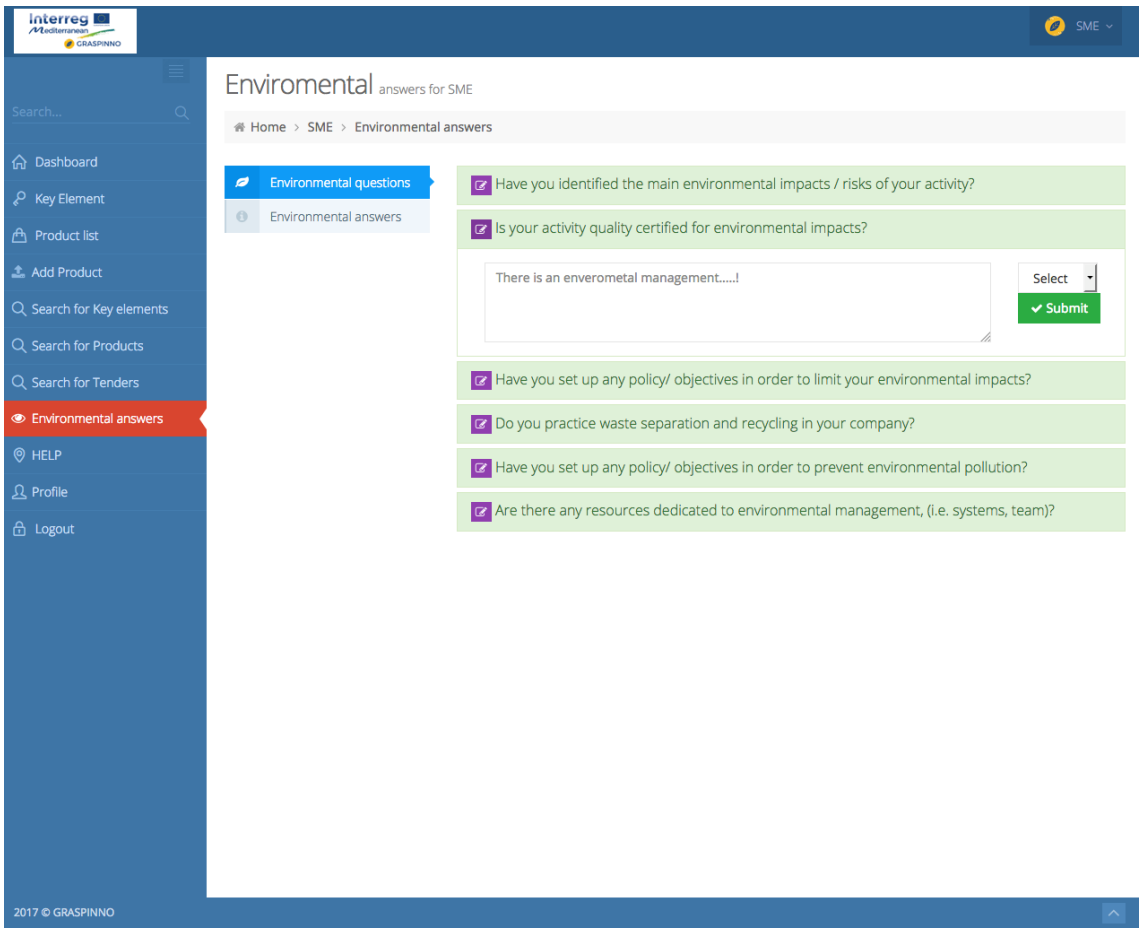
2.3.10 Search for product page

The Small & Medium Enterprise types any word related to product name or product green description and clicks the “Search” button. Then the products that contain that word will be shown below the search box. In order to see product details, the SME clicks on title of the product or in the “View details” link. At this page, the SME can search for any product that exists in the database.

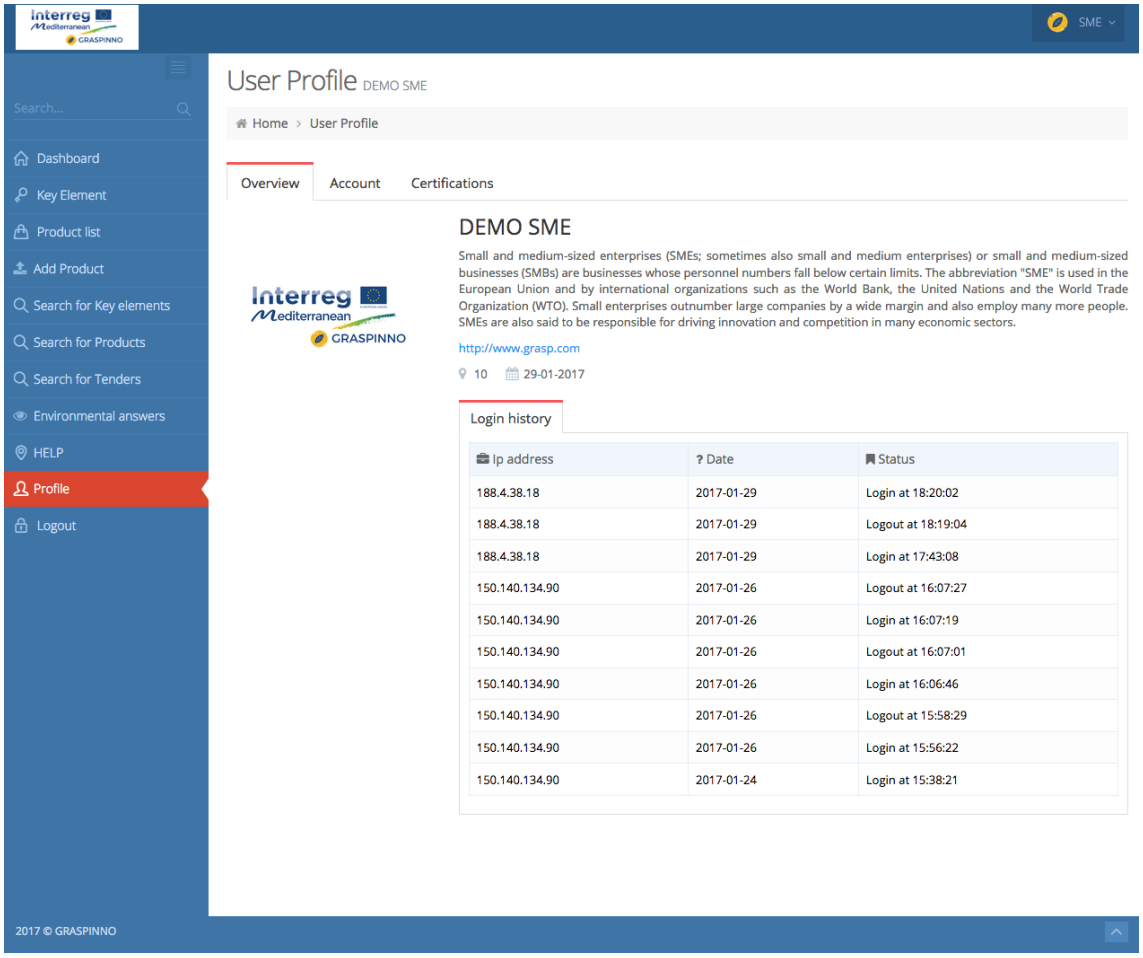


2.3.11 Environmental answers page

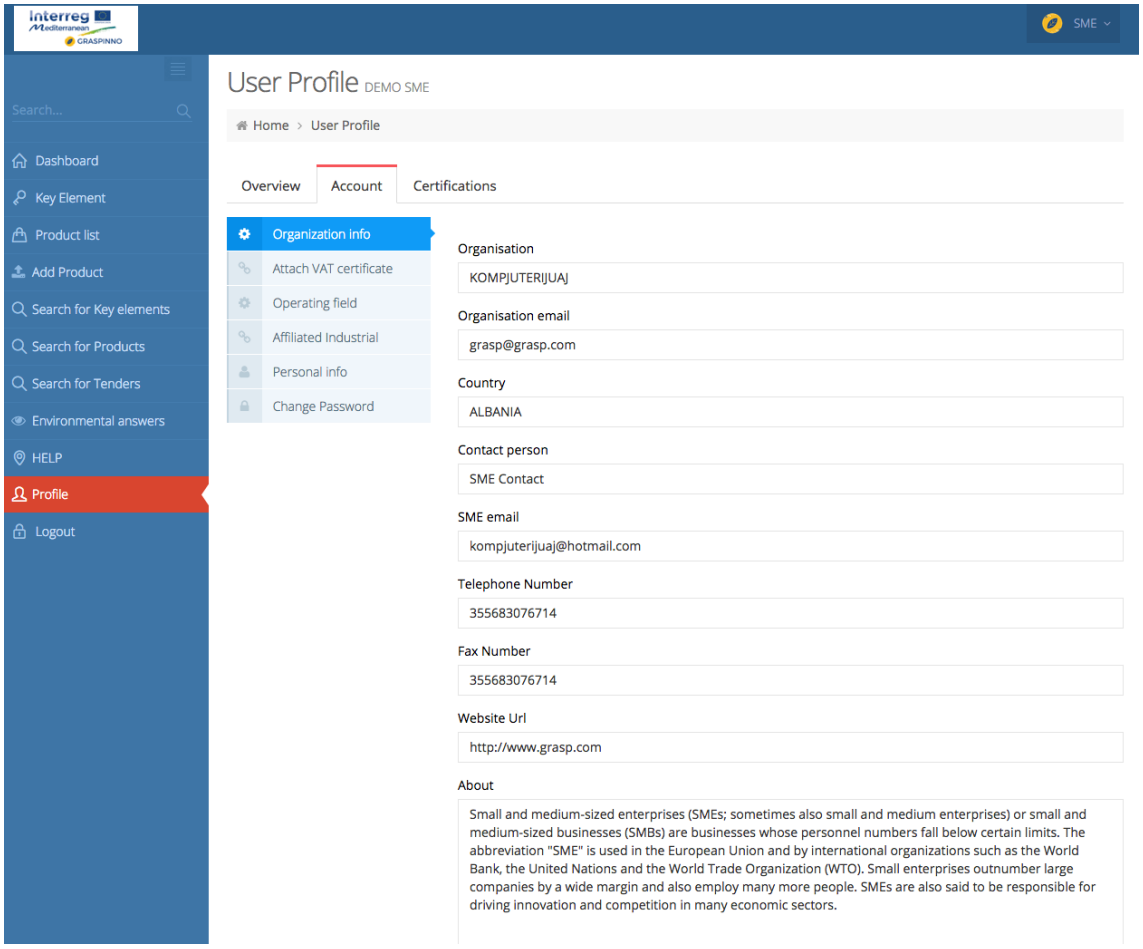
The Small & Medium Enterprise can answer environmental questions by using this section. The SME clicks the edit icon on the left of the question, and then the question form is appeared, where the SME should complete their answer. The SME writes their comment on the text area provided, selects yes or no, and then clicks the “ok” button. The SME can delete their answer if there is something wrong and add it again later.


SME
Enviromental answers for SME
Home › SME › Environmental answers
Search...
Dashboard
Key Element
Product list
Add Product
Search for Key elements
Search for Products
Search for Tenders
Environmental answers
HELP
Profile
Logout
Environmental questions
Environmental answers
Have you identified the main environmental impacts / risks of your activity?
Is your activity quality certified for environmental impacts?
There is an enverometal management.....!
Select
Submit
Have you set up any policy/ objectives in order to limit your environmental impacts?
Do you practice waste separation and recycling in your company?
Have you set up any policy/ objectives in order to prevent environmental pollution?
Are there any resources dedicated to environmental management, (i.e. systems, team)?
2017 © GRASPINNO

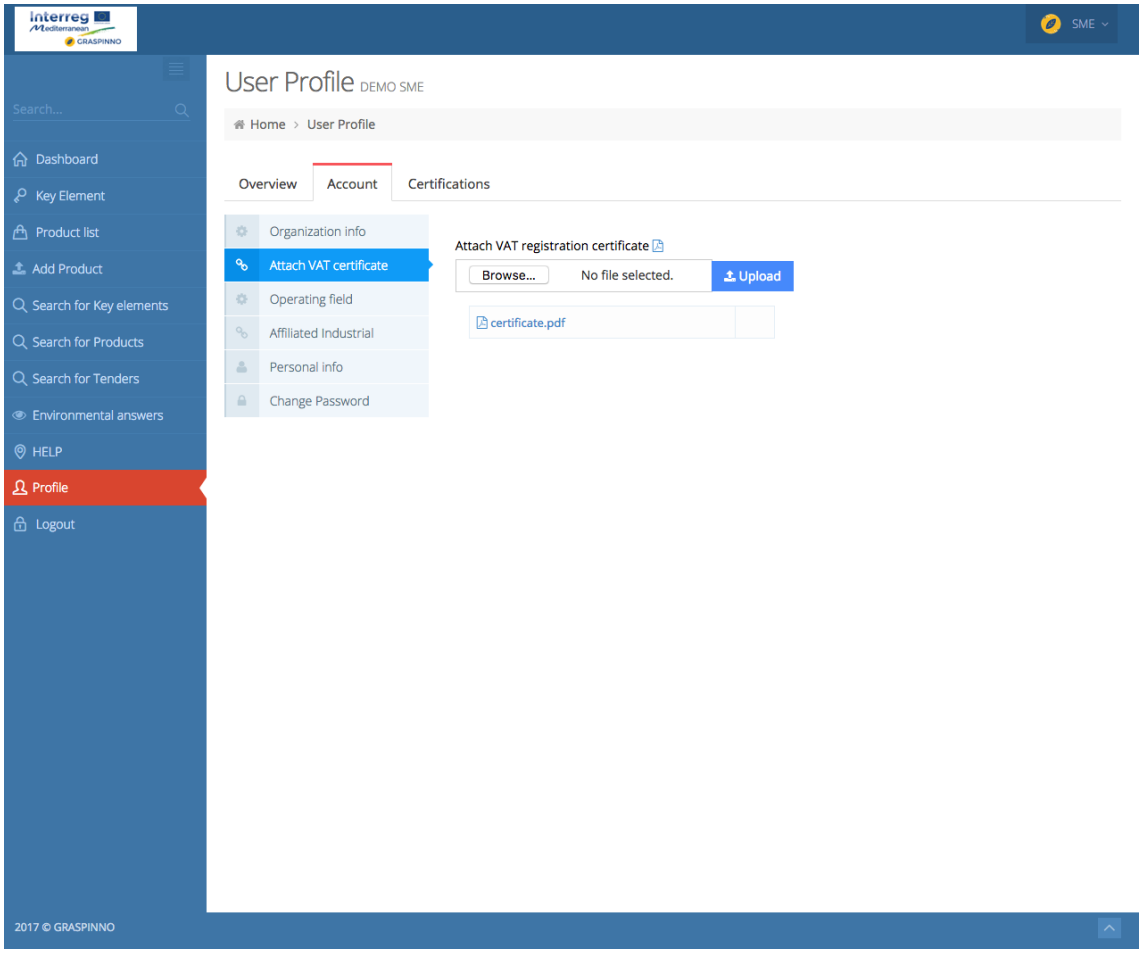
2.3.12 Managing Profile



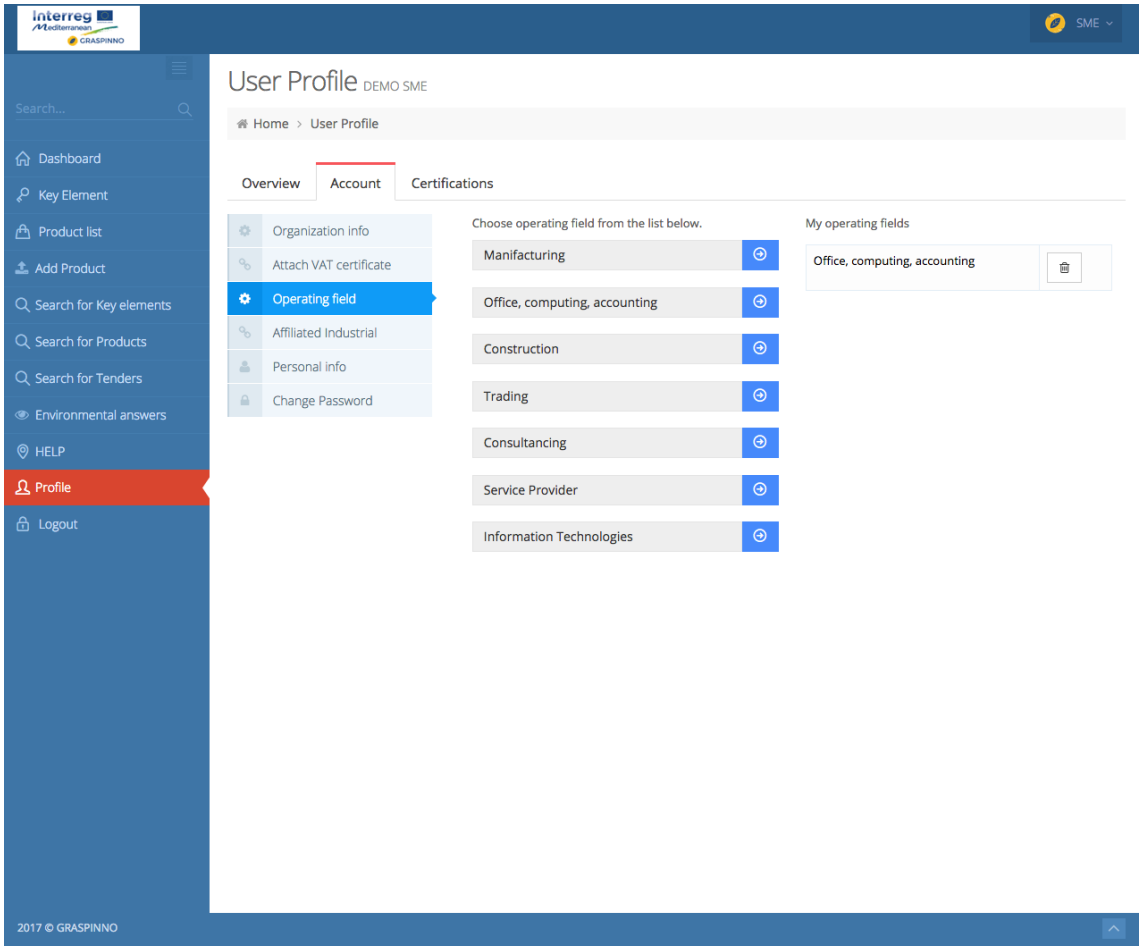
The SMEs are required to enter their organization information as required on the profile page, organization information section. They should enter Organization name, official contact email address, and official contact person, on this section they can provide also a different e-mail address to be contacted.



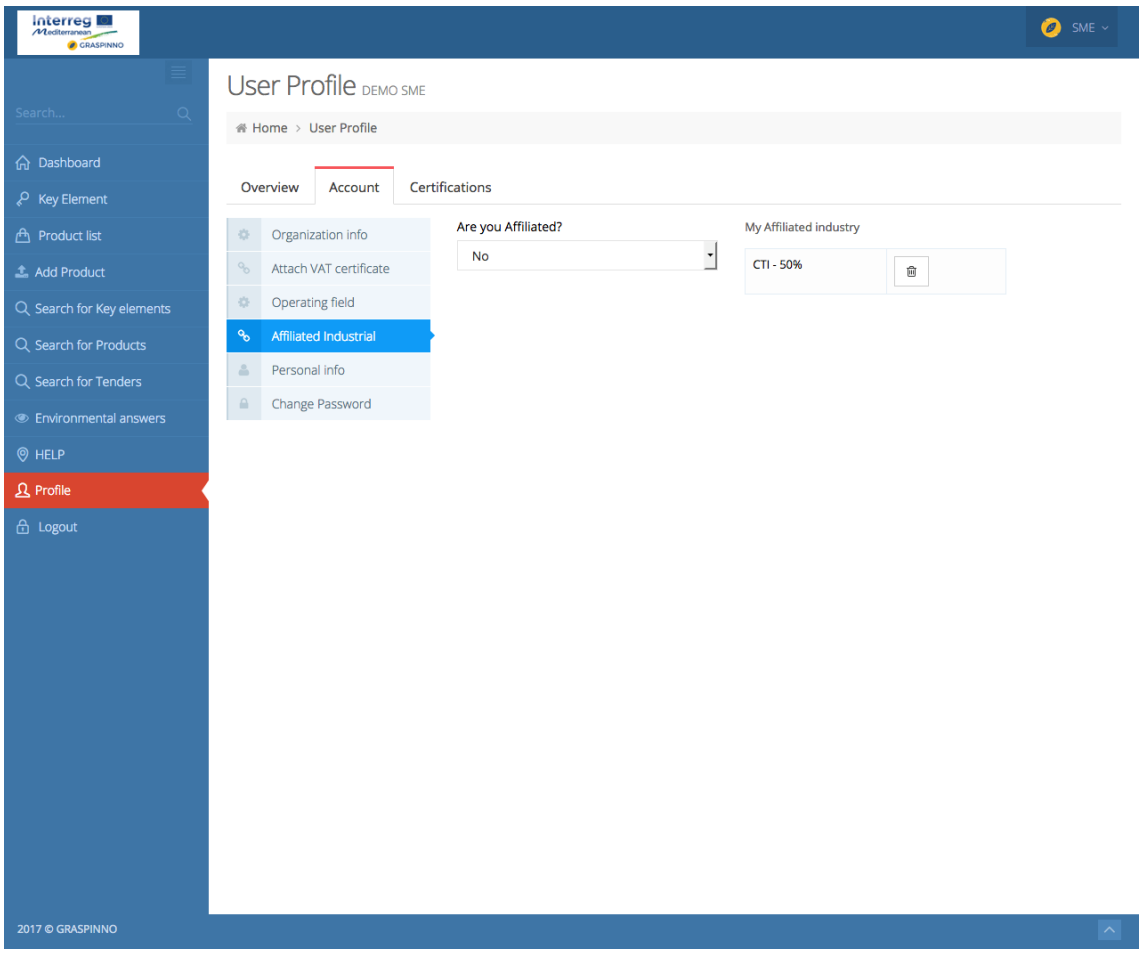
The SMEs can attach a VAT certificate on their profile page, on the account section. Certificate should be in .pdf format. They can change it any time if the certificate expires or is renewed. To replace their certificate, they should delete the existing one and then upload a new one.



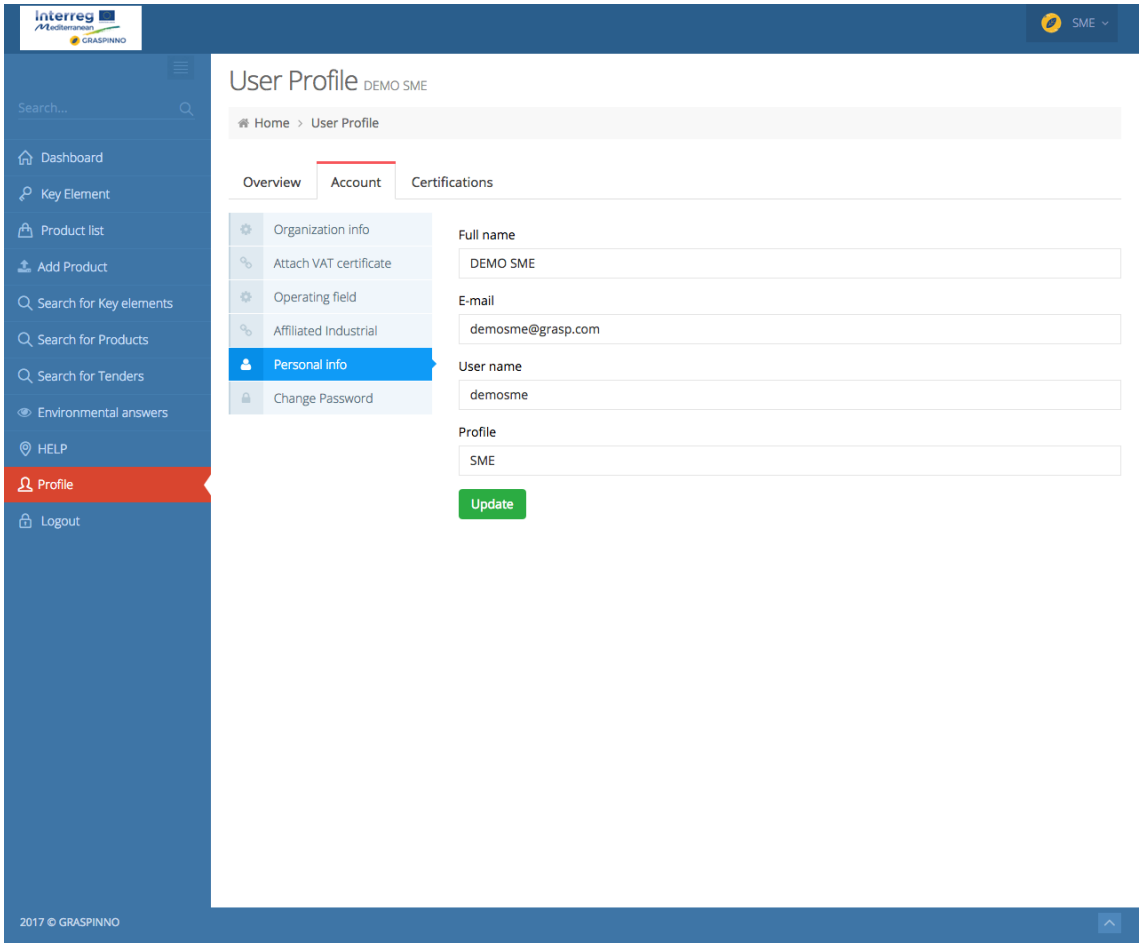
The SMEs can add operating field. They must click the blue button next to the desired operating field and it will be added. They can delete them by clicking delete button next to it, if they change operating field and add new one.



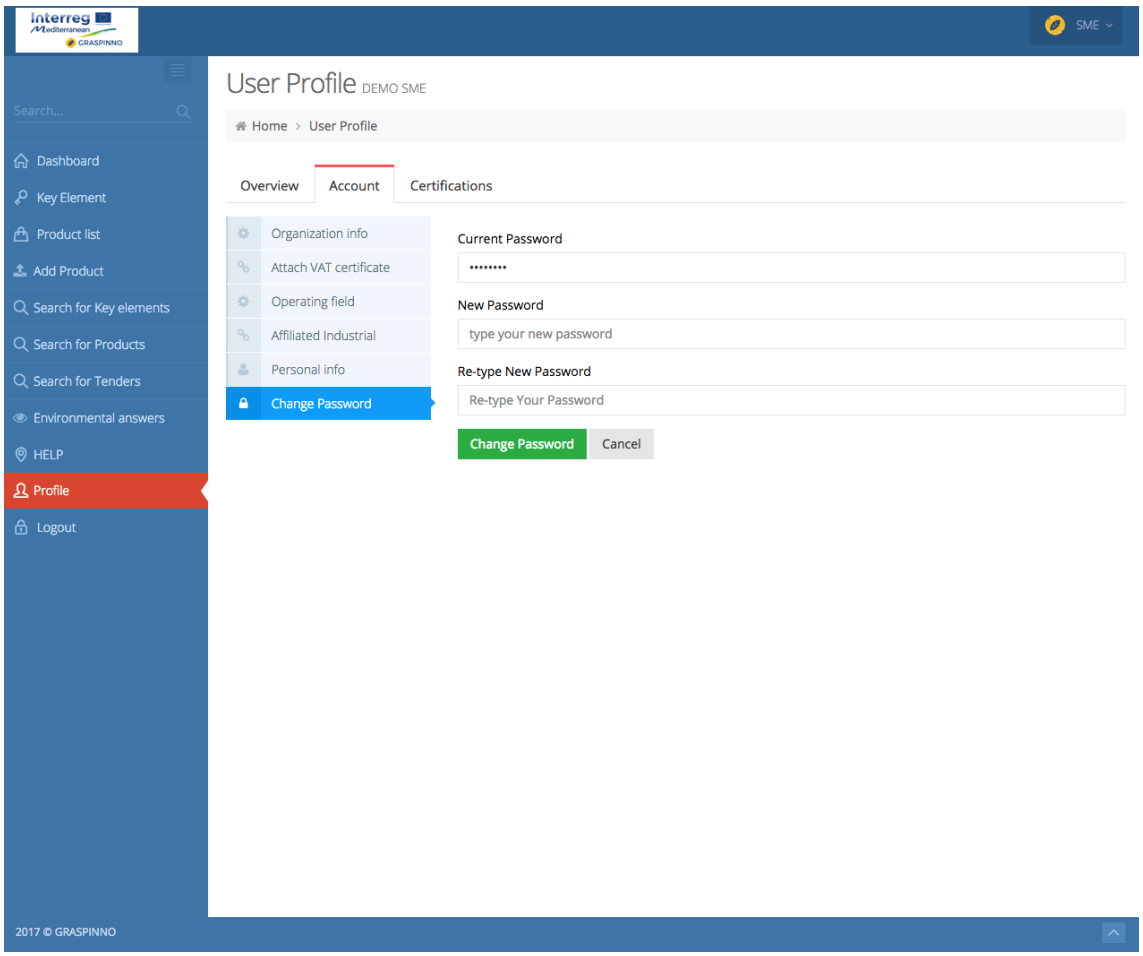
The SMEs can add as many affiliations they have. Available affiliation will be listed on their profile page on the account section.



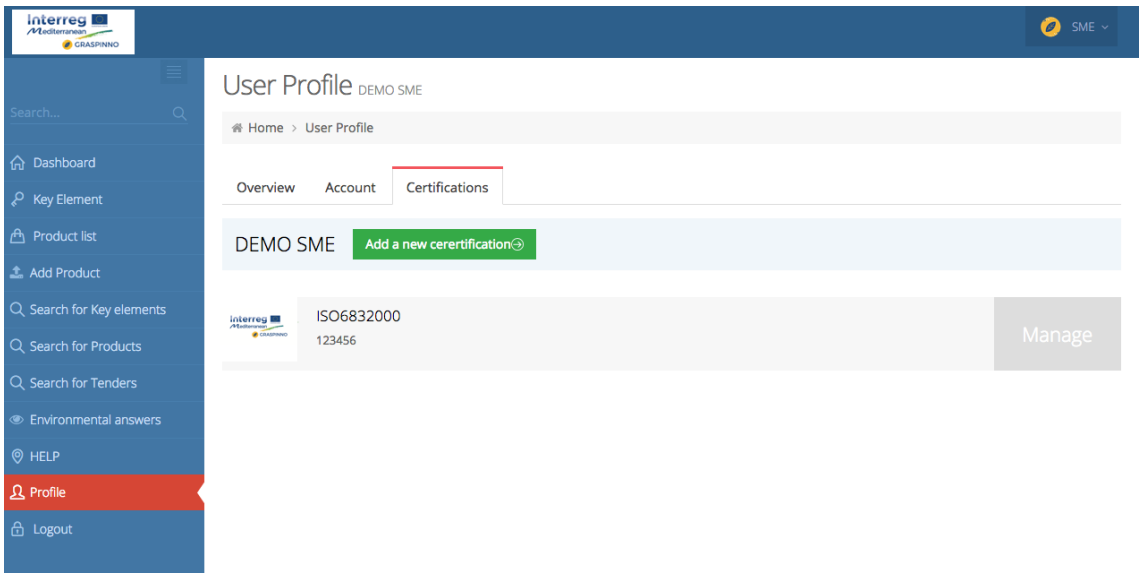
They can edit only the full name from personal information. They cannot edit user-name or e-mail address as this identifies their account. If they do not want to use their user profile e-mail they can add a different e-mail address on the organization section on the SME email field.



They can change or update their password. They have to provide the old password and enter the new password on the new password field and click “change password” button.



The Small & Medium Enterprises can upload certificates on their profile page, certification section. They click “Add certification” button. In the form provided they enter certification code (e.g. ISO123654), certification description (e.g. 4-5 sentences summarizing their certification) and attach certification document. The Attached document should be in .pdf file format. They can add as many certifications as they have.



3. eGPP SUPPORTING TOOL

3.1 CONCEPT AND TERMINOLOGY

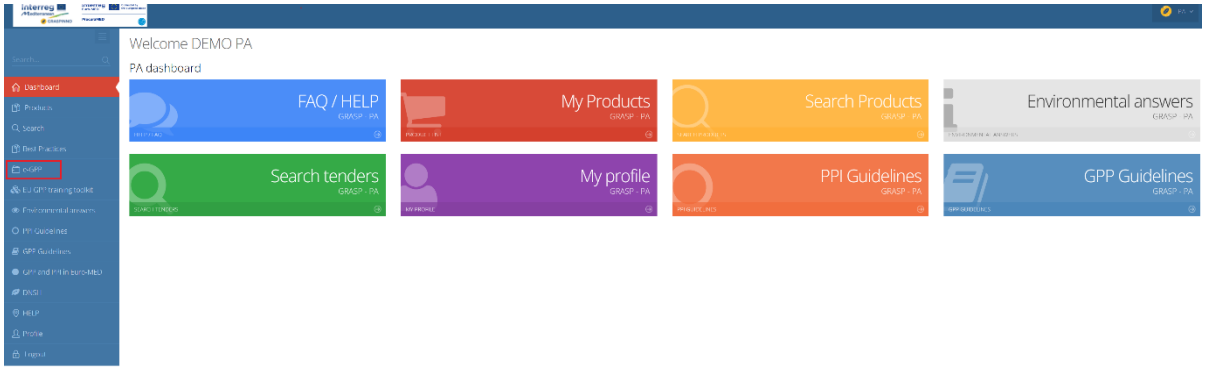
There are several key concepts and terms that the user should be familiar with before using the e-GPP tool. These are listed below:

- **Tender:** a published tender for green public procurements.
- **e-GPP:** electronic green public procurement.
- **Green specification:** a set of characteristics and features related to a green product.
- **Tender Information Package:** a set of information that describes the main specifications and criteria that the procured green product(s) should satisfy. In addition, it includes information about complying products from registered SMEs.
- **Category:** a (green) category of products that can be procured and is included in the Unified Platform (e.g., IT Equipment).
- **Criterion:** a specific criterion that a procured product can or must satisfy so that it is characterized as green product. These are used for comparing the various products and defining the degree of their "greenness".
- **Product type:** a term that categorizes products of a specific green category.
- **Complying supplier/product:** a supplier/product that complies to the green specifications and criteria specified in a Tender Information Package.
- **LCC:** Life Cycle Cost calculator, which enables public procurers select the most cost & energy-efficient offered solution.

The e-GPP tool is only available for PA users and not the SME users.

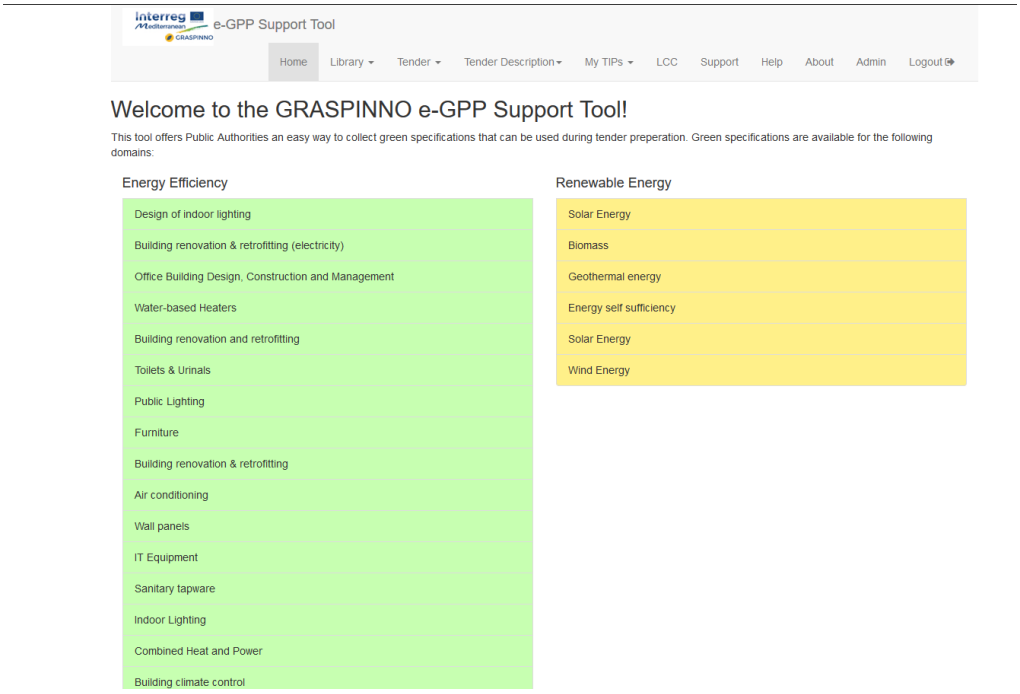
3.2 e-GPP tool Login

In order to log into the e-GPP tool, the PA user has to login using their credentials and choose the e-GPP tool from the top bar menu, and then the user is redirected to the login page shown below. After filling in their credentials the user is redirected to the main page ("Home" page) of the e-GPP tool.



3.3 “Home” Section

After its successful login, the user has access to the tool in “Home” page. In this page, the user is able to see general information about the e-GPP tool. Moreover, the user can see the recent tenders created and published through the tool.



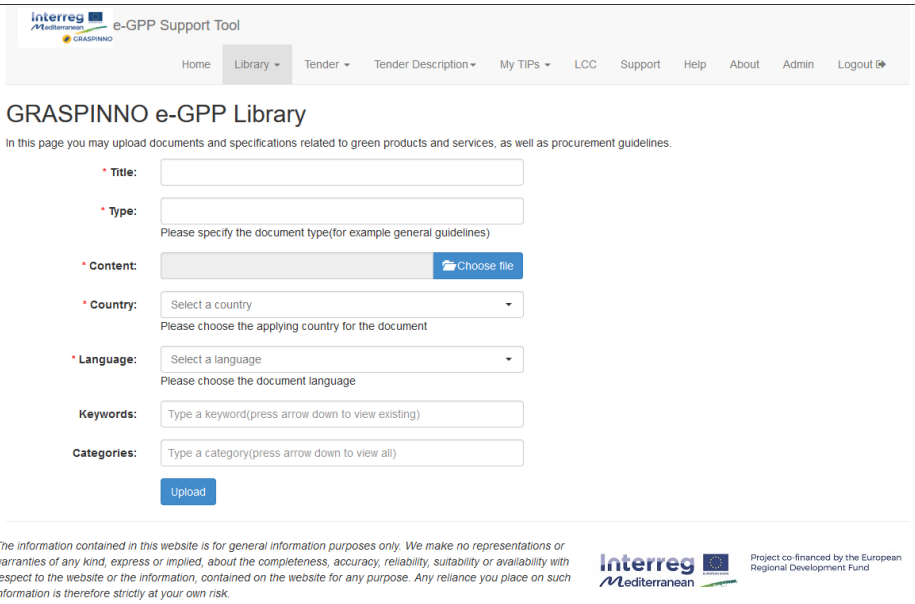
3.4 “Library” Section

In this section, every user is able either to upload or search for documents related to “green” specifications of products/services needed to be procured. It is divided in two sub-sections:

- “Upload document” subsection.
- “Search documents” subsection.

3.5 “Upload document” subsection

In this subsection the user can upload documents and specifications related to “green” products and services, as well as procurement guidelines. The user will be prompted to fill in a set of fields; most fields should be filled in, in order for the document to be uploaded:

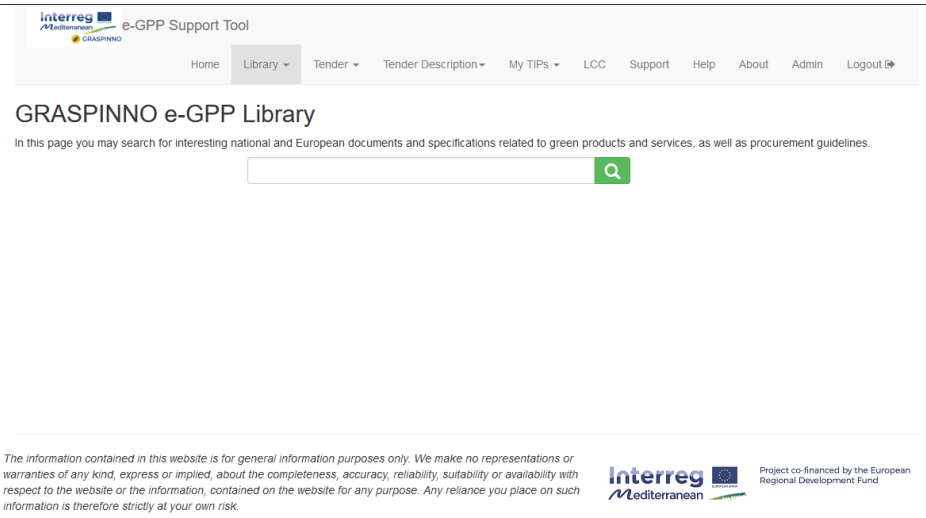


- ***Title:*** The title of the document.
- ***Type:*** The type of the document (i.e. EU "green" specs for IT equipment).
- ***Content:*** Selection of the appropriate file from the user's local disk.
- ***Country:*** Selection of the applying country for the document.
- ***Language:*** Selection of the document's language.
- ***Keywords:*** The user can type keywords related to the document's content or select from a dropdown list with predefined keywords.
- ***Categories:*** The user can type categories related to the document's content or select from a dropdown list with predefined keywords.

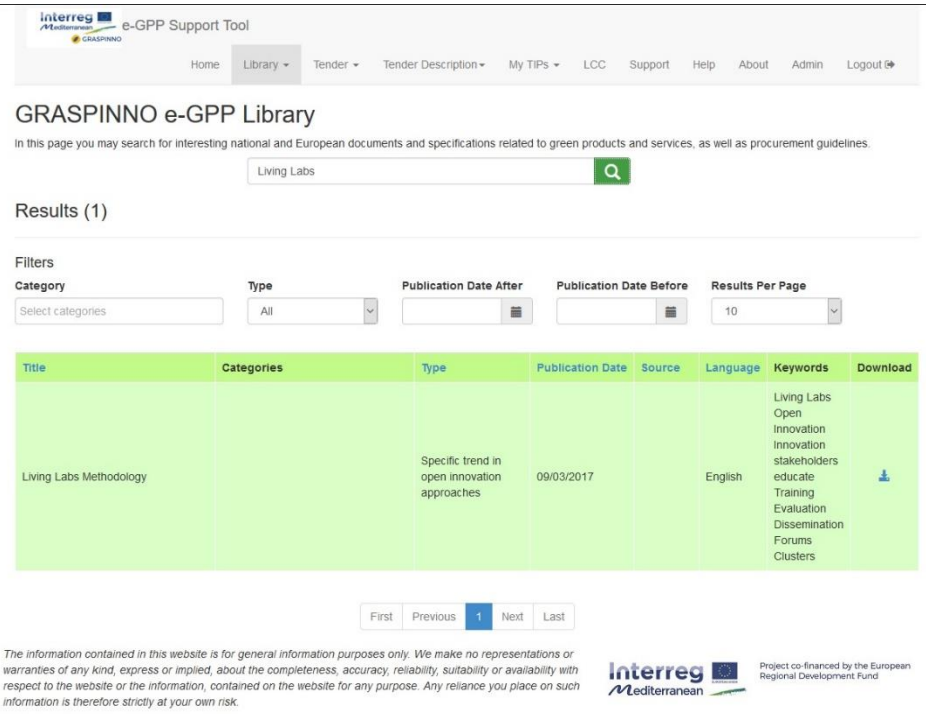
When all fields are filled in, the user clicks on the ***"Upload"*** button in order for the document to be uploaded.

3.5.1 "Search documents" subsection

In this page the user may search for national and European documents and specifications related to green products and services, as well as procurement guidelines.



The user should enter specific words in the search tab and then by clicking the system will display all related documents. In case the user leaves the search field empty and clicks this button, the tool will display all available documents.



Picture 1: Search results

The table includes the following document details:

- ***Title:*** the title of the document.
- ***Category:*** the categories associated to the specific document.
- ***Type:*** the type of the document (i.e. EU "green" legislation, "green" specs, etc.).
- ***Publication Date:*** timestamp of the date the document was published.
- ***Source:*** the document's source.

- ***Language:*** the document's language.
- ***Keywords:*** the associated keywords to the specific document.
- ***Download:*** a link to download and open the document.

When the search results are displayed, the user can apply various filters (Category, Type, Publication Date After, Publication Date Before, Results per Page), in order to filter the search results and find more easily the documents they want. By selecting the user will be able to download the respective document.
By clicking on the titles of the result table columns, the user can sort the results in ascending or descending order.

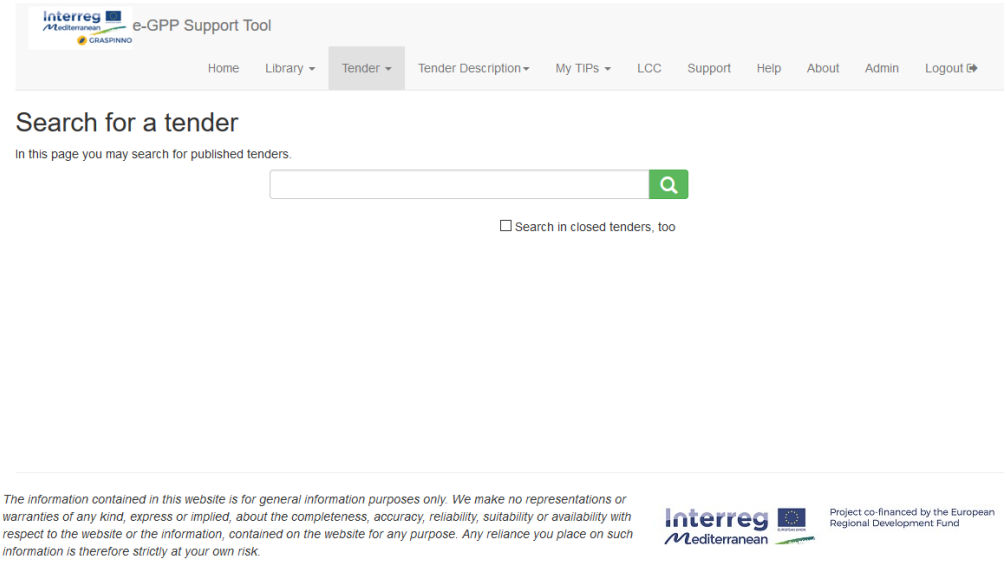
3.6 "Tender" Section

In this section the user is able to search for tenders already created/published or publish a newly created tender. This section is also divided in two sub-sections:

- "See all tenders" subsection.
- "Publish a tender" subsection.

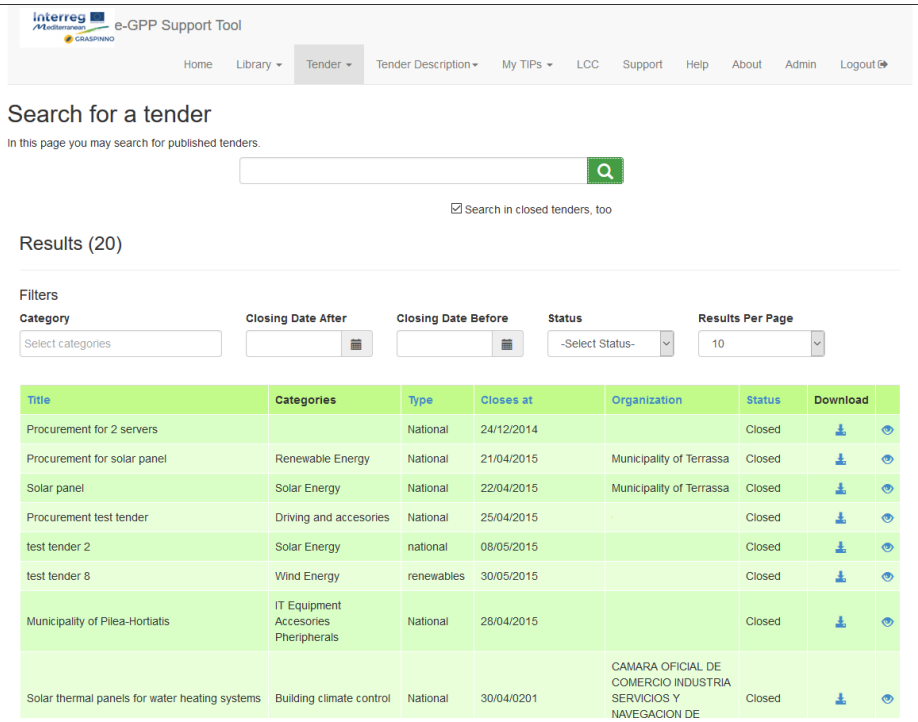
3.6.1 "See all tenders" subsection

In this page the user may search for published tenders.



The user should enter specific words in the search tab and then by clicking the system will display all related tenders that are still open. In case the user leaves the search field

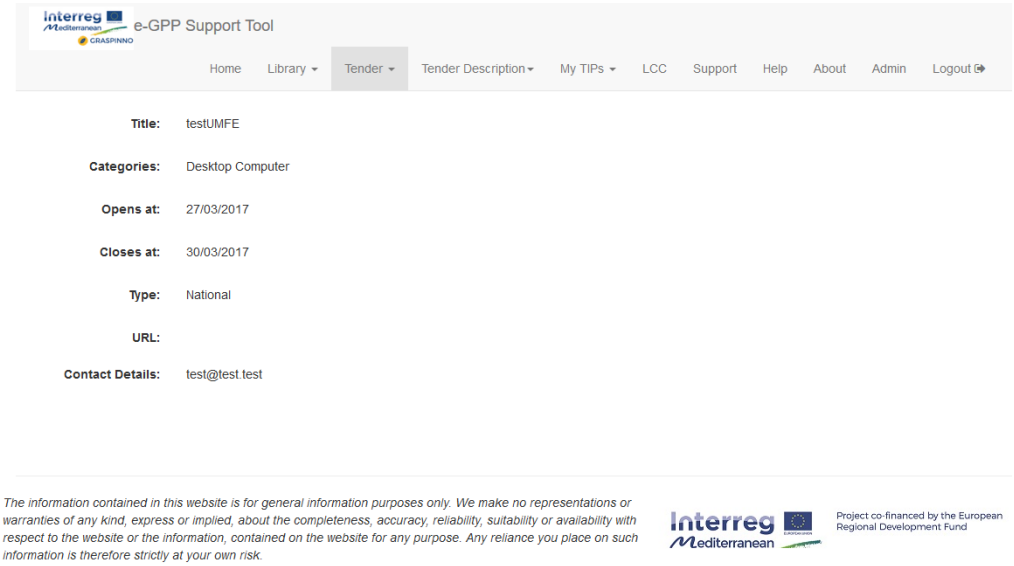
empty, the tool will display all available tenders. Moreover, the user can tick the box “Search in closed tenders, too”, so as the tool to display tenders that are closed, at present.



The table includes the following information:

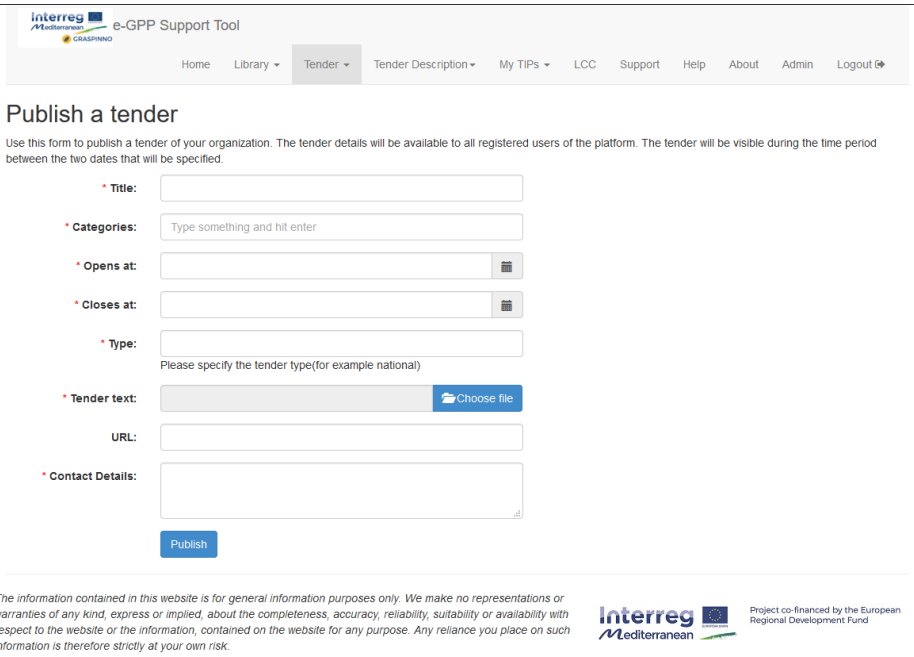
- ***Title:*** the title of the tender.
- ***Categories:*** the associated categories to the specific tender.
- ***Type:*** the type of the tender (i.e. national, regional, open, closed, etc.).
- ***Closes at:*** date when the tender closes.
- ***Organization:*** organization which published the tender.
- ***Status:*** the status of the tender (i.e. closed, open, etc.).
- ***Download:*** link to download/open the tender file.

When the search results are displayed, the user can apply various filters (Category, Closing Date After, Closing Date Before, Status, Results per Page), in order to filter the search results and find more easily the tenders they are interested in. By selecting the user will be able to download the respective document. By selecting the user can see general information about the respective tender, as submitted through the “Publish a tender” subsection.



3.6.2 "Publish a tender" subsection

In this section the user can publish a tender on behalf of their organization. The tender details will be available to all registered users of the platform. Each tender will be visible during the time period between the two dates (open date, closure date) that will be specified. The user will be prompted to fill in a set of fields; most fields should be filled in, in order for the tender to be published:



- ***Title:*** The title of the tender.
- ***Categories:*** The categories associated to the tender (i.e. IT equipment, photovoltaics, etc.).

- ***Opens at:*** Selection of the date the tender is planned to open.
- ***Closes at:*** Selection of the date the tender is planned to close.
- ***Type:*** Selection of the tender's type (i.e. national, regional, etc.)
- ***Tender text:*** Selection of the appropriate tender docs from the user's local disk.
- ***URL:*** link to the tender's website/webpage/dedicated link. This field is optional.
- ***Contact Details:*** the contact details (i.e. phone, fax, email, etc.) of the person responsible for the tender.

When all fields are filled in, the user clicks on the ***"Publish"*** button in order the tender to be published in the tool.

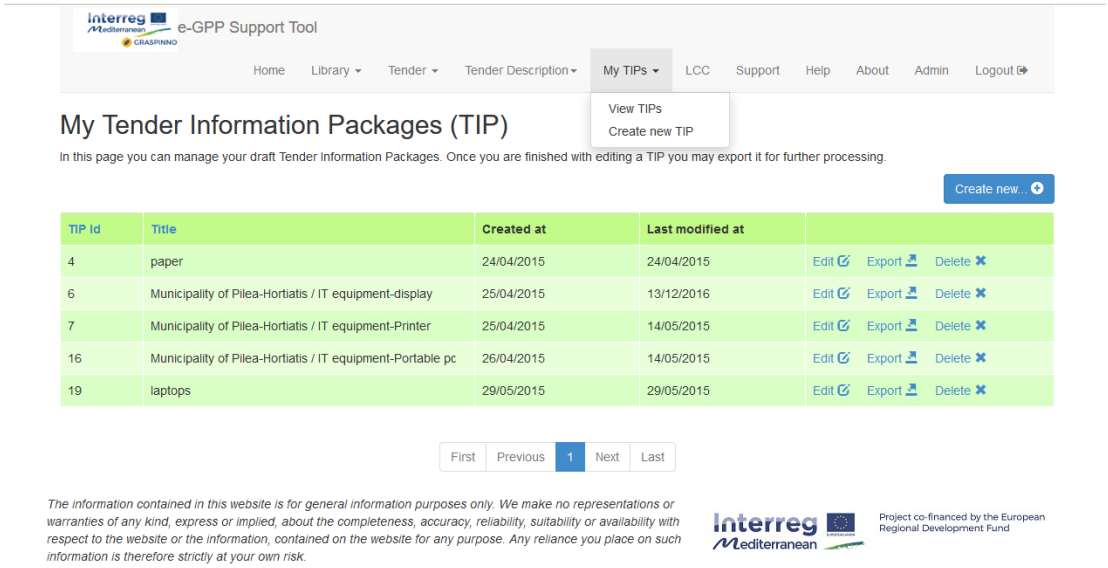
3.7 "My TIPs" Section

In this specific section of the e-GPP tool, a user can create a new TIP (Tender Information Package) or view TIPs they have already created. This means that this section, includes 2 different subsections:

- "View TIPs" subsection.
- "Create new TIP" subsection.

3.7.1 "View TIPs" subsection

This section displays a list with all the available TIPs created by the user. In this page the user can manage their own draft TIPs (Tender Information Packages). Once the user is finished with editing a TIP, they may export it for further processing. The exported document (rich text document format, RTF) contains a summary of the TIP that also includes the market offerings, which comply with the criteria and specs chosen. Also, if no complying products are found, it provides recommendations which are automatically generated by the system.



The displayed table includes the following information:

- ***TIP Id:*** The specific ID of a TIP
- ***Title:*** the title of the TIP
- ***Created at:*** the date the TIP firstly created
- ***Last modified:*** the date of the TIPs most recent modifications

Moreover, there are various options for the user to manage each specific TIP. More specifically:

Edit : Edit the information/data of a specific TIP. If edit is chosen, then the user is redirected to fill in or change any information for this specific TIP.

Export : Export a document containing all data of a TIP, for further processing. If export is chosen, then a text file (in .RTF format) pops up with all information available for that TIP.

Delete : Delete a specific TIP. If delete is chosen the user is asked to confirm or not the deletion of the TIP.

Create new... : When selected, it redirects the user to the “Create new TIP” subsection.

The export functionality outputs all TIP related data as an editable document. This includes, basic TIP information, list of criteria met, list of products and services matching the TIP requirements, market prices, etc. A sample of the product table that is exported is depicted in the following picture.

Complying Products

Requested Services: Warranty
Estimated Price Range: 120
Expected Price: 1123
Average Price: 120

Potential Suppliers: 1

Product Name	WorkCentre 3045
Price	120
Percentage Difference from Average Price	+0%
Percentage Difference from Expected Price	-836%
Services	Warranty(Four years), Technical Support(One year)
Power Consuption	+

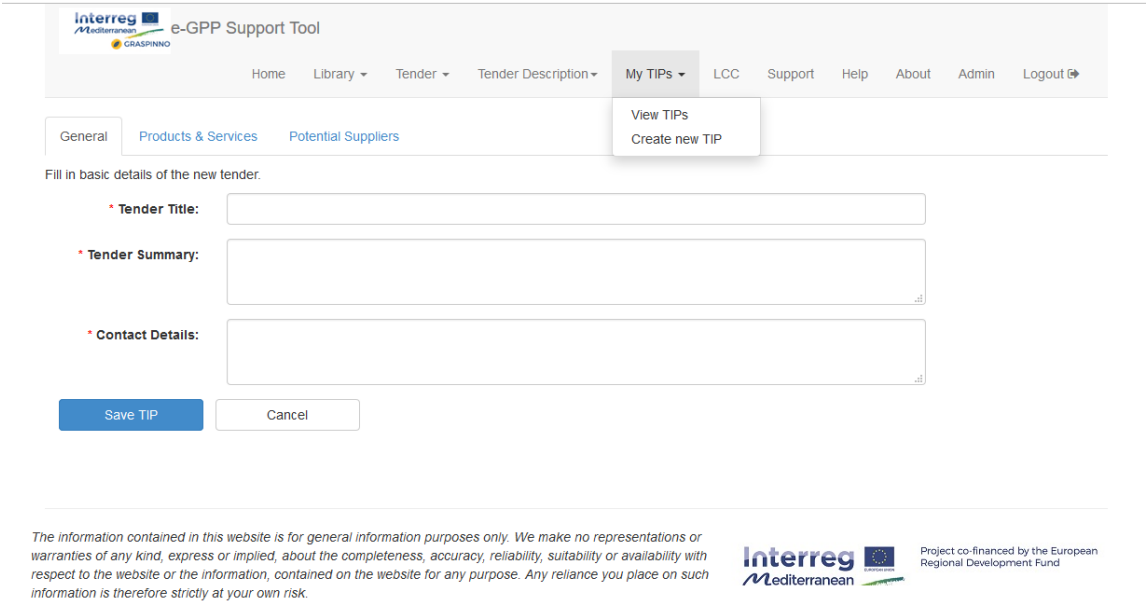
3.7.2 "Create new TIP" subsection

In this page, the user can create a new TIP by filling in the following tabs:

- General
- Products & Services
- Potential Suppliers

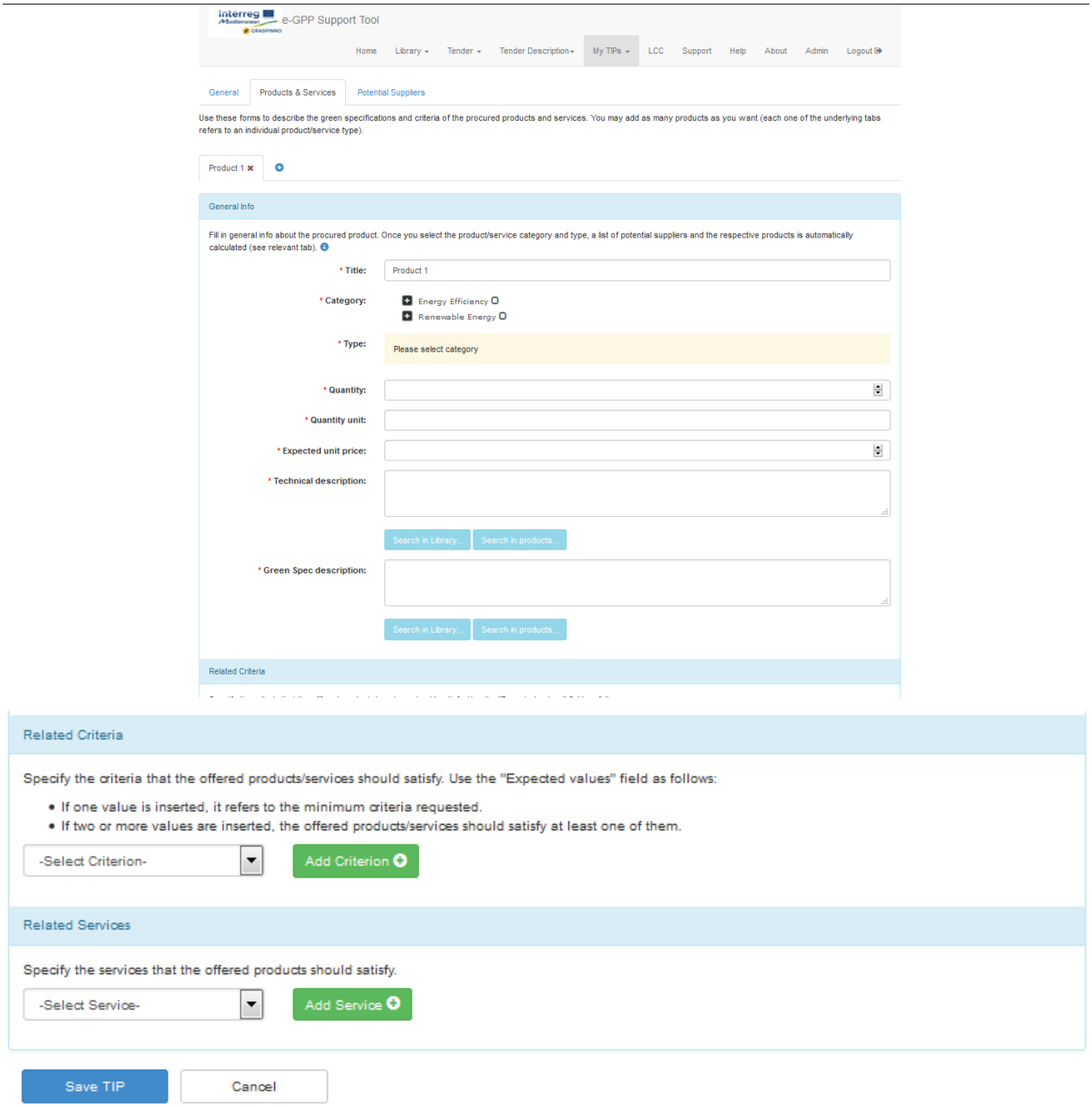
"General" tab

This section asks for some mandatory information on the Tender title, Tender summary and Contact details. "Save TIP" button should be clicked to ensure information backup.



"Products & Services" tab

The user must fill in information to be stored in the system under the relevant product sheet. The user must use these forms to describe the green specifications and criteria of the procured products and services. **For each product/service that needs to be procured the following form must be filled in:**



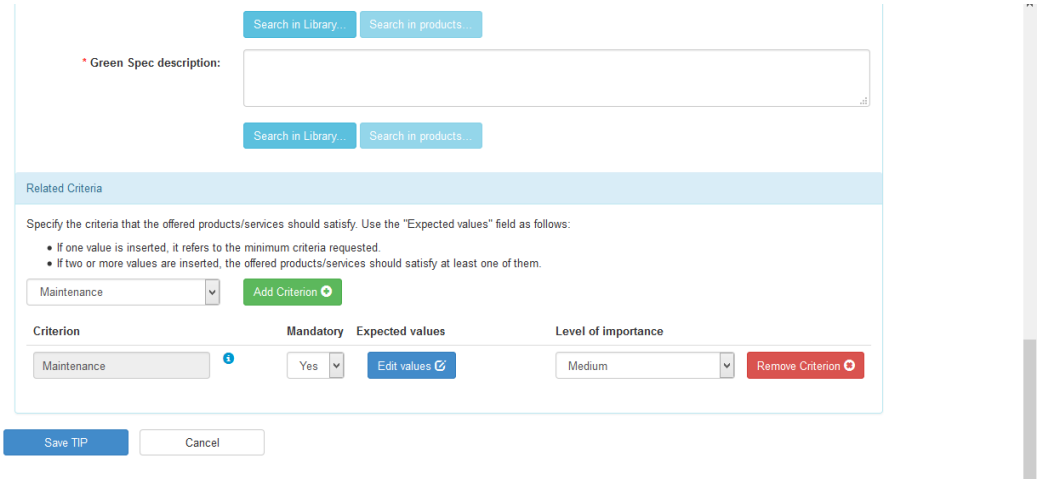
For each product/service the user should provide data regarding the following fields:

- ***Title:*** Title of the product/service to be procured.
- ***Category:*** Select the category that the product/service belongs to. Under section category the major options are **Energy efficiency** (selection between building climate control, building renovation and retrofitting, IT

equipment, public lighting) and **Renewable Energy** (selection geothermal energy, solar energy, wind energy).

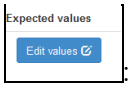
- ***Type:*** The user must select the type of the product/service. The available options here are generated automatically, based on the user's selection in the field "Category".
- ***Quantity:*** Add the desired quantity of the product/service.
- ***Quantity unit:*** Specify the quantity unit (i.e. kg, pieces, meters, etc.).
- ***Expected unit price:*** Indicate the expected unit price, based on the regular market prices for the specific product/service.
- ***Technical description:*** Provide a brief description of the technical specifications of the procured product/service. In case the user is not aware of specific technical specifications, they are able to search for data in the tool's library (selection of "Search in library" button) or in the products already available in the tool's DBs (selection of "Search in products" button).
- ***Green spec description:*** Provide a brief description of the "green" specifications of the procured product/service. In case the user is not aware of specific technical specifications, they are able to search for data in the tool's library (selection of "Search in library" button) or in the products already available in the tool's DBs (selection of "Search in products" button).

A very important activity, while adding products/services in a TIP, is the allocation of "green" criteria to each product/service. At the bottom of each product's/service's form there is a section entitled ***"Related Criteria"***. From the drop-down menu, the user can select a specific criterion and allocate it to the product/service. This drop-down menu is created automatically based on the user's selection in the "Category" field.

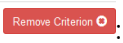


When a criterion is added, the user is able to edit it. This means that the user has the following options:

-  : Receive textual information regarding the meaning of the criterion.
- 

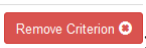
: Define whether the criterion is mandatory or not.
- 

: Edit the expected values of the criterion.
- 

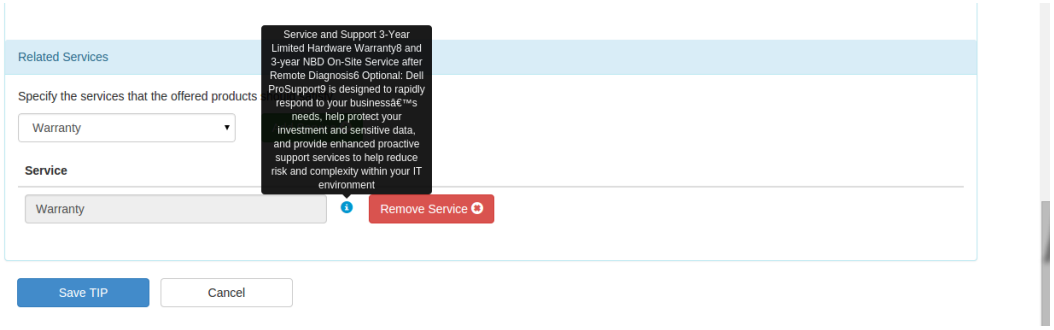
: Set the level of importance (low, medium, high) for the specific criterion.
- 

: Completely remove the criterion from the product/service.

In the Related Services section of this page, the user can select a specific desired service and assign it to the product. This drop-down menu is created from a list of predefined services and it is not associated with a specific product category or type.
When a service is added, the user has the following options:

-  : Receive textual information regarding the meaning of the service.
- 

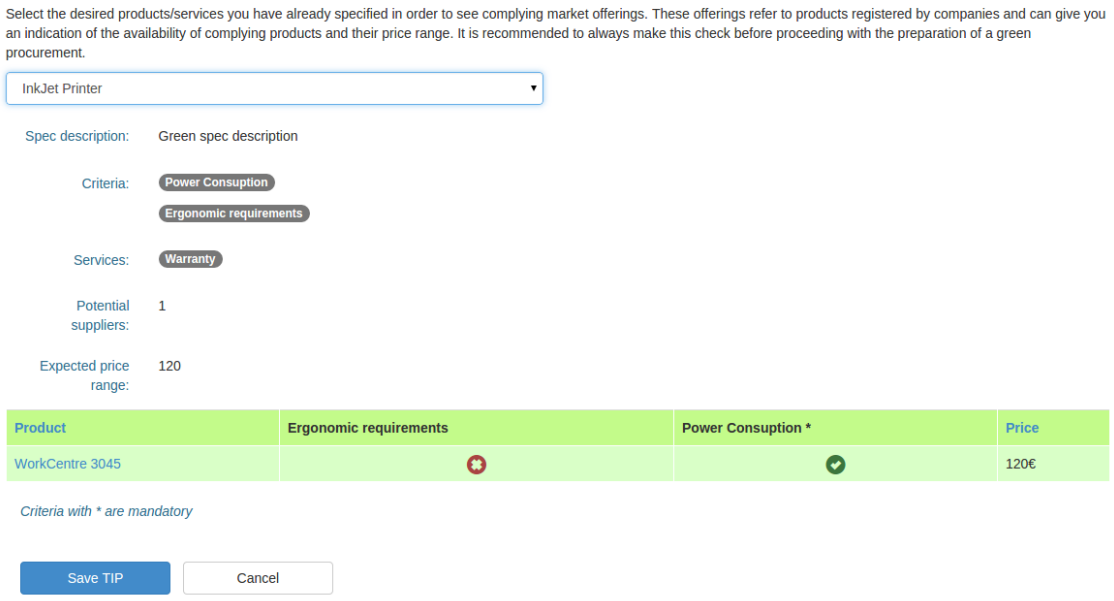
: Completely remove the service from the product.



Finally, “Save TIP” button should be clicked to ensure information backup.

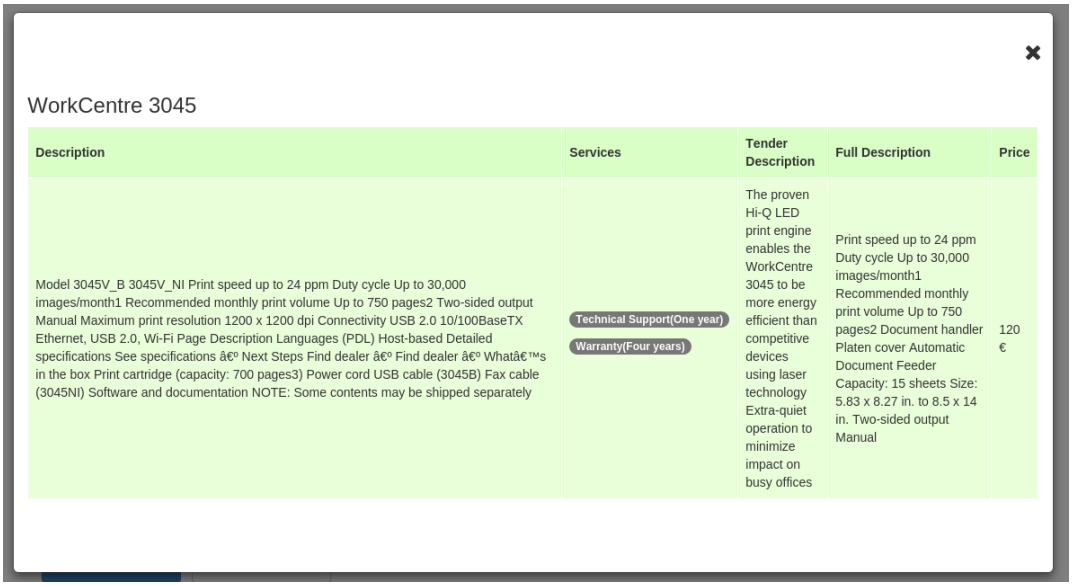
“Potential Suppliers” tab

By choosing the product or service the user has created, all market offerings, which comply with the criteria and specs chosen, appear in a list. The user is invited after filling the form for the product/service to first check all relevant and open listings.



By clicking on a specific product, the user can see if there are any products that comply with the criteria and the services they entered. The criteria marked with an asterisk (*) were added as mandatory. Criteria not marked with (*) are non-mandatory and the listed products do not necessarily comply with the non-mandatory criteria. On the other hand, all listed products offer the services the user has already added.

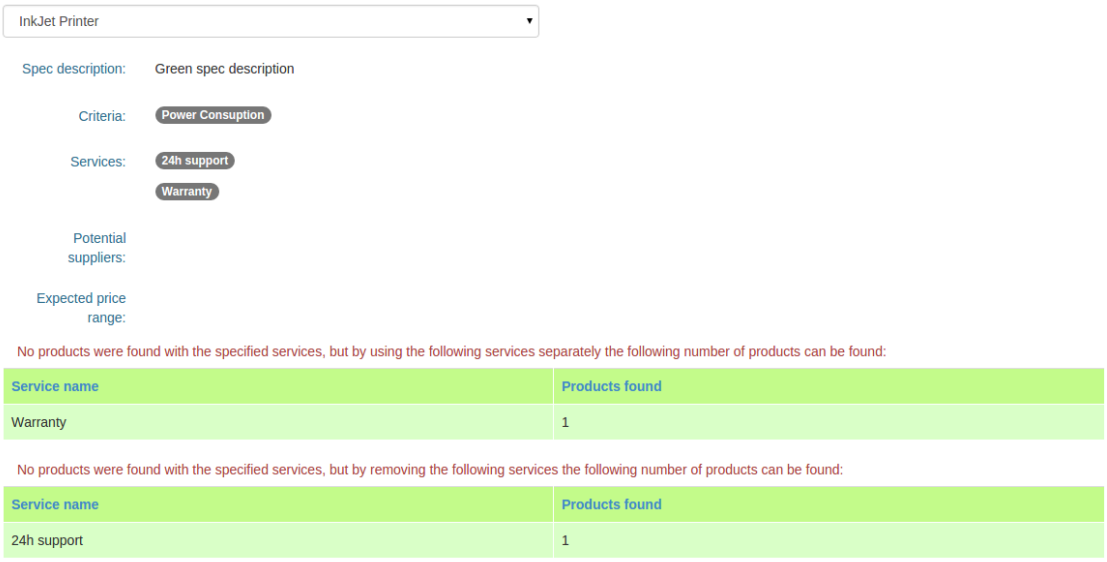
By clicking on the product name, the user can view some basic information regarding this product. The complete list of services this product offers is also displayed, alongside with the offered service duration (in parentheses).



WorkCentre 3045

Description	Services	Tender Description	Full Description	Price
Model 3045V_B 3045V_NI Print speed up to 24 ppm Duty cycle Up to 30,000 images/month1 Recommended monthly print volume Up to 750 pages2 Two-sided output Manual Maximum print resolution 1200 x 1200 dpi Connectivity USB 2.0 10/100BaseTX Ethernet, USB 2.0, Wi-Fi Page Description Languages (PDL) Host-based Detailed specifications See specifications â€º Next Steps Find dealer â€º Find dealer â€º Whatâ€™s in the box Print cartridge (capacity: 700 pages3) Power cord USB cable (3045B) Fax cable (3045NI) Software and documentation NOTE: Some contents may be shipped separately	Technical Support(One year) Warranty(Four years)	The proven Hi-Q LED print engine enables the WorkCentre 3045 to be more energy efficient than competitive devices using laser technology Extra-quiet operation to minimize impact on busy offices	Print speed up to 24 ppm Duty cycle Up to 30,000 images/month1 Recommended monthly print volume Up to 750 pages2 Document handler Platen cover Automatic Document Feeder Capacity: 15 sheets Size: 5.83 x 8.27 in. to 8.5 x 14 in. Two-sided output Manual	120 €

If no complying products are found due to strict mandatory criteria or services, the system automatically generates recommendations. In the example of the following picture, the "24h support" service is not offered by any of the products.



InkJet Printer

Spec description: Green spec description

Criteria: Power Consuption

Services: 24h support Warranty

Potential suppliers:

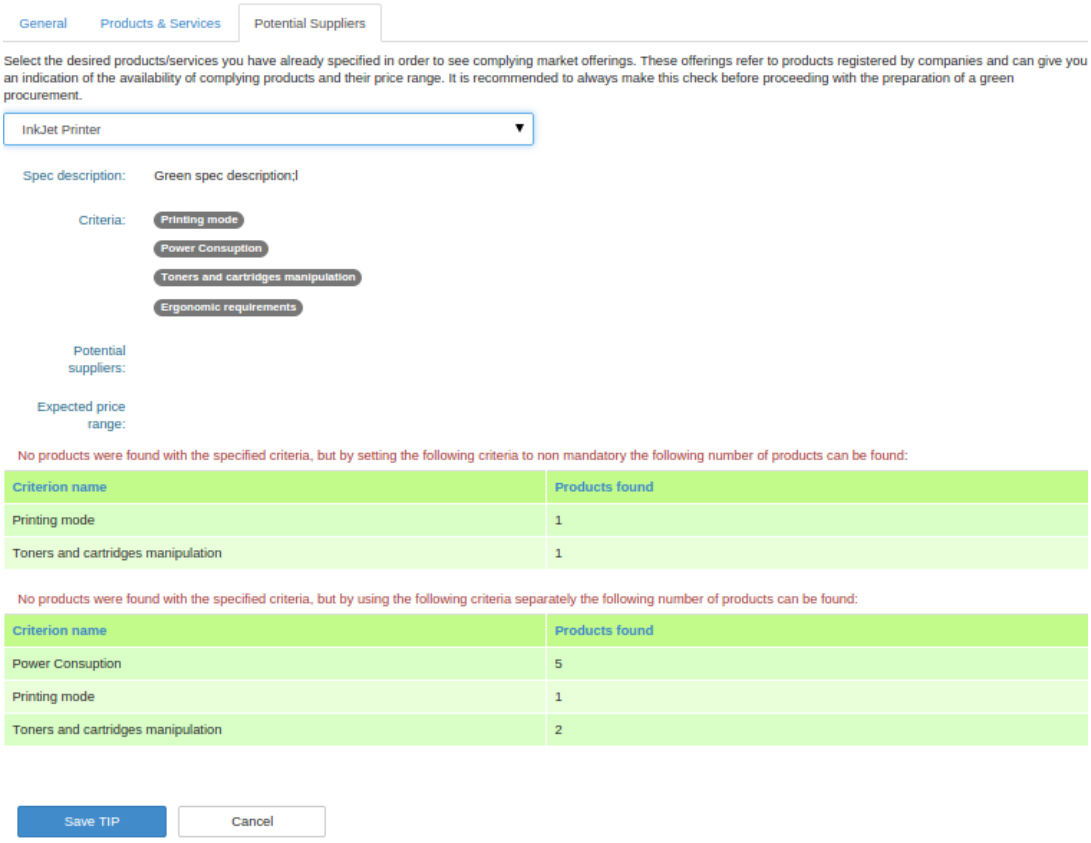
Expected price range:

No products were found with the specified services, but by using the following services separately the following number of products can be found:

Service name	Products found
Warranty	1

No products were found with the specified services, but by removing the following services the following number of products can be found:

Service name	Products found
24h support	1

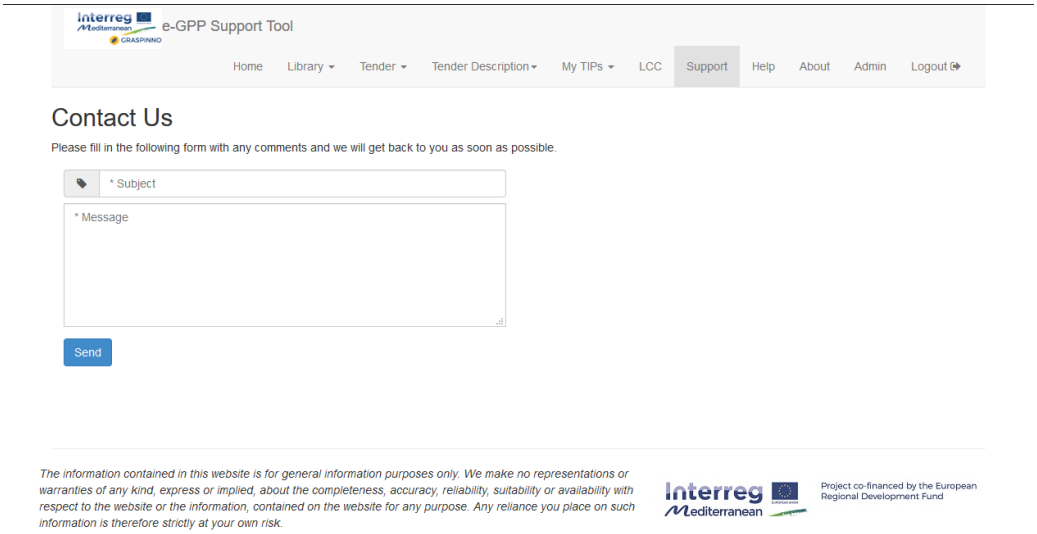


3.8 “LCC Calculator” section

In this specific section, the LCC tool can be reached and used which supports public procurers select the most cost & energy-efficient offered solution. By filling in the respective fields (i.e. purchase price, products lifetime, average annual time of use, etc.), the user is able to calculate the life cycle cost of a specific product. The LCC tool is presented in detail in Chapter 4 of this document.

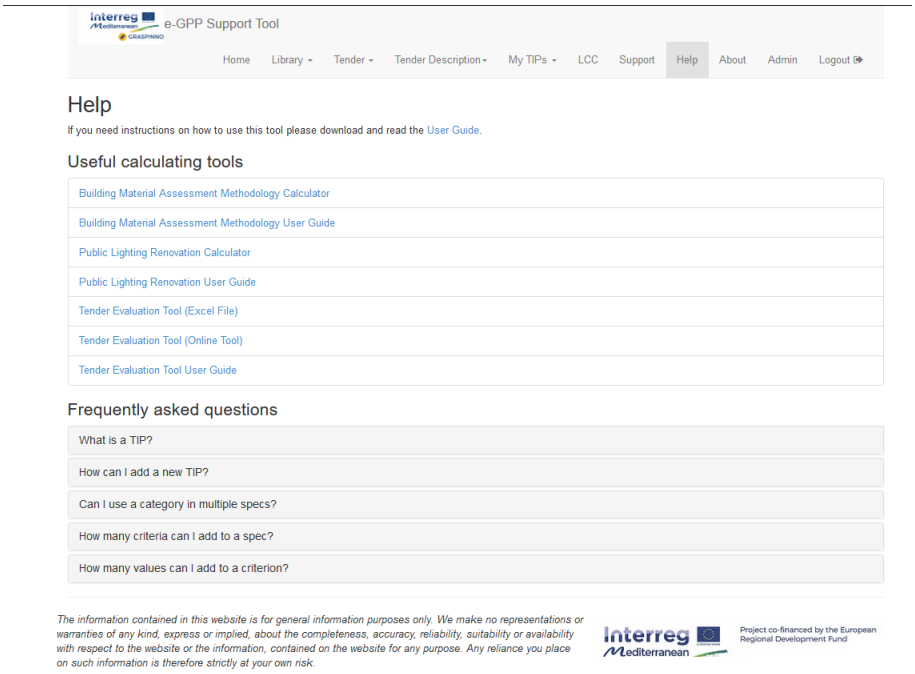
3.9 “Support” section

The user has the option to fill in the form with comments and/or questions, and send it to the e-GPP support team. The e-GPP Support team is responsible for the functioning and the structure of the site.



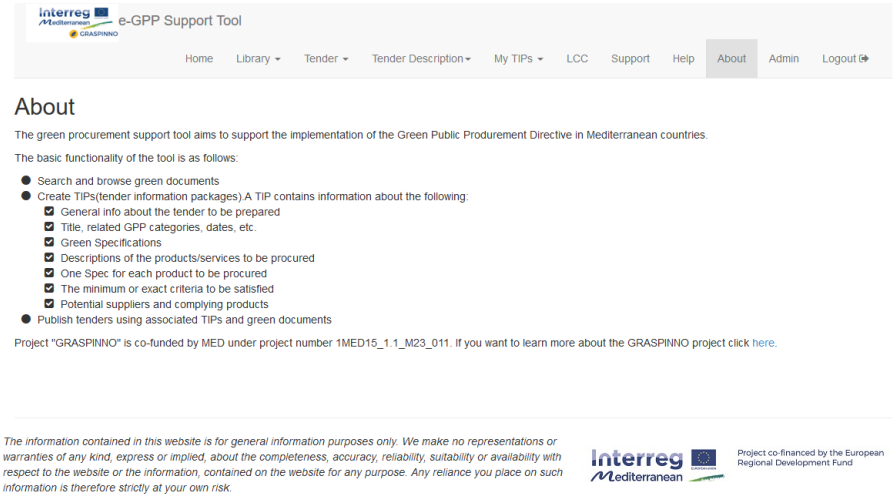
3.10“Help” Section

Users in need of information relevant to the structure and content of the e-GPP support tool may visit the Help section shown below. This includes information on various questions, such as what a TIP is, how to add a new TIP, the use of multiple specs, the number of criteria to add to a spec, the number of values to a criterion, etc.



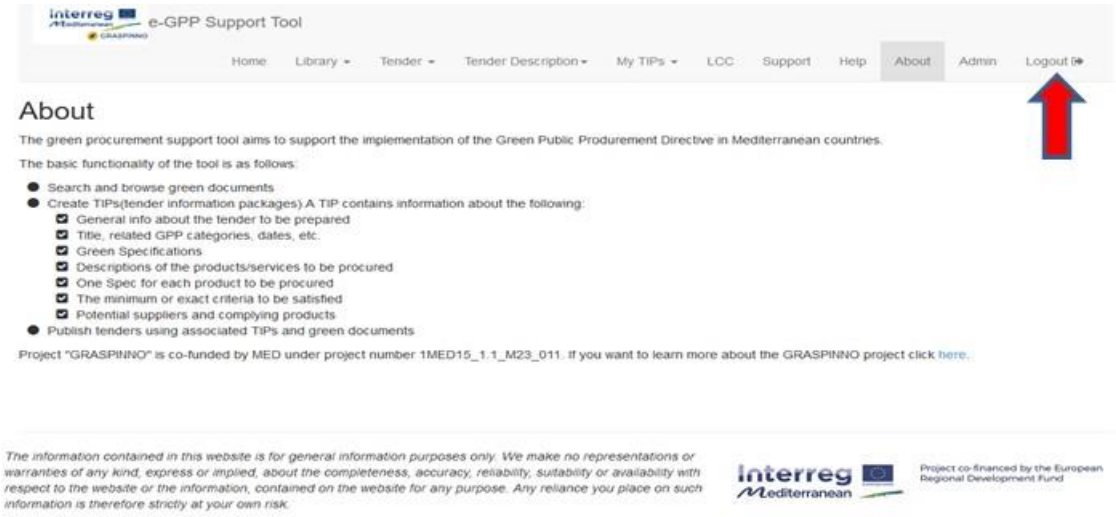
3.11 “About” section

A description of the GPP and the basic functions used in e-GPP is offered in this section.



3.12 Logout from the e-GPP tool and return to DB Admin

By selecting the Logout button, the user exits from the e-GPP tool. By selecting the Admin button, the user returns to the DB Admin application.



4. LIFE CYCLE COSTING (LCC) TOOL

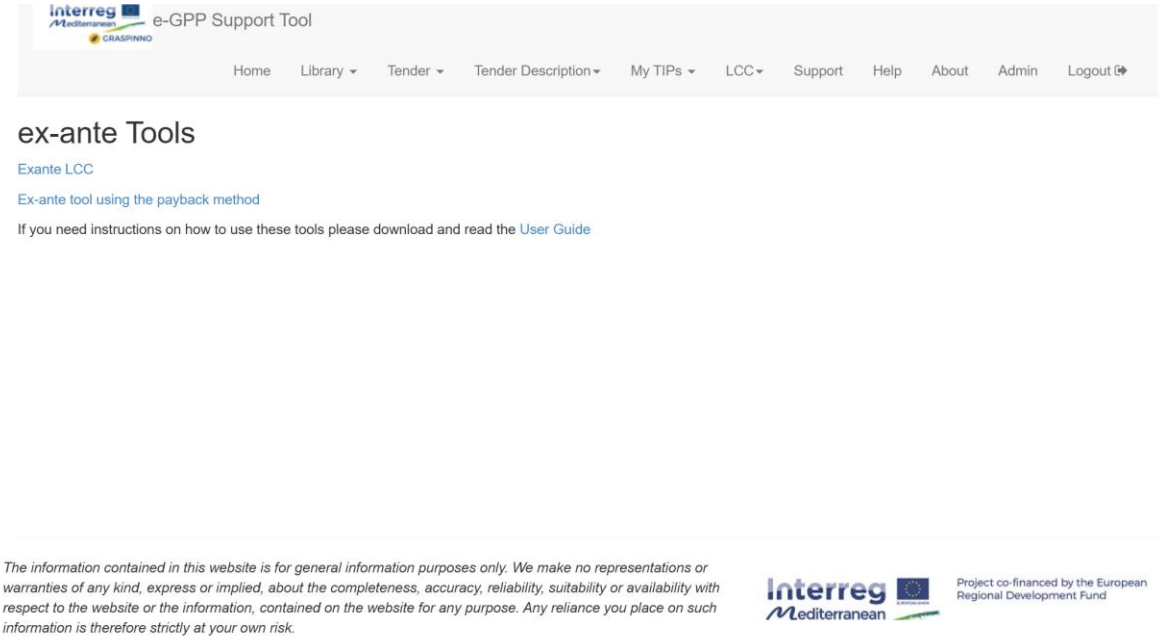
Chapter 4 presents the various uses and explanations of the Life Cycle Cost (LCC) tool. The purpose of this instrument is to help the **PA user** to understand how to interpret correctly the results of a green tender under an economic and sustainable point of view. A large part of the manual is based on cases that analyze GPP procedures for EE/RES in buildings. This part has been integrated with other possible products that could be the subject of a GPP tender in the energy refurbishment of buildings.

Although in many cases the greener alternative may have a higher purchase price, if we analyze all the costs (throughout the working life of the product and afterwards), the overall greener alternative may well prove to be cheaper over time.

If contracting authorities wish to ascertain which products are most cost effective for them, they need to apply LCC approaches in their procurement decisions.
This means comparing not only the initial purchase price of a product, but all future costs as well. A complete LCC would include:

- Price
- Usage costs (in our specific case energy consumption or fuel)
- Maintenance costs
- GHG emissions
- Disposal costs (or recycle and reuse)

There are 3 versions of the LCC tool: 1 ex-post version which the easiest to be used and less data are needed; 1 ex-ante version and 1 ex-ante version with the payback method.
In this deliverable we will focus on the ex-post version, which is totally integrated in the web environment of the platform.
The other two versions can be found and downloaded by the user via the links than are shown below:



4.1 USES

For the LCC tool, there are three main uses that help the PA user to make specific evaluations of different products. First, the user can easily see the absolute value of the LCC of the green product. This can be seen whether there are two products or a single product. Second, the user can evaluate the difference between the cost of keeping an existing product instead of replacing it with a new product. In this case, price doesn't need to be considered because it is a comparison of two products from different time periods with different performances whose prices depend on the circumstantial and temporary nature of the market. In such cases, examining price is not useful. Third, the user can evaluate the LCC of two similar products with comparable performance. This allows for a more informed decision to be made and is the main purpose of this tool. This use shows easily the differences between a lowest price evaluation and a Life Cycle Cost evaluation.

As with any similar tool, there are some limitations that must be noted. One of these is that this tool can only compare two products at a time. This may prove tedious if comparing multiple products, but it maintains its simplicity. If we take the example of retrofitting buildings, this tool could be used to compare the different windows that might be used, then the type of walls that would be constructed, and in this way would split the different aspects of the renovation into different areas and thus into different comparisons. This may become less suitable if, in a general refurbishment of a building, there are many different areas of a project without homogeneous products to test. In this case, a simple but less precise calculation is preferred: the whole retrofitting may be considered as a single

product with its own energy and maintenance specifications. Doing an analysis of this type, it would give an overall perspective of the project without comparing each individual product/work.

Considering the many uses of this tool, it seems clear that the benefits outweigh the limitations. This tool is helpful in the cited situations and can be used in a vast variety of circumstances.

4.2 Guidelines for Use

The following list is the explanation of each tab that will be modified according to the products being compared.

- Purchase price per product – the cost of each individual unit
- Lifetime – the projected lifetime of the product
- Average yearly time usage – how much time (the number of hours) the product will be used throughout the year (a light bulb, for example, might be used for 8 hours a day for 260 days per year for 2080 hours per year)
- Number of purchases – the amount of the product to be purchased
- Number of units per year – this number is based on how the maintenance for the product is measured (for example, work hours for lighting, kWp for a photovoltaic plant, number of pages used in a printer, etc.)
- Cost per unit – the cost for each maintenance unit used in C17 (€5/hour or €3/kWp, €0.50/page, etc.)
- Price of energy – the price of energy in the area of interest (kWhe or kWht)
- Energy consumption/production – how much energy each individual unit consumes or produces (such as renewable sources, and in which case if it produces energy, this value must be negative)
- kg CO 2 /kWh – a quantity taken from the table given on sheet 5 of the tool of how much CO 2 is emitted to generate one kWh (varies by country)
- Economic value of CO2 – economic value (in €) of one ton of CO2 as found at http://www.sendeco2.com/index-uk.asp

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LCC Calculating Tool

LCC | Assessment | CO2 emissions | Conversion tables

	Lowest Price		Sustainable Price	
Price				
Purchase price per product (Euro/product)		€		€
Lifetime (years)		y		y
Comparable Number Of Replacements		€		€
Total Cost		€		€
Duration				
Lifetime (years)		a		a
Average yearly time usage (hours/year)		h/a		h/a
Total usage time (hours)		h		h
Number of purchases				
Total (hours)		h		h
Maintenance				
Number Of Years (years)				
Units Per Year (work hour, kwp, page...)				
Cost Per Unit (€)		€		€
Total (€)		€		€
Energy Costs				
Price of energy (Euro/KWh)				
Energy Consumption (Watt e/t)		W		W
Lifetime Energy Consumption (kWh e/t)		Kwh e/t		Kwh e/t
Total energy Cost (€)		€		€
Emissions				
KG of CO2/kWh				
Total Of CO2 Avoided (ton)		t		t
Economic Value Of CO2 (€/ton)		€		€
Total Economic Value Of Avoided CO2		€		€
Total Life Cycle Costs	0	€	0	€

4.2.1 Guidelines by case

Absolute cost – Calculating the absolute cost of a product can be done with either for two products or one product. If using two products, fill in the columns “Lowest Price” and “Sustainable Price” according to the guidelines set out above using these products’ specifications. When this has been done, set the economic value of CO2 to 0 in the first column. The absolute price for the green product will be the number shown next to “Total life cycle costs” at the bottom of the table in the second column. To find the absolute LCC of the lowest price product, fill in both columns with its same specifications and set the economic value of CO2 to 0. The absolute cost of the lowest price product will be always the “Total life cycle costs” on the table.

Evaluation of a substitute – The evaluation of a substitute is largely a matter of examining the savings produced by the new product. To do this, fill in first column with the specifications of the existing product and second column with the possible substitute. To examine the savings, set the prices of each product to zero. The prices, as previously noted, are not useful in this case because they come from two different time periods. Due to inflation and other cost fluctuations, the price comparison is not helpful and may lead to unrealistic conclusions. Instead, we can examine the energy savings of the new product with respect to the old one, which is the more valuable evaluation. Understanding this calculation, it is simple to examine the effects of making a substitution.

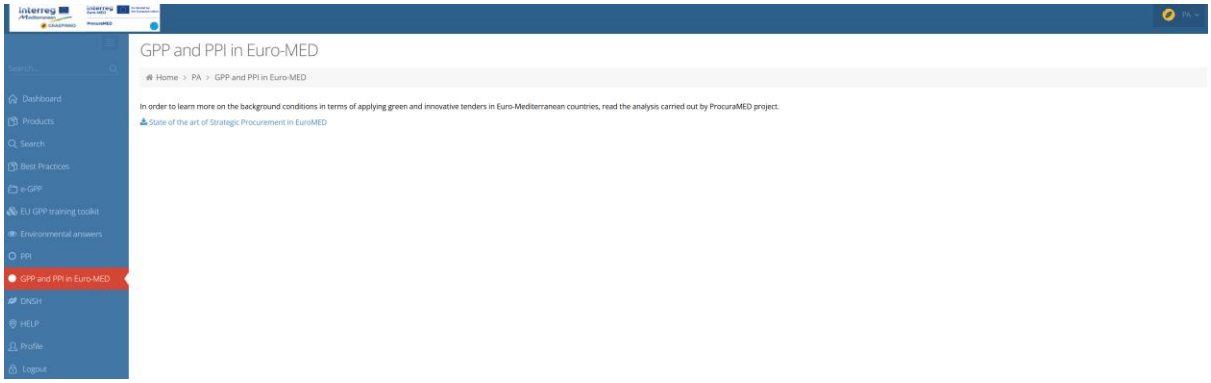
Comparison between two products – The case that the tool was built for is a comparison between two similar products: one with a lowest price and the other with a sustainable price. To complete this assessment, fill in the Lowest Price column and the Sustainable Price column with the specifications of the two products. Once these specifications have been entered, the LCC are seen at the bottom of the table and the relative costs (for both price and LCC) are shown on the “Assessments” tab. Having completed the evaluation, the winning product can be compared to others, thus choosing the best option based on the LCC. This is designed also to show that the misunderstanding that green products are more expensive is often false, especially in long-term projects.

5. PPI & GPP guidelines and background analysis

In this chapter, the additions made to the platform concerning the updated GPP and PPI application guidelines, including the background analysis carried out during the first year of the ProcuraMED project, as well as the “Do No Significant Harm” (DNSH) principle, are presented.

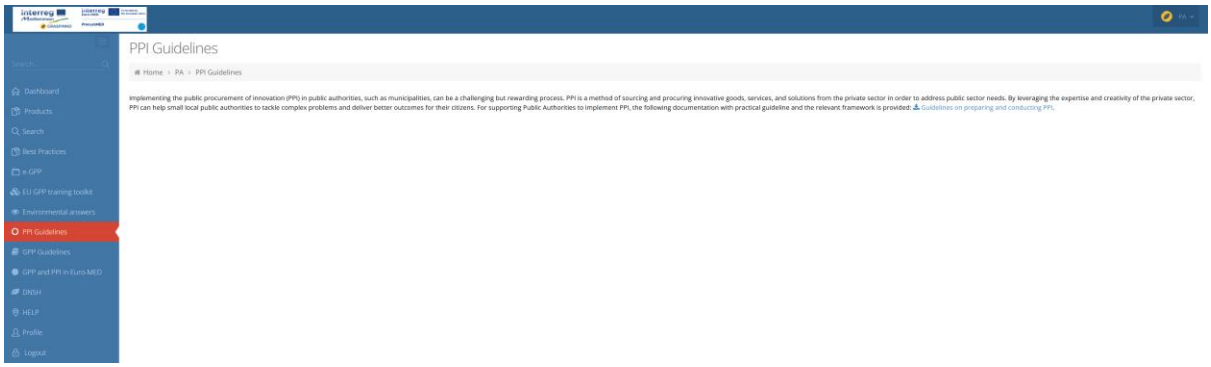
5.1 GPP and PPI in EURO-MED

In order to learn more on the background conditions in terms of applying green and innovative tenders in Euro-Mediterranean countries, ProcuraMED provides the analysis carried out by the participating counties. This functionality is available for both PA and SME users. The document with the state of the art on strategic procurement in partner countries/regions is part of the A1.1 “Integration and development of Strategic Procurement Unified Platform” and can be found in **Annex I**.



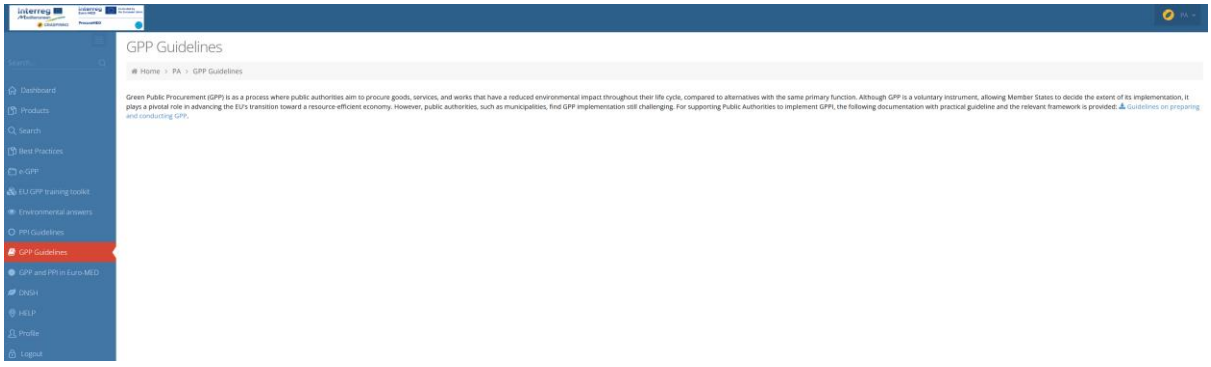
5.2 PPI GUIDELINES

Implementing the public procurement of innovation (PPI) in public authorities, such as municipalities, can be a challenging but rewarding process. PPI is a method of sourcing and procuring innovative goods, services, and solutions from the private sector in order to address public sector needs. By leveraging the expertise and creativity of the private sector, PPI can help small local public authorities to tackle complex problems and deliver better outcomes for their citizens. For supporting Public Authorities to implement PPI, ProcuraMED project developed and provides a document with practical guidelines and the relevant framework. These guidelines were developed valorizing the results of the background analysis in the participating countries and are available at the platform as shown below, only for the PA users. The document with the guidelines on preparing and conducting PPI is part of the A1.1 “Integration and development of Strategic Procurement Unified Platform” and can be found in **Annex II**.



5.1 GPP GUIDELINES

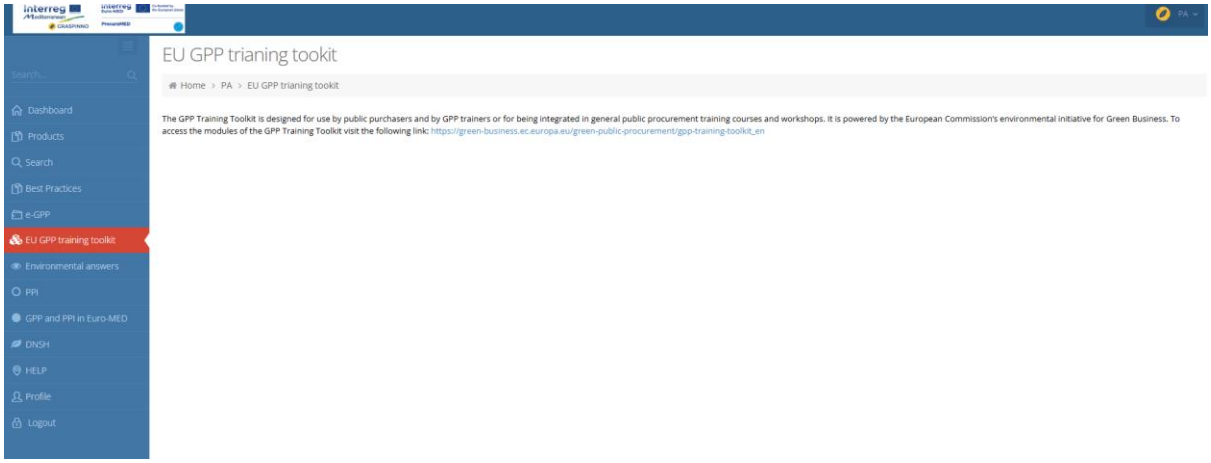
Green Public Procurement (GPP) is as a process where public authorities aim to procure goods, services, and works that have a reduced environmental impact throughout their life cycle, compared to alternatives with the same primary function. Although GPP is a voluntary instrument, allowing Member States to decide the extent of its implementation, it plays a pivotal role in advancing the EU's transition toward a resource-efficient economy. However, public authorities, such as municipalities, find GPP implementation still challenging. For supporting Public Authorities to implement GPP, ProcuraMED project developed and provides a document with practical guidelines and the relevant framework. These guidelines were developed valorizing the results of the background analysis in the participating countries and are available at the platform as shown below, only for the PA users. The document with the guidelines on preparing and conducting GPPI is part of the A1.1 “Integration and development of Strategic Procurement Unified Platform” and can be found in **Annex III**.



5.2 EU GPP TRAINING MATERIAL

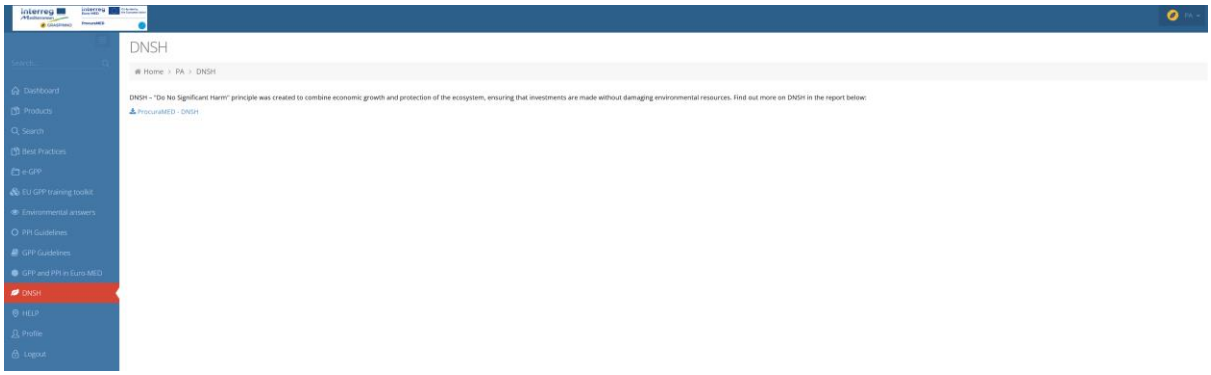
The GPP Training Toolkit is designed for use by public purchasers and by GPP trainers or for being integrated in general public procurement training courses and workshops. It is powered by the European Commission’s environmental initiative for Green Business. To

access the modules of the GPP Training Toolkit, the user should visit the following link: https://green-business.ec.europa.eu/green-public-procurement/gpp-training-toolkit_en. These functionality is available only for PA users.



5.3 DNSH PRINCIPLE

The DNSH – "Do No Significant Harm" principle was created to combine economic growth and protection of the ecosystem, ensuring that investments are made without damaging environmental resources. ProcuraMED project developed a short explanatory document with some guidelines to be available for both PA and SME users of the Strategic Procurement Unified Platform. The document with DNSH principle is part of the A1.1 “Integration and development of Strategic Procurement Unified Platform” and can be found in **Annex IV**.



ANNEX I: State of the art on strategic procurement in partner countries/regions

ProcuraMED

Innovative and Green Procurement towards a sustainable economy in MED area

Euro-MED0200775

A1.1 “Integration and development of Strategic Procurement Unified Platform”: State of the art on strategic procurement in partner countries/regions

Developed by Terre di Siena Lab

Terre di Siena LAB

Date: September 2024

Table of Contents

1. INTRODUCTION

1.1 GENERAL FRAMEWORK

If PROCURAMED project aims to promote and transfer the past experience and best practices of 2 previous INTERREG MED projects (GRASPINNO and PROMINENT), the questionnaires try to detect the level of knowledge of the two relevant topics of the past projects and the new one: Green Public Procurement (GPP) and Public Procurement of Innovation (PPI). GPP and PPI are drivers for innovation and sustainability in EU and Mediterranean territories and Stakeholders have to be able to manage them. The survey, carried out by the questionnaires, aims to verify the knowledge and state of application of Green Public Procurement (GPP) and Public Procurement of Innovation (PPI) at local level to prepare appropriate training actions in such strategic areas for the pursuit of sustainable development. Local governments that better understand the potential and proper use of these innovative public procurement systems will lead the economy and businesses in their territories to become leaders in sustainable development through durable economic growth.

1.2 IDENTIFYING THE BASE LINE OF STRATEGIC PROCUREMENT IN PARTNERS' COUNTRIES/REGIONS

The situation regarding strategic procurement in the Mediterranean area is rather varied; although there is a European legislative framework of reference Directive 2014/24/EU and subsequent amendments, the transposition at national level is quite differentiated with regard to both Green Public Procurement and Public Procurement of Innovation.

Before starting to survey the state of the art at the local level, it is useful to make an analysis of the legislative context to understand what are the limits but also the potential that stakeholders and, in particular, local administrations have in order to push the local economic system to offer sustainable and circular goods and services. (Please note that Bosnia and Herzegovina is the only country in the PROCURAMED project that is currently not bound by the European legal framework).

The first table analyses the legislative situation in each country regarding GPP (it represents the state of the art at the end of 2022, beginning of 2023). As can be seen from the table, GPP is applied differently, but it is an increasingly common procedure. There are countries such as Italy where GPP should be applied to all contracts, other countries such as Croatia or Greece where the obligation only concerns certain sectors or the rest of the countries where a percentage to be achieved on all contracts is set.

Table 1: GPP legislative framework in European countries

COUNTRY	APPLICATION OF GPP	NATIONAL GPP CRITERIA PRESENT FOR CLASSES OF PRODUCT
Bosnia Herzegovina	na	na
Croazia	Mandatory criteria for energy efficiency	National legislation refers to EU criteria
Cyprus	The implementation of the National Green Public Procurement Action Plan is mandatory for State Authorities (Public Sector Contracting Authorities), Public Law Principles (Public Law Organizations), Local Authorities. National Objective, with certain exceptions, generally is a target of 50% of the contracts	Computer and monitors, Copying and graphic paper, Imaging Equipment, Electrical and Electronic Equipment used in the Health Care Sector, Electricity, Cleaning Products and Services, Sanitary Tapware, Toilets and Urinals, Office Building Design, Construction and Management, Furniture
Greece	GPP obligation for Paper; Computers; led lamps; air conditioning. air-conditioning; lubricants; road transport; lighting lighting and signals road signs	LED lamps; energy efficiency air-conditioning machines
Italy	Dlgs 50/2016 as amended in 2017, the application of minimum environmental criteria in all contracts for goods and services is mandatory	Minimum Environmental Criteria in force: interior furniture; street furniture; incontinence aids; work footwear and leather accessories; paper; cartridges; building; public lighting (supply, design and service); lighting, heating/cooling for buildings; energy performance contract (epc) of energy services for building-plant systems; road infrastructure;

		industrial washing and textile and mattress rental; cleaning sanitation; municipal waste; collective catering; refreshment and vending machines; energy services for buildings; energy performance services for building-plant systems; printers; textiles; vehicles; public green
Portugal	The Strategy was approved in 2020 and provides that 60% of public administration contracts must contain environmental criteria. While for the state business sectors the percentage drops to 40.	National environmental criteria for the Gpp are being developed, based on those of the EU.
Slovenia	The national GPP plan stipulates that at least 50 per cent of the total procurement for eight sectors should be with GPP criteria.	Electricity; catering; textiles; office paper; electronic office products; TVs; refrigerators; furniture; sanitary; water heating; construction; road construction; road vehicles; tyres; lighting; cleaning and laundry; green.
Spain	There is a GPP Plan which stipulates that for certain sectors the GPP target varies between 25% and 100%.	Construction; energy; transport; office products; paper and publications; furniture; cleaning services, events.

Source: TSL elaboration and integration of REMADE® article: "Il green public procurement negli Stati membri: panoramica europea"

A similar analysis was made for the PPI using a very recent benchmarking by the European Commission (2024). Table 2 shows that only Spain in the Mediterranean Basin considered has an official definition of PPI in national legislation but all of them, although with differences, have the legal basis to implement it.

Table 2: PPI legislative framework in European countries

COUNTRY	OFFICIAL DEFINITION OF PPI IN NATIONAL LEGAL FRAMEWORK	PRESENCE OF LEGAL BASIS TO IMPLEMENT PPI
Bosnia Herzegovina	na	na
Croazia	No official national definition for PPI integrated into the national legislation or other official national documents outside of national legislation	Article 218 of the Public Procurement Act provides a legal basis to implement PPI (allowing procurers to award contracts and monitor contract performance not only based on price but also based on quality criteria that include innovative characteristics of a solution) by stating that "1) A public contracting authority may impose special terms relating to the performance of a contract, provided that they are related to a procurement object within the meaning of Article 285, paragraph 2 of this Act and are listed in the call for tenders or procurement documentation. (2) The conditions in paragraph 1 of this Article may include economic, environmental, social or innovation-related or employment-related features." This definition is applicable countrywide and is in line with the EU directives, making the total score for sub-indicator PPI definition amount to 35%.
Cyprus	no definition exists in the legal framework or in any policy document or guidelines.	the Regulation of Public Procurement Procedures and Related Matters Law of 2016 (73(I)/2016) provides the legal basis to

		implement PPI (allowing procurers to award contracts and monitor contract performance not only based on price but also based on innovation criteria). As there is no official definition for PPI in the country, but there is a legal basis which is applicable to all public procurers countrywide, the total score for this sub–indicator is 35%
Greece	The national legal framework does not provide an official definition of PPI.	Article 86 p.2(a) of the Law 4413/2016 does provide a legal basis to implement PPI by allowing the award of contracts based on innovation criteria. A technical guidance document published by the HSPPA provides a clear definition of PPI: "procurements in which the contracting authorities announce in advance their intention to purchase a large volume of innovative products/services, in order to activate the market to invest in delivering innovative products/services with good quality/price ratio in a given time... PPI can be used in cases where a technology is already on the market (in limited quantities), and through PPI it can be used in a new innovative way. PPI can be used also in cases where innovative products/services are in the final stage of completion and not yet available on the market." This definition is in line with EU definition and the total score of the sub-

		indicator PPI is 70%.
Italy	There is no definition of PPI in the public procurement code No. 36/2023 or official guidelines.	The code provides the legal basis for procuring innovative solutions using any public procurement procedure. Article 108.2 (c) and (f) specify that in the case of buying products, services or works with an innovative character, the procurer may not award contracts based on lowest price only but must award contracts based on best price/quality ratio. As this legal basis is in line with the EU legislation and applicable country wide, the score for indicator PPI definition is 35%.
Portugal	Portuguese legislation does not provide a definition of PPI.	Decree-Law 18/2008 Chapter III Article 301-A recognises the specificity of contracts whose purpose covers services linked to innovation and it enables procurers to implement PPI. The guidance documents on the PROCURE+i website provide a definition for Public Procurement of Innovative Solutions (PPI): “PPI is a public contract in which the public buyer acts as first customer (or launch customer) – also called first user or pioneer in adoption (“early adopter”) – of products or services that are about to become or are already available on the market in small quantity but are not yet deployed on a large commercial basis scale”. The definition is applicable to the whole country and is in line with the scope of the EU

		definition. The score for this sub-indicator is 70%.
Slovenia	The PPA does not provide a definition for PPI , but it does provide the legal basis to implement PPI.	In Article 84.1(a), it is stated that contracting authorities may award contracts not only based on price but also based on "quality, including technical merit, aesthetic and functional characteristics, accessibility, and design for all users, social, environmental and innovative characteristics". The National Guidelines on Innovation Procurement provide a definition for PPI: "Public procurement of innovative solutions is used in the case when innovative solutions already exist and are close to the market or are used on the market on a very small scale but do not meet the demands of the public sector for wider use. To order these solutions, clients can use different procedures in accordance with the PPA (for example, competitive dialogue and competitive procedure with negotiations)." However, this definition does not clearly explain that PPI ends at the early adoption of innovative solutions and what is the boundary of where early adoption stops. As the definition is, therefore, not completely in line with the EU definition, the total score for the sub-indicator PPI definition is 50%.
Spain	For PPI, the Guide indicates that it is included in the modality	The score for this sub-indicator is 50%

	of commercial purchases and that it “consists of the public purchase of a good or service that does not exist at the time of purchase but that can be developed in a reasonable period of time. Said purchase requires the development of new or improved technology in order to meet the requirements demanded by the buyer.” The provided definition does not take into consideration, neither procurements of products, services or processes that have already been demonstrated on a small scale and are nearly or already in small quantity on the market, nor the existing solutions that can be utilised in a new and innovative way.	

Source: TSL elaboration on Benchmarking of innovation procurement investments and policy frameworks across Europe 2024;

2. KNOWLEDGE AND USE OF GPP AND PPI AMONG PUBLIC ADMINISTRATIONS

2.1 GENERAL INFORMATION

This part of the report identifies a comparison methodology to evaluate the project partners' reports and to define strategic lines of action for communication and training.

Although the questions and sessions of the questionnaires are the same for all partners, it is not easy to have an unambiguous interpretation of the data. For this reason, it was decided to classify the answers using the quartile technique, where possible classifying the partners' answers according to the value obtained and subdividing these values into four parts of the same amplitude representing 4 different degrees of judgement. The last quartile, of course, must group the same answer for at least 75% of the respondents. The method makes it possible to suggest intervention strategies to support stakeholders differentiated according to the quartile they belong to. As a general rule for the analysis, we chose to group in the fourth quartile the answers of those partners who, for a specific topic, show a greater training deficit and thus a greater need for assistance.

2.2 ANALYSIS OF SESSION I (GPP)

In the following paragraph, each relevant question will be analyzed with a table that will collect data obtained by each partners' report. In the first column there is the PROCURAMED partners' list, in the other ones the indication of the quartile in which the partners' answers will be classified. To understand how it works we start with question 1 (*What is your level of knowledge/familiarity with the Green Public Procurement (GPP) procedure?*) by selecting what we want to highlight in order to understand the situation and then define possible supporting activities. For the first question, we decided to investigate which partner needs more training support and awareness. Obviously, partners with little or very little awareness and knowledge of GPP are the target group ('poor' and 'very poor' answers). To understand the logic of intervention, let us consider, for example, DDIP ZDC; this partner received only 20% 'poor' and 'very poor' answers so that this partner should be classified in the first quartile (0% to 25%). TSL, on the other hand, received respectively 20% and 60% for the same answers, so the partner should be placed in the 4th quartile (>75% to 100%). The very strange thing about this first question is that we would expect a deeper knowledge from those countries that have been in the EU the longest; in actual fact, the survey shows the opposite.

Table 3: What is your level of knowledge/familiarity with the Green Public Procurement (GPP) procedure?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras			X	
TSL				X
IrRa				X
DDIP ZDC	X			
BSC Kranj		X		
MedCities		X		
STRATA			X	
REAN		X		

Table 4 analyses the local context of the partnership with regard to question 3 (Have you ever applied this procedure in your organisation? If yes, in which sector?); also for this question, the 4th quartile individuates a greater need. Beyond the sectors that may differ according to national regulations and legislation, it is worrying that in countries where GPP is mandatory for all tenders (Italy) or for some sectors (Greece and Croatia), it is reported that it has never been applied in tenders. The problem also exists for other countries that are supposed to meet targets, because, according to the answers, the targets seem not to be met. Actually, there are quite precise explanations for this kind of distortion, but they will be provided in the conclusions.

Table 4: Have you ever applied this procedure in your Organization? If yes, in which sector?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
UPatras			X	
TSL				X
IrRa			X	

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
DDIP ZDC				X
BSC Kranj				
MedCities	X			
STRATA			X	
REAN			X	

Table 5 shows the answer to the question no. 5: "*In your opinion what effect has on a public budget the GPP?*". In this case, The interesting aspect is that all partners, while claiming to be unfamiliar with GPP, are convinced that its use brings benefits to the public budget. This finding is important because, as we will elaborate later, there are important conditions for this assertion to be valid in the medium/long term.

Table 5: In your opinion what effect has on a public budget the GPP?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras				X
TSL				X
IrRa				X
DDIP ZDC				X
BSC Kranj				
MedCities			X	
STRATA			X	
REAN			X	

In the case of question no. 6 (*Which is your level of knowledge / familiarity with the Green Public Procurement criteria?*), there are no particular deviations: the low awareness of GPP is also reflected in the reduced knowledge of GPP criteria. If anything, the survey shows that even in the absence of in-depth knowledge for Green Public Procurement, there is a clear

awareness that the procedures follow central government guidelines on the criteria; otherwise, the answers would not fall in the third quartile but in the fourth.

Table 6: Which is your level of knowledge / familiarity with the Green Public Procurement criteria?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras			X	
TSL			X	
IrRa			X	
DDIP ZDC		X		
BSC Kranj		X		
MedCities		X		
STRATA				X
REAN		X		

On the contrary, table 7 (Question no. 7: *Do you apply them in your organization?*) highlights the scarcity of GPP criteria implementation in local public administrations. It is in this area that the survey leaves doubts, not so much on the respondents' declaration as on the correspondence with the actual application of GPP within local authorities. As previously stated in the commentary to table number 3, the interpretation of this probable bias is postponed to the conclusions.

Table 7: Do you apply them in your organization?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
UPatras			X	
TSL			X	
IrRa				X

DDIP ZDC				X
BSC Kranj				
MedCities		X		
STRATA			X	
REAN			X	

Table 8 classifies question 14 (*Do you know the Do No Significant Harm (DNSH) principle?*) introduces innovative aspects that were not present in the 2 previous projects (GRASPINNO and PROMINENT MED). The introduction of DNSH into the project seeks to update EU environmental policies in the light of the latest legislation and financial instruments. This type of analysis stems from a real need of entities that, especially in Italy, have found themselves in difficulty in applying the environmental standards required by the Recovery and Resilience Facility. This happened because in this country GPP is mandatory for all contracts of the and often overlapped with the DNSH principle. The application of GPP criteria can ensure compliance with the DNSH requirement, especially in the case of the basic principle (Regime 2), while in some cases this may not be sufficient to ensure a substantial contribution (so-called Regime 1, when the planned intervention contributes substantially to at least one of the DNSH environmental objectives). As a consequence of this, there is a greater knowledge of DNSH in the answers of the Italian partners, who consequently occupy the first quartile.

Table 8: do you know the Do No Significant Harm (DNSH) principle?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni	X			
UPatras			X	
TSL	X			
IrRa		X		
DDIP ZDC				X
BSC Kranj				X
MedCities		X		
STRATA			X	
REAN		X		

The results of question no. 15 (Do you know how the Do No Significant Harm (DNSH) principle integrates with the GPP criteria?), represented in table 9, shows a general difficulty among respondents regarding the knowledge of the procedures necessary to integrate GPP with DNSH, even if the table shows that Croatian administrations, like the Italian ones, seem to be more aware on average of the fact that GPP and DNSH complement each other.

Table 9: Do you know how the Do No Significant Harm (DNSH) principle integrates with the GPP criteria?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras				X
TSL			X	
IrRa				X
DDIP ZDC				X
BSC Kranj				X
MedCities				
STRATA			X	
REAN		X		

2.3 ANALYSIS OF SESSION II (PPI)

What was done in Session I on GPP was also repeated in Session II on PPI. Table no. 10 assesses the question no. 1 (Which is your level of knowledge / familiarity with the Public Procurement of Innovation (PPI)?) summarises the level of knowledge of PPI among the partners. As before, the fourth quartile groups together the greatest need for information and training on the topic. The results do not substantially differ from those of the GPP but, in this case, there is the mitigating factor that in all analysed countries, except Spain, the official definition of PPI in the national legislative framework is missing even if all national legislations allow for the potential application of many some concepts underlying PPI.

Table 10: Which is your level of knowledge / familiarity with the Public Procurement of Innovation (PPI)?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
UPatras			X	
TSL				X
IrRa			X	
DDIP ZDC				X
BSC Kranj				X
MedCities			X	
STRATA		X		
REAN			X	

In such a defined context it was obvious that also PPI application was poor in all countries as described in table 11 (question 3). Public administrations that state that they have never applied PPI are grouped in the 4th quartile.

Table 11: Have you ever applied this procedure in your Organization?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras				X

TSL				X
IrRa				
DDIP ZDC				X
BSC Kranj				
MedCities				X
STRATA			X	
REAN				X

The answers to question 5 on the presence of funding for PP are represented in Table 12 did not differ from the answers to the previous questions on PPI. The knowledge of specific financial funds for PPI is scarce.

Table 12: Do you know if there are financial or other incentives for public procurers to implement PPI in your Region?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras				X
TSL				X
IrRa				
DDIP ZDC				X
BSC Kranj				
MedCities				
STRATA				X
REAN				X

A different situation is represented in table 13 in which the classification of the answers for question 6 on the presence of a regulation of intellectual property rights between public entities and economic operators in PPI is quite varied. The question is important because extremely innovative procedures are being investigated that could create problems for

property rights issues. In this case, possible activities should be defined on a case-by-case basis.

Table 13: In your legal system is the intellectual property rights between public entities and economic operators in PPI regulated?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras			X	
TSL		X		
IrRa				X
DDIP ZDC			X	
BSC Kranj				X
MedCities		X		
STRATA		X		
REAN				X

The analysis of the following questions is very interesting because it allows interpretations to be given to previously given answers also for GPP. Question 9 is one of them and tries to detect attempts at risk-taking in procurement procedures. Risk-taking is especially important when implementing innovative procedures that are quite different and more complicated than standard procedures. The answers lie somewhat in all quartiles. There are administrations that tend to risk litigation the most (first quartile) to end up in the fourth quartile where civil servants are not very willing to take risks.

Table 14: Have you ever made an attempt to take these risks into account throughout the project?:

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni	X			
UPatras				X
TSL		X		

IrRa		X		
DDIP ZDC				X
BSC Kranj				
MedCities				
STRATA		X		
REAN			X	

Another crucial question is number 10 on the use of Life Cycle Costing and greenhouse gas emissions as selection criteria in tenders. The importance of this methodology for evaluating offers is not a matter of debate; PROCURAMED inherits from GRASPINNO a simulation tool (LCC calculation which also includes an estimate of the CO2 emitted) to provide greater mastery to those who want to use it as a selection criterion in tenders but also to those who offer products and services (providers). Without specific training, it is not easy to use this tool in procurement and the legislative choice at European and national level (for example in Italy) to suggest the use of the LCC but not to oblige its use is one of the reasons why we find a good part of the responses from the PAs of the project partners are in the fourth quartile where those considering the use of this evaluation methodology in tenders are grouped. This point will however be explored further in the conclusions.

Table 15: Acquisition costs - Do you take into account tools to evaluate LCC and CO2 emissions in order to make a sounder, more efficient purchasing decision?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras				X
TSL				X
IrRa		X		
DDIP ZDC				X
BSC Kranj				X
MedCities			X	
STRATA			X	
REAN				X

Also very interesting is question 13 which more closely concerns the PPI which provides procedures that consider the possibility of involving end-users and stakeholders in the procedures to offer more "personalised" goods or services. The question asks whether end-users and stakeholders have been involved in the preparation of the tenders in the past and the relevant table shows a good part of the responses of the partners in the third and fourth quartile in which little or no involvement of these categories is declared.

Table 16: Have you ever involved end-users and other stakeholders within the organization in the preparation of a tendering process?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras			X	
TSL				X
IrRa				X
DDIP ZDC			X	
BSC Kranj				X
MedCities				
STRATA				X
REAN		X		

Very indicative for the analysis is table 17 which classifies the answers to question 16 on the use of criteria for the formulation of the most economically advantageous offer (MEAT) in the preparation of tenders. This concept is fundamental to both GPP and PPI. All forms of innovative procurement that are not based on the lowest price are based on this concept. Compared to the LCC which is however a particular form of MEAT, the most economically advantageous offer has now entered into common use for tendering, so much so that the responses of a good part of the partners ended up in the first and second quartile.

Table 17: Question 16: How often do you use the MEAT criteria in your tendering?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
UPatras		X		
TSL	X			
IrRa		X		
DDIP ZDC		X		
BSC Kranj	X			
MedCities			X	
STRATA			X	
REAN			X	

Question 18 on the possession of management, technical and legal capabilities in tendering offices also has a significant impact on the analysis. The difficulties in the approach also derive from the contingent condition of many public administrations in the Mediterranean area. Understaffing and the progressive degradation of skills is an extremely significant problem. However, it will be addressed in more detail in the conclusions. The presence of a large number of partners in the third or fourth quartile, indicating the lack of qualified personnel, is extremely significant.

Table 18: Do you have the appropriate project management, technical and legal skills in your project team?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras			X	
TSL				X
IrRa				X
DDIP ZDC		X		
BSC Kranj				X

MedCities			X	
STRATA		X		
REAN			X	

The next question (Question 19: *Did you ever consider bringing in external expertise to fill any skills' gaps?*) is complementary to the previous number 18 and is also quite relevant for the interpretation of the data and, consequently, the understanding of the behaviors indicated in the answers and for the effectiveness of the possible actions by the PROCURAMED partnership. At the moment, a good part of the responses from the PAs interviewed by the partners are recorded in the fourth quartile which groups together the respondents who would hire external expertise to carry out core public administration activities. Can we consider this a good solution? We will also address this issue in the chapter on conclusions.

Table 19: Did you ever consider bringing in external expertise to fill any skills' gaps?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras				X
TSL				X
IrRa		X		
DDIP ZDC				X
BSC Kranj			X	
MedCities			X	
STRATA		X		
REAN			X	

3. KNOWLEDGE AND USE OF GPP AND PPI AMONG PROVIDERS

3.1 GENERAL INFORMATION

As done previously for public administrations, this present chapter analyses the answers received from suppliers in the PROCURAMED partners' territories to detect knowledge and awareness for Green Public Procurement (GPP) and Public Procurement of Innovation (PPI) among suppliers. If GPP and PPI are recognised as drivers for innovation and sustainability in EU and Mediterranean territories, then it is desirable that more local enterprises participate in tenders. The participation of local companies is an indicator of sustainable and competitive local production systems. Consequently, the presence of GPP and PPI tenders alone does not guarantee sustainable development of the territory if local enterprises do not participate. The general aim of the report is to highlight weaknesses and encourage local companies to participate, thus making public procurement more SME-friendly, expanding the potential market of suppliers and increasing the range of proposed solutions. The methodology of analysis is very similar to that adopted for public administrations; in general, responses are classified into quartiles with the intention of grouping in quartile 3 or 4 what is interpreted as a knowledge or information deficit on which to base the action of partners in support of local stakeholders..

3.2 ANALYSIS OF SESSION I (GPP)

This section starts similarly to how the section on PA started by asking in the first question the level of knowledge of GPP. Already from the first question, however, we immediately see differences: the knowledge of Green Public Procurement among companies is apparently higher than that of PA. The discrepancy can be interpreted and the explanation will be given in detail later in the conclusions. For now, the important thing is to note the issue from a statistical point of view.

Table 20: Question 1 - Which is your level of knowledge / familiarity with the Green Public Procurement procedure (GPP)?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras		X		
TSL		X		

IrRa				X
DDIP ZDC	X			
BSC Kranj		X		
MedCities		X		
STRATA		X		
REAN		X		

The discrepancy noted in the above table is smaller for question 3 where companies are asked whether they operate within the GPP framework by submitting Most Economically Advantageous Tenders (MEAT). In reality, if one is familiar with the definitions one understands very well that when implementing a GPP procedure one is submitting a MEAT. The Most Economically Advantageous Tender is intended to reward tenders, not only from an economic point of view (which is given less weight), but above all from a technical-quality point of view, i.e. the same as a GPP procedure.

Table 21: Question 3 - Does your company work in the framework of Green Public Procurement (GPP) submitting a Most Economically Advantageous Tender - MEAT?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
UPatras			X	
TSL			X	
IrRa				X
DDIP ZDC		X		
BSC Kranj		X		
MedCities				X
STRATA			X	
REAN	X			

In Table 22, the discrepancy is also smaller; however, knowledge of GPP criteria is always higher for companies than for PAs. The differences, however, become less pronounced

because it is one thing to declare a generic knowledge, another to operate in compliance with precise criteria. In the end, only those companies that carry out GPP tenders (a minority) are familiar with the GPP criteria.

Table 22: question 4 - Which is your level of knowledge / familiarity with the Green Public Procurement criteria?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
UPatras		X		
TSL		X		
IrRa				X
DDIP ZDC	X			
BSC Kranj			X	
MedCities			X	
STRATA	X			
REAN			X	

Supporting the observation in table 22 is the subsequent table 23 on question 5 which asked whether the GPP criteria were applied in their organisation. The distribution of answers is very similar in both tables: the criteria are well known by those who apply them.

Table 23: Question 5 - Do you apply them in your organization?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni			X	
UPatras			X	
TSL		X		
IrRa				X
DDIP ZDC		X		
BSC Kranj			X	
MedCities		X		

STRATA			X	
REAN			X	

In Table 24, which ranks the answers to question 8 on the knowledge of Life Cycle Costing, it is evident, again, that companies have a clear understanding of the concept.

Table 24: Question 8 - Do you know what Life Cycle Cost is?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni	X			
UPatras	X			
TSL	X			
IrRa	X			
DDIP ZDC	X			
BSC Kranj		X		
MedCities	X			
STRATA				
REAN		X		

Compared to the previous question, question 9 is not surprising in terms of results. LCC is a well-known concept but only a fraction of companies apply it in their organisation. The reason is simple: LCC is a medium to long-term instrument and companies for contingent reasons operate in the short term scenario.

Table 25: Question 9 - Have you ever applied Life Cycle Costing in your Organization?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras				X
TSL				X
IrRa		X		
DDIP ZDC				X
BSC Kranj				X
MedCities				
STRATA		X		
REAN	X			

More surprising is the lack of interest of companies in the circular economy. By now, the topic of waste recycling has become part of everyday business life. It is also true that the circular economy is a topic more limited to manufacturing companies and concerns fewer product suppliers, installers and those who simply offer services.

Table 26: Question 12 - Is your company interested in investing and applying a circular economy model?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras			X	
TSL			X	
IrRa				X
DDIP ZDC		X		
BSC Kranj			X	
MedCities			X	
STRATA			X	
REAN		X		

Also in table 27, which classifies the answers to question 13 on the knowledge of the DNSH principle, no particular differences with the public administration can be seen: the topic is fairly well known and of interest.

Table 27: Question 13: Do you know the Do No Significant Harm (DNSH) principle? If yes, what is according to your opinion the average level of application in the public tenders?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras			X	
TSL	X			
IrRa	X			
DDIP ZDC				X
BSC Kranj		X		
MedCities		X		
STRATA				X
REAN		X		

In analogy with what was done for the public administration, question 14 was asked if the interviewees knew how the DNSH integrates with the GPP. The response was completely similar: integration is an aspect that is still not well understood and which should be conveyed with a specific training action.

Table 28: Question 14 - Do you know how the Do No Significant Harm (DNSH) principle integrates with the GPP criteria?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras				X
TSL		X		
IrRa				X
DDIP ZDC				X
BSC Kranj				X
MedCities				
STRATA				X
REAN	X			

3.3 ANALYSIS OF SESSION II

Session II for providers starts with question 1 on the level of knowledge of the Public Procurement of Innovation. There is clearly a greater variety of distribution but also better knowledge (quartiles 1 and 2). Note the ranking of MedCities in the first quartile, which may also be the result of the legislative action of the Spanish government, which is the only area among the partner territories to officially introduce a definition for PPI.

Table 29: Question 1 - Which is your level of knowledge / familiarity with the Public Procurement of Innovation (PPI)?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras			X	
TSL		X		
IrRa				X
DDIP ZDC		X		
BSC Kranj		X		
MedCities	X			
STRATA		X		
REAN			X	

Question 3 shows that what was written for the previous question is no coincidence that, whenpartners asked to declare whether they have participated in a tender with this type of procedure in the past, only MedCities respondents declared having done so. Table 30 clearly shows this aspect.

Table 30: Question 3 - Have you ever taken part in a public tender with this procedure?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni				X
UPatras				X
TSL				X
IrRa				X

DDIP ZDC				X
BSC Kranj				X
MedCities	X			
STRATA			X	
REAN				X

As we can see in the table that groups together the answers to question 6, the knowledge of a regulatory system for the issue of property rights between public bodies and private operators is quite differentiated. It must be said that the issue of protecting property rights is not trivial, especially for companies that intend to participate in these tenders.

Table 31: Question 6: In your legal system is the intellectual property rights between public entities and economic operators in PPI regulated?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni	X			
UPatras			X	
TSL		X		
IrRa			X	
DDIP ZDC				X
BSC Kranj			X	
MedCities	X			
STRATA			X	
REAN				X

Also interesting is table 32 which shows the distribution of responses regarding the implementation of innovative solutions for goods and services. Also in this case the distribution is differentiated but nevertheless demonstrates that companies are on average more innovative than Public Administrations and are more inclined to offer less standardized solutions.

Table 32: Question 7 - Implementation of innovative solutions - Have you implemented or are you implementing innovative solutions, such as goods or services?

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni		X		
UPatras			X	
TSL			X	
IrRa		X		
DDIP ZDC				X
BSC Kranj				X
MedCities	X			
STRATA				
REAN		X		

Another interesting aspect of the questionnaires was highlighted with question 9 which asked for the place of participation in the competition. In table 33 the responses were classified based on the distance from their headquarters. This means that in quartile 1 the responses of companies that operate more remotely (at a national or foreign level) ended up, while in the subsequent quartiles those that operate more at a regional level ended up. As before, the right-hand quartile location in the table identifies a lack or need that needs to be "corrected." In these cases, the support action of the partners should be aimed more at supporting local companies so that they participate more in tenders even outside their own region.

Table 33: Question 9 - Place of participation in tenders

Partner	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Narni	X			
UPatras			X	
TSL		X		
IrRa	X			
DDIP ZDC		X		

BSC Kranj		X		
MedCities		X		
STRATA				
REAN	X			

Table 34 has a different structure and analysis methodology. Question 14 asked you to indicate what the major difficulties are in tendering. In this case, grouping the frequencies in the responses of all partners made no sense; each partner should adopt its own strategy based on local needs. The most frequent responses of each partner have been placed in the table. This should indicate the most suitable strategy for each partner.

Table 34: Question 14: Main difficulties in tendering

Partner / Difficulties	Narni	UPatras	TSL	IrRa	DDIP ZDC	BSC Kranj	MedCities	STRATA	REAN
Finding interesting tenders						X	X		
Using public procurement platforms	X								X
Communicating with the public sector									
Institutionalized discrimination									
Lack of guidance, advice or support				X					
Cost of compiling a tender									
The timescale for preparing appropriate documentation / tender			X		X				X
Organizational capability / lack of internal resources		X							

Meeting financial capacity request									
Requirements of financial guarantees									
Requirements of previous experience									
Obstacles hampering collaboration with other / set up of consortia									
Difficulty of being competent									
None of the above									
Other									

4. CONCLUSIONS

One of the most striking aspects of the survey on strategic procurement is the lack of knowledge and declared use of some strategic procurement procedures, which in some cases is not justified and there is likely to be a bias in the analysis. This is the case, for example, of Green Public Procurement and its criteria; in fact, in Italy it is compulsory for all contracts and in Greece and Croatia it is mandatory for some sectors. The probability that GPP is not applied (non-compliance with the rules) is very low; it could happen at the beginning when the regulations came into force or now in some sectors where implementation may be difficult but this case is rather remote. Probably, there are other explanations for this 'strangeness':

1. In the survey GPP criteria use is concentrated in the renewable energy and refurbishment sectors while, for example, it is almost absent in the computer, paper and cleaning products purchase is a first clue that leads us to reflect. In some countries, such as Italy and Greece, the purchase of computers and paper follow mandatory GPP criteria In Italy and Greece,so it is practically impossible that they are not applied.. In Italy, for instance, this is explainable with the work done by CONSIP (the national purchasing centre) that prepares GPP tenders on MEPA (Public Administration Electronic Marketplace) where Public Administrations can purchase directly. In several cases, it prevents small municipalities from preparing GPP tenders. Consequently, small public entities purchase products on MEPA with GPP procedure without knowing it.

2. The fact that GPP is mandatory in many or all sectors does not automatically mean that GPP criteria can be applied. In almost all countries, criteria are elaborated at national level, if governments do not elaborate specific criteria for sectors obliged to GPP procedures, the application of Green Public Procurement remains only an intent. For example, in Italy minimum environmental criteria for the design and execution of construction, maintenance and upgrading of road infrastructure came into force in August 2024. Among the analysed countries, only in Cyprus have the EU GPP criteria been transposed into national legislation; the other countries adopt national criteria.

3. The intensive use of external experts for the processing of complex tenders such as energy efficiency in buildings. The reason why in many countries the preparation of tenders is outsourced is the result of the strong reduction in expenses due to the control of public debt. In the survey in many areas of the partner countries the lack of staff with the professional skills capable of dealing with the complexity of some procurement procedures and the preference to outsource the tendering activity is stated.

At this point a dilemma also arises for the PROCURAMED partnership: what is the reference target for any training/information action? Should we address the retraining of internal staff or should we turn to external consultants? There are two aspects to consider when making

this type of choice; the first refers to the costs of outsourcing the tender implementation activity which will certainly have a high cost. The second concerns the decision, especially for innovative procedures, such as PPI, to take a risk. The survey data shows it clearly; some administrations are willing to take the risk, others are more hesitant. If you want to apply innovative procedures there are two paths: either we make the procedures mandatory or we find a way to manage the risk externally because public administration staff are normally sensitive to risk; keep in mind that innovation in a sector such as procurement is particularly risky in terms of litigation.

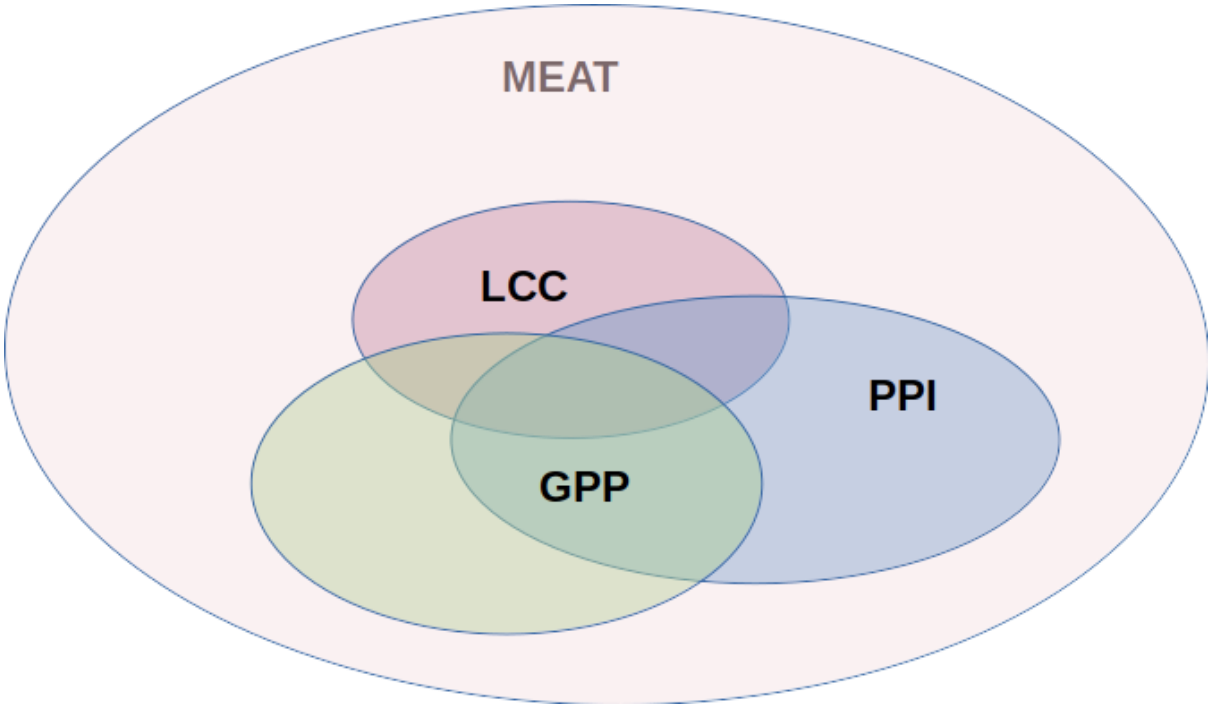
The obligations can increase the use of certain procedures such as the GPP and the PPI but this does not imply that their application brings the hoped-for benefits in terms of sustainability of the local economy and public budget especially if this application is separated from an evaluation system such as the Life Cycle Cost (LCC). Although the European and national legislators have suggested the use of the LCC as an evaluation criterion for the Most Economically Advantageous Offer, its application, unlike the GPP, remains only optional. GRASPINNO has clearly shown the superiority of this evaluation methodology for the Most Economically Advantageous Tender compared to others because it is the only one, among those usually used, that is not discretionary but has objective values deriving from existing technology and the reference market for the goods or services offered. In other words, with the LCC the well-known problem of decoupling between economy and environment is resolved because this instrument indicates which environmental solutions are for specific technologies and markets compatible with medium-long term economic development. The same type of approach also applies to the effects of strategic procurement on the public budget in the medium/long term; with the LCC the effect on the public budget is clear and unequivocal because this tool takes into account all possible costs in addition to the price. In this case, the information activity that the PROCURAMED project can undertake should not be directed exclusively at local stakeholders (companies or municipalities) but should also involve higher levels of government so that choices are made that require a higher quality of public procurement.

Another problem that can be noted from the analysis is the difficulty in understanding that many of the concepts of strategic procurement are common even if a distinction is made between GPP and PPI. In the survey a large percentage of public administrations state that they often use the Most Economically Advantageous Tender (MEAT) criterion; MEAT is only a tender in which the price is one of the components that determine the selection process. Consequently, also PPI and GPP are a subgroup of MEAT and considering that the public administrations surveyed claim to use MEAT a lot and GPP ePPI a little we should ask what alternative criteria are used... There may be an underestimation of green and innovative procurement due to an unclear definition of some concepts.

Moreover, in some countries, the differences between GPP and PPI are minimal because the national legislation has introduced specific procedures. For example, in a country like Italy, the implementation of PPI cannot ignore GPP because the latter is a legislative obligation. The same applies in those countries such as Greece and Croatia for those sectors

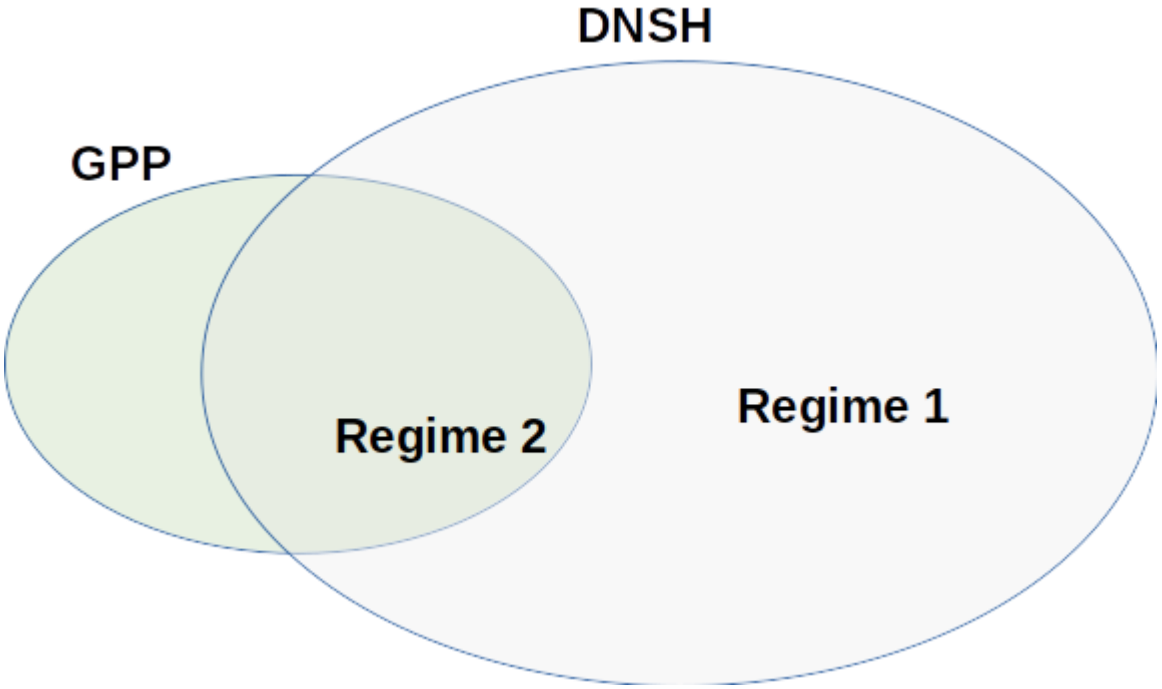
where GPP is mandatory. In addition, the fact that many countries still lack an official definition of PPI should be considered. As highlighted in figure 1, when we talk about strategic procurement we are discussing procedures, concepts and tools that are highly correlated. For this, a project like PROCURAMED which creates a unique guided path for the implementation of strategic procurement is exactly what is needed.

Figura 1: overlapping concepts in public procurement



PROCURAMED fits into a context in which legislative stratification is evident; there is a clear need to simplify or standardize overlapping approaches that create difficulties among stakeholders. This phenomenon has worsened, especially in Italy, in applying the environmental standards required by the Recovery and Resilience Facility because, as written previously, GPP is mandatory for all contracts of the and often overlapped with the DNSH principle. The application of GPP criteria can ensure compliance with the DNSH requirement, especially in the case of the basic principle (Regime 2), while in some cases this may not be sufficient to ensure a substantial contribution (so-called Regime 1, when the planned intervention contributes substantially to at least one of the DNSH environmental objectives); also in this specific case, there is space for PROCURAMED's information/training action aimed at compliance with new environmental criteria.

Figura 2: interaction between GPP and DNSH



Last but not least is the participation of local companies in strategic public procurement tenders. The survey shows a greater awareness of companies for environmental and innovative issues also because the participation of suppliers in tenders is not limited to a specific public body. In some countries, the action of companies transcends the region of origin and this is an indicator of the strength of the local economic system. The presence of local companies in tenders is absolutely necessary from a sustainable development perspective. Public procurement should be seen as supporting the local economy but also the spending capacity of the public administration. After all, companies and the on-site workers of companies are the financiers of local authorities through tax revenues. If companies come from other territories, the tax revenue will be reduced. Consequently, PROCURAMED should focus its training/information efforts on the elimination of obstacles to the participation of local small and medium-sized enterprises. The survey also focused on this aspect and the action should be customised according to the responses received from each individual partner.

ANNEX II: Adaptation of PPI application guidelines according with the results of background analysis in each transfer country

ProcuraMED

Innovative and Green Procurement towards sustainable economy in MED area Euro-MED0200775

D.1.1.1 Strategic Procurement Unified Platform

WP1 - Strategic Procurement to accelerate technology transfer of green innovations
Activity 1.1 - Integration and development of Strategic Procurement Unified Platform

" Adaptation of PPI application guidelines according with the results of background analysis in each transfer country"

ProcuraMED | Interreg Euro-MED | Co-funded by the European Union

Content

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1. INTRODUCTION

The European Commission has identified Strategic Procurement as a crucial element in guiding Europe's transition toward an innovative and sustainable economy. In line with this vision, the ProcuraMED project has been established to accelerate the adoption of advanced green technologies and innovation capacities in the Mediterranean region. By promoting the use of Green Public Procurement (GPP) and Public Procurement of Innovation (PPI), ProcuraMED facilitates the integration of green innovations into public services, thus fostering competitive, sustainable, and resilient ecosystems.

To achieve these goals, ProcuraMED engages a wide range of stakeholders, including local, regional, and national public authorities, SMEs, business support organizations, research institutions, and sectoral agencies. Through activities such as awareness-raising, capacity building, skills development, and knowledge transfer, these groups are empowered to increase their expertise in strategic procurement procedures and adopt specialized tools.

Central to these efforts is **Activity 1.1 - Integration and Development of the Strategic Procurement Unified Platform**.
This activity focuses on merging the GPP Unified Platform, developed under the GRASPINNO project, with the guidelines, examples, documentation, and best practices on PPI from the PROMINENT MED project.
Specifically, PROMINENT MED played a key role in promoting PPI by developing and testing approaches in small municipalities across four Mediterranean countries—Italy, Spain, Portugal, and Croatia—and producing comprehensive guidelines translated into English and French. These guidelines were further adapted by PROMINENT PLUS to suit the legal and social contexts of Slovenia, Greece, and Bosnia.
Meanwhile, GRASPINNO, implemented in eight Mediterranean countries, created the GPP Unified Platform, which includes:

- eGPP: assisting public authorities in designing green procurement processes by collecting green specifications and preparing tender documents.
- Life Cycle Costing (LCC): Allowing public authorities to assess all cost parameters for proposed solutions, such as lifetime, maintenance, energy performance, and disposal/resale.
- Best Available Technology (BAT) database: Provides a repository of green products and services, and in parallel a pool of SMEs and public authorities interested in GPP.

Before the integration of the tool, the framework conditions for the use of green and innovative tenders in the transfer countries were analysed, and the guidelines for the application of GPP and PPI were adapted according to the results of the context analysis in each transfer country.

The result is a Strategic Procurement Unified Platform - key deliverable of ProcuraMED - designed to be widely applicable across the Euro-MED cooperation area. It consolidates the results of the previous projects into one tool, offering all the necessary information, guidelines and support tools for both GPP and PPI. The platform is available since December 2024 and will be continuously updated and integrated throughout the duration of the project.

This document reports on the adaptation of the PPI guidelines according to the context analysis in each transfer country, represents a significant development and consolidation of PROMINENT MED's methods and practices, linking the results of the previous project to the ProcuraMED framework.

2. PUBLIC PROCUREMENT OF INNOVATION

The total value of public procurement in the EU representing about 19% of European GDP. The improvement of public infrastructures (such as buildings and roads) represents a large percentage of this value. Indeed, managing public buildings represents a core task among municipalities and other local authorities.

Implementing the public procurement of innovation (PPI) in public authorities, such as municipalities, can be a challenging but rewarding process. PPI is a method of sourcing and procuring innovative goods, services, and solutions from the private sector in order to address public sector needs. By leveraging the expertise and creativity of the private sector, PPI can help small local public authorities to tackle complex problems and deliver better outcomes for their citizens.

However, there are several practical challenges that local public authorities may face when implementing PPI. One of the main challenges is a lack of in-house expertise and resources. PPI can be a complex and time-consuming process, requiring specialized knowledge and skills in areas such as innovation management, procurement, and intellectual property. Local public authorities may struggle to find the necessary resources to effectively manage PPI projects, particularly if they have limited staff or budget.

Another challenge is the risk of failure. PPI involves procuring innovative solutions that have not yet been fully developed or tested, which can increase the risk of failure. This can be particularly difficult for local public authorities, which may have limited resources to absorb the costs of a failed project. In order to mitigate this risk, it is important for local public authorities to carefully assess the feasibility and potential impact of PPI projects, and to establish clear performance measures and evaluation criteria.

Another practical challenge for small local public authorities is the lack of supplier engagement. Many small businesses and start-ups may be reluctant to participate in PPI projects, due to the perceived risk and complexity of working with the public sector. It is important for local public authorities to communicate the benefits of PPI to potential suppliers and to make the process as simple and straightforward as possible. This may involve providing training and support to suppliers, as well as ensuring that the procurement process is transparent and fair.

Finally, local public authorities may face challenges in terms of stakeholder buy-in and support. PPI can be a disruptive and transformative process, and it is important to engage with key stakeholders and involve them in the decision-making process. This can help to build support and buy-in for PPI projects and ensure that they align with the needs and priorities of the local community.

In conclusion, implementing the public procurement of innovation in local public authorities can be a challenging but rewarding process. By addressing the practical challenges outlined above, local public authorities can effectively leverage the expertise and creativity of the private sector to deliver better outcomes for their citizens.

3. WHY AND HOW TO “PPI”?

With PPI, a public authority acts “as an early adopter and buys a product, service or process that is new to the market and contains substantially novel characteristics” (European Commission, 2018b: 8). In sectors where public authorities are frequently the first users, it is also important to show to innovative enterprises that the public demand for innovation exists.

PPI deals with the promotion of innovative solutions. Defining innovation is frequently problematic for municipalities. Thus, it is important to understand that innovation does not have to be radical. Adopting radical innovation would be too risky and not fit the expectations of public authorities. Municipalities don't need to look out for solutions that does not exist yet. They can buy solutions available on the market but not widely adapted and containing novel characteristics. The novelty can be based on the combination of existing products, services and materials. Have this in mind – hence your mind will be opened for PPI and your wishes will not be limited by excessive demands.

How to conduct PPI in a credible way

The credibility regarding the efficiency of public procurement is hindered by at least next barriers:

- **The capability gap:** it is recognised that public authorities lack expertise and experience with complex purchases. There is frequently a gap between the capabilities held by these public authorities and the skills required for procuring innovative solutions. There is frequently nobody at municipal level with enough knowledge to assess, propose and decide on actions in the energy field. Consequently, municipalities are mainly risk-averse and tend to secure reliable procurement outcome. Criteria such as delivery period and price become priority when awarding contracts for equipment or renovating public buildings. "The economically most advantageous tender" is rarely promoted.
- **Price rather than quality:** there is frequently nobody at municipal level with sufficient knowledge to assess, propose and decide on actions in the energy field. Due to this lack of knowledge on energy issues, aspects such as delivery period and price becomes priority when awarding contracts for equipment or renovating public buildings. This fact is even stronger for small municipalities that suffers from a lack of financial and human resources to promote "the economically most advantageous tender".
- ·Excessive detailed specifications: the disallowance of variants, the lack of openness to unsolicited ideas and over prescriptive specifications block the creativity of potential suppliers.
- **The difficulty to attract external consultants:** the lack of internal competences could be overcome by hiring external expertise. However, municipalities are reluctant to buy immaterial services and private consultants prefer to work with large organisations and large cities that have larger resources. Moreover, their offers are frequently standardised and not adapted to actors with limited resources.
- **The difficulty to attract large market players:** municipalities have limited resources and are overlooked by most suppliers and contractors who focus on large markets. Consequently, call for tenders tend to attract less candidates. However, this element is not systematically a disadvantage if municipalities are able to demonstrate that they are opened to innovative solutions and do not favour contracts with established and large firms that provide them with more technical and financial guarantees.

SMEs/start-ups can bring new ideas and provide opportunities in terms of innovation, competitiveness, environmental impact and local employment (Clement et al., 2016). They usually lack references. They just want to increase the marketability of their new product(s)/service(s). They have also less experience with public procurement but are looking for credibility. PPI launched by municipalities could represent this opportunity. Moreover, the bureaucratic process that scare SMEs is also easier within municipalities.

Thus, small municipalities can have advantages over larger city councils or organisations when it comes to innovation. Their size means that they are more agile. It is easier to take decisions and to respond to innovation opportunities. Organizational 'silos' that characterize large organisation and prevent communication and cooperation between departments, do not exist in such extent in municipalities.

4. STRUCTURE OF THE GUIDELINE

The objective of this guideline is to:
• offer practical step by step introduction into PPI process by an exemplary approach
• provide a basic framework for public procurers who lack experience and would like to develop their first PPI process.
Most guidelines are general and comprehensive and often consisting of many toolkits, and as such are not convenient for direct use by the procurers. They demand previous studying tasks and demand deep understanding, if not experience, of various procurement procedures and situations. This guideline, on contrary, contains simplified step-by-step learning process with simple and practical collection of appendices consisting of a set of document tools to use.
As mentioned, this guideline follows a step-by-step approach that goes from preparation and planning to the selection and evaluation of the tenders. The processes not included in this guideline are details of procurement procedures defined by national legislation of each country and contracting which is the last stage of a procurement procedure. The step-by-step approach will focus on next:
• Preparation and planning
• Market engagement
• Selection and implementation of the procedure
• Selection, evaluation and notification of the tenders

The key issues associated to each of these stages will be presented (table 1).

Table 1: The four public procurement of innovation stages

	Preparation and planning	**Market engagement**	**Selection and implementation of the procurement procedure**	**Selection and evaluation**
Key issues	Needs identification	Market analysis	Analysis of the procedures	Award criteria
	Creation of the project team	Preliminary market consultation	Dialogue with the economic operators	
	Definition of specification			

5. THE COUNTRY LEGISLATION SPECIFICS

Public purchasing bodies must consider the national regulatory framework before starting the Public Procurement of Innovation (PPI) process. The national regulatory framework is a set of laws, rules, and guidelines that govern public procurement processes, including PPI. In order to ensure that PPI processes are carried out in a fair, transparent, and efficient manner, it is essential that public purchasing bodies take the national regulatory framework into account.
One of the key aspects of the national regulatory framework that public purchasing bodies must consider is the procurement rules and procedures that apply to PPI. These rules and procedures govern the selection of suppliers, the evaluation of tenders, and the award of contracts. For example, public purchasing bodies may need to conduct market

consultations, publish procurement notices, or use electronic procurement systems to ensure that all suppliers have equal opportunities to participate in the PPI process.
Another important aspect of the national regulatory framework that public purchasing bodies must consider is the legal and ethical requirements that apply to public procurement. For example, public purchasing bodies must ensure that all procurement processes are carried out in accordance with the principle of non-discrimination, and that suppliers are treated fairly and impartially. Public purchasing bodies must also ensure that they do not engage in anti-competitive behaviour, such as colluding with suppliers, or using discriminatory tender specifications.
Additionally, public purchasing bodies must consider any specific regulations or guidelines that apply to PPI. For example, some countries may have specific regulations or guidelines that govern the procurement of innovative products, services, or solutions. These regulations and guidelines may cover areas such as the evaluation of innovation, the selection of suppliers, and the award of contracts. Public purchasing bodies must ensure that they are aware of these regulations and guidelines, and that they comply with them when carrying out PPI processes.
This is why this document contains description of country legislation specifics which must be followed during the preparation and conduction of PPI.

6. COMMON EXPERIENCES WITH PPI PHASES

STEP 1: PREPARATION AND PLANNING

5.4 Needs identification

Needs identification (the problem to solve) constitutes the base of PPI. This stage offers the opportunity to public buyers to reconsider their approach. Instead of replacing their outdated equipment with the most up to date one and renewing their expired service contract, they must identify the function which is missing to carry out their activity.

Identifying the needs starts with a discussion with end-users who are best placed to pinpoint the inefficiencies of the service/process that is delivered. Involving the end-user is important for the future implementation and acceptation of the future solution. The end-users and people working for the contracting authority contribute to define the scope of the project and avoid purchasing needless equipment or services. However, involving them is quite complex since they have seldom any technical competences. Discussion with the end-users must be systematic.

For instance, organize focus groups where each group had to give answers based on previously prepared questions. End-users are free to propose their ideas. All answers must be documented and compiled. Focus groups can consist of end-users, important stakeholders who make decisions or take care over finances, or sometimes even citizens of the municipality can be consulted.

Needs identification is a process during which end-users, stakeholders and their realistic needs are identified and put in a specific context without specifying a particular solution. It consists of many different actions and tasks, depending on the general problem that had to be addressed or discovered. These are:

- Appointing **the manager** of PPI process who can **bypass hierarchies** of public institutions involved in a process.
- Detecting, discussing and involving **local end-users** in discovering current **inefficiencies** and their **ideas**.

- Identifying end-users who are representatives of a **larger market** in the region (see capitalization, down under *Market sounding*).
- Identifying **stakeholders** and **involving them** in decision making process.
- Defining needs **without specifying a solution**, which means either defining the functions which are missing in current solutions or making a descriptive requirements.
- **Transcribing** defined needs into Output Based Requirements.
- **Transcribing** defined needs into wider technical specifications.

Needs identification require some time, but the discussions strengthen the links between the stakeholders of the projects.

5.5 Creation of the project team

Among the stakeholders, it is crucial to identify the actors who will compose the project team. The efficiency of this managerial approach relies on:

- The appointment of a PPI project manager who will bypass traditional hierarchies and services with different targets. For example, the renovation of a school may involve several departments (education, building construction, maintenance and operation, urban, financial, public procurement, etc.) who pursue frequently contradictory objectives. Consequently, the PPI project manager must belong to the contracting public authority and be recognised for its experience and expertise.
- The gathering of experts with complementary competencies. There is frequently a gap between the capabilities held by public authorities and the skills required for procuring innovative solutions. There is no need to gather specific competence when procuring off-the-shelf goods while greater competences are required when procuring innovative solutions (Yeow et al., 2015). To overcome this barrier, it is central to enrol experts specialised in the subjects connected with the procurement. In the field of PPI, subjects are frequently new. Consequently, relying exclusively on internal employees may jeopardise the success of the preparation phase.
    - External experts are usually better placed to deal with the complexity attached to PPI. They usually act as facilitators and intermediaries between public bodies and innovative SMEs which often do not work together. This issue is particularly central for small municipalities who have limited human resources.
- The definition of the roles and responsibilities of the members of the project team for a better coordination: the public demand is frequently fragmented. This is due to lack of coordination among functional departments that buy goods or services separately. This reduces the purchasing power and the impact on the market of public authority (Yeow et al., 2015). This poor intra-organisational interaction can hamper the decision process and the relationships with the suppliers. The lack of coordination before the call is a problem for the buying organisation during the procurement process which may require new organisational routines.

The creation of a strong project team is a key to the success of building renovation project. Internally, it is important to identify the person who can lead the project and speak in the name of municipal stakeholders. Moreover, if PPI is a new approach, it requires to receive the **assistance of local and national experts (consultants, academic researchers…)**. These “brokers” act as intermediaries between public bodies and suppliers. This technical

and legal support is essential to face the technical and administrative issues linked to the PPI. These experts contribute to the diffusion of a new procurement culture.

The creation of the project team appears even more sensitive for small municipalities which are characterised by a lack of internal staff with relevant qualifications. Thus, there is a need to firstly identify the key people who may be involved in the project and the professional ability which are missing. External resources must be hired to compensate this gap. Hiring external expertise is also complex because most consultancy firms prefer to work with large municipalities resources and tend to propose standardised services.

The teams can consist of, but is not limited to:

- Public procurers
- Internal technical and/or policy experts
- Stakeholders which will use the result of the procurement process
- Representatives of certain academic fields
- External procurement experts
- External technical and/or policy experts
- Mayor and councillors.

5.6 Definition of specifications

The technical specifications are essential for the success of the procurement since they provide economic operators who intend to prepare a tender, the information they need to participate.

The European Commission distinguishes three main types of specifications:

1. "*The input-based specification is a series of instructions on how to execute a determined task*." In this situation, the public buyer describes the detailed solutions that he expects. The economic operators who will answer to the tender will not have any incentive to propose a solution that exceeds the minimum requirements set by descriptive technical specifications. Indeed, this solution would probably be more expensive. Thus, they will propose less innovative solutions that fit the minimum requirements and have better chance of success.
2. "*The output-based specification focuses on the desired outputs or deliverables in business terms, rather than on detailed technical specifications of how the outputs are to be provided*."
3. "*The outcome-based (or result-based) specification (…) is a description of a need and a statement of expected benefits rather than a description of inputs and deliverables*."

   In these last two cases, the public buyer does not bear the responsibility for the quality and performance levels. It is the responsibility of the economic operator to reach a better performance. To be successful, the public buyer must have a good knowledge of the market potential.

An **outcome-based specification focus** is central for the success of PPI to promote innovative solutions. Most procurers consider that they know their needs. Thus, to get the best from the market, they tend follow traditional prescriptive approaches, where the subject matter of the contract is described, specified and procured, resulting in service, supply or work with an implicit set of attributes. Under these circumstances, there is no possibility for suppliers to propose innovative solutions with good value for money for public authorities.

For instance, outcome-based specifications can be specified as:

- minimise waste and consider the life cycle of the installation
- energy performance requirements must achieve nZEB standard
- use natural, recycled and sustainable materials wherever possible
- works to be completed in specific timeframe and with specific constraints regarding the place of contract realisation
- increase the daylight illumination within interior spaces.

STEP 2: MARKET ENGAGEMENT

The **market engagement** is really the cornerstone of PPI. It allows contracting authorities to adapt their ambitions to the reality of the market and to avoid unsuccessful call for tenders.

The market engagement stage comes once public procurers have identified their needs. It is used to inform economic operators about the forthcoming procurement but also to examine whether the needs previously identified can be fulfilled by the market. The aim is to go away from the routine while most procurements are perfunctorily procured. "*Market engagement breaks down barriers between customers and suppliers to the benefit of all concerned"* (Whyles, 2018).

The market engagement stage comes also just before the procurement procedure. It helps to prepare it. It is a way to examine the market acceptance of the contractual conditions envisaged during the procurement. The information obtained during the exchanges with the supply chain and influences the choice of the procedure. For example, if no solution is available on the market, investments in R&D through Pre-Commercial Procurement or innovation partnership may be explored.

Most barriers during the market engagement are caused by the **lack of knowledge and skills** of public authorities and economic operators. It is necessary to spend time to explain suppliers the specificities of this approach. Hiring external consultants appears positive to bring complementary competencies and reduce the capability gap.

5.7 Market analysis

Public authorities rarely understand the organisation of the supply chain for an innovative solution. The market analysis aims at circumventing this limit and providing public authorities with a good knowledge and understanding of the potential solutions available on the market to satisfy their needs. It allows public authorities to obtain information on the key suppliers, the maturity and capability of the market, the prices.

The market analysis strongly depends on the fragmentation of the market. In oligopoly situations, it is easy to identify all the suppliers. Conversely, when markets are fragmented, it is almost impossible to identify all the competing companies. For example, in every country the number of energy suppliers is very limited while the suppliers of energy audit are infinite. In such situation public authorities do not need to identify all suppliers. A market analysis based on a representative sample of the market provide reliable information on the current technologies, the market trends and the pricing practices. This analysis does not require to meet suppliers. Professional websites, press publications, trade associations, internal departments dealing with the issue are the main sources of

information (European Commission, 2018a). At this stage, there is no need to meet the suppliers.

For instance, the team can carry out a very precise market analysis which can be considered as a model, focusing on preferred problem to be solved. Public and private entities such as clusters of companies, professional associations, technological platforms can be contacted. With such detailed market analysis, the municipality can get very good understanding the potential solutions available on the market to satisfy its needs.

5.8 Preliminary market consultation

Market engagement is considered by most public authorities as new and many of them do not use this possibility because they fear to distort competition and to violate the principles of non-discrimination and transparency. However, the role of market engagement is not to distort the rules of the game but to break down barriers between public procurers and suppliers to the benefit of all concerned.

Preliminary market consultation is even recognised and encouraged in legal documents. The European Directive on public procurement (2014/24/EU) clearly mentions preliminary market consultation in its article 40: "*Before launching a procurement procedure, contracting authorities may conduct market consultations with a view to preparing the procurement and informing economic operators of their procurement plans and requirements*." The information provided during the exchanges between the market and the public authorities must be available to all economic operators in order to avoid providing anybody with an unfair advantage or disadvantage.

These consultations:

- *"Brings the supply-side perspectives to a procurement process*
- *Gives the supply chain advance information about forthcoming procurements (suppliers need time to innovate)*
- *Tests the reaction of the market to a proposed requirement*
- *Helps you to design an effective pro-innovation procurement approach*
- *Provides invaluable insights to potential suppliers – helps them to differentiate their offering on factors other than price*
- *Reduces the risks borne by the suppliers and convinces them that this is something worth investing in"* (Whyles, 2018)[1].

Public authorities must convince suppliers that their demand is credible to attract them. It can be demonstrated through several ways (Whyles, 2018):

- The demand must be genuine;
- The organisation must be committed, professional and thoughtful;
- The public authority must demonstrate suppliers that the market could be wider. Indeed, implementing the innovative solutions may be complex and time consuming. However, if the solutions can be duplicated, then the investment may be worth it.

[1] A large part of this section is based on the international webinar organised by CSTB in February 2018 with Gaynor Whyles, a leading European expert on innovation procurement, as the main speaker in this workshop.

A wide range of tools can be used by contracting authorities to communicate with the markets: a market sounding prospectus to assess the reaction of the market to a proposed requirement, prior information notice (PIN), webpages, site visits and market consultation workshop.

Municipalities must ensure **equality of treatment among all interested suppliers** and keep the principles of **transparency and confidentiality**. This issue is also very important during procurement procedure leading to a discussion with the bidders (a competitive procedure with negotiation or a competitive dialogue).

5.9 A collection of tools to use in the process

All below mentioned tools can be find at the end of this guideline as practical appendices.

Prior information notice without call for competition is an official procurement tool and can be published in national public procurement platform (or official journal), and in Tenders Electronic Daily. The PIN must be published between 35 days and 12 months prior to the publication of the contract notice or invitation to candidates. This way the procurer signalises to the market the seriousness of the intention.

The Market Sounding Prospectus can be published simultaneously with the PIN or just right after. The aim is to provide advance information of requirements and open a dialogue with the supply chain. It is used to indicate that the result of the process will be used to inform and develop the procurement specification and strategy to later carry out the tendering process for the requested solution and works. The prospectus also explains suppliers that they are expected to equally participate and express their interest and is an opportunity for potential suppliers to inform the municipality of the options and solutions available to address introduced challenge. This is and was by far the most important document in the whole PPI process and you need to **invest the maximum effort to produce it**. If you do that for the first time, you will definitely need an experienced external PPI or market consultant.

Webpages: The project team can launch a specific pilot project web page (or sub-webpage), containing all technical and legal information concerning the current knowledge of the problem to be solved. This is a helpful way to keep suppliers up to date and engaged.

Questions and Answers: Potential suppliers can also be invited to ask questions by sending an e-mail to the public authorities. Answered questions must be regularly collated and published (without the suppliers' details) on a public website to assure the transparency and equality in the suppliers' playground.

Expressions of Interest is a market response form and a part of market sounding exercise aimed to provide advance information of requirements and open a dialogue with the supply chain. Suppliers can be invited to fill out an Expressions of Interest Form (Market Response Form) which starts the market research and dialog with potential suppliers. Expressions of Interest / a survey must be carefully and thoughtfully designed.

Site Visits: The municipality can organise site visits to enable suppliers to examine the location of the problem, if such a subject exists.

A Market Consultation Workshop is warmly advised. It is an opportunity to meet with all the potential suppliers, and for suppliers to meet other suppliers and eventually connect to make joint ventures. Moreover, suppliers who never experienced PPI, can ask questions about the procurement approach. For public authorities, it is the opportunity to explain the challenges of the project and discover the technological solutions available on the market to address the challenge. It allows them to assess the reaction of the market and to get an idea of perceived barriers. After this stage, they can consider changing or reducing the

ambition of the project if they realise that their aspirations are too big, or not adequate. The suppliers who participated must receive a report on the results of the workshop.

With all these actions the municipality can show suppliers that there is an opportunity to develop and/or test new products, services or processes within the planned project and later capitalise the effort on the market. For example, the designed solutions may be applicable not only to the specific problem, but also to similar problems and in many other municipalities.

With all these approach the municipality builds a **credibility** toward potential suppliers by discovering and documenting **how they could capitalize** their developed solutions(s) on a sufficient number of similar projects in the region.

STEP 3: SELECTION AND IMPLEMENTATION OF THE PROCUREMENT PROCEDURE

After the successful open market consultation, the municipality can define the content of tender documentation. This includes next steps:

- Defining **final innovative specifications** and especially the **award criteria** for innovation selection.
- Choosing the most appropriate **type of tender procedure**, defined by each national public procurement act, either the Open Procedure, the Competitive Procedure with Negotiation or the Competitive Dialogue.
- Drafting the **contract** to be later signed between selected bidder and client.

The choice of the procurement procedure for PPI strongly depends on the former market analysis which provides the procuring authority with information on the structure of the market and solutions available on the market, the definition of specification and the time and resources available for the procurement.

Besides this, it is of big importance to define technology neutral specifications. For the practical example of technology neutral specifications, please see the appendix **Technology neutral specification**.

Next table shows how the different steps are interacting with each other. Once the needs have been identified, the question is to know whether a solution exists on the market to satisfy these needs. Then the choice of the relevant procedure depends on the ability of the contracting authority to establish technical specifications with sufficient precision.

Table 2: Factors influencing the selection of the procedure

<table>
<tr><td colspan="5">Sufficient knowledge of the market to define requirements for end-solutions?</td></tr>
<tr><td colspan="2">Yes</td><td colspan="3">No</td></tr>
<tr><td colspan="2"></td><td colspan="3">Preliminary market consultation</td></tr>
<tr><td colspan="5">Need R&D services prior to procurement?</td></tr>
<tr><td colspan="2">Yes</td><td colspan="3">No</td></tr>
<tr><td colspan="2">Do you wish to acquire innovative products or services on a commercial scale, as part of the same procedure?</td><td colspan="3">Can a specification of the end products/services to be procured be developed?</td></tr>
<tr><td>Yes</td><td>No</td><td>Yes</td><td>Yes</td><td>No</td></tr>
</table>

Innovation Partnership	Pre-commercial procurement	Open procedure	Competitive procedure with negotiation	Competitive dialogue
Levels of competition or time/ resources inadequate for above procedures? **Consider joint procurement or, in exceptional cases only, derogation from the directives**				

Source: Adapted from Semple, 2014

5.10 Analysis of the procedure

The choice of the procedure strongly depends on the ability of the contracting authority to specify the end product / service. Adopting procedures that lead to a discussion with the bidders (a competitive procedure with negotiation or a competitive dialogue) can only be done under specific circumstances (Directive 2014/24/EU of the European Parliament and of the Council on public procurement – article 26):

i. *"the needs of the contracting authority cannot be met without adaptation of readily available solutions;*
ii. *they include design or innovative solutions;*
iii. *the contract cannot be awarded without prior negotiations because of specific circumstances related to the nature, the complexity or the legal and financial makeup or because of the risks attaching to them;*
iv. *the technical specifications cannot be established with sufficient precision by the contracting authority with reference to a standard, European Technical Assessment, common technical specification or technical reference within the meaning of points 2 to 5 of Annex VII."*

Finally, when an open or restricted procedure has attracted only irregular or unacceptable tenders, contracting authorities may apply a competitive procedure with negotiation or a competitive dialogue.

Both procedures are adapted to procure works, supplies or services which include innovative solutions. However, the competitive dialogue is favoured when *"matters such as technical specifications and price levels can be defined during the dialogue rather than being predetermined*" (Hoezen et al, 2010: 1178). Conversely, with the competitive procedure with negotiations, the characteristics of the goods or services can be specified in advance of the competition. The negotiation focuses more on the way the solutions are implemented.

The competitive procedure with negotiation and the competitive dialogue are regularly mentioned as the two solutions to procure innovation. This is true that the dialogue and the negotiations with the economic operators tend to enhance the quality of the offers. However, when contracting authorities involve a lot of resources in preliminary market consultation to understand which solutions are available on the market, they become also more able to define the terms of reference in details. Then, the open procedure which is **less time consuming and requires less technical competences**, may become the best option.

Moreover, in some very specific situation needs identification and market engagement may have led to a perfect understanding of the technical specifications and the price levels proposed by the market. This situation results from extensive market research, discussions with suppliers and contractors during workshop, etc. In such a situation, the technological

solutions and the prices can be described before the beginning of the tender process. Consequently, **the open procedure** becomes adapted.

Moreover, below European thresholds, different procedures can be used for the award of certain works, supply and service contracts. The thresholds of the contracts depend on the subject of the purchase, and who is making the purchase. When the monetary value of the tenders exceeds a certain amount, the EU rules apply while for tenders of lower value national rules with the respect of the general principles of EU law apply. The aim is to ensure that the award of contracts of higher value is equitable, transparent and non-discriminatory.

Among these procedures, the competitive dialogue is particularly adapted for complex projects. The reward can be high when the candidates are willing to fully participate in the dialogue. However, public authorities must be aware that this complexity requires a high level of expertise and is time consuming. According to the European Commission (2018, 44)), "*a high level of technical expertise on the subject matter is necessary in-house for the contracting authority to carry out the procedure with the best chances of success and to be able to hold the dialogue with the selected candidates*."

For small municipalities, open procedures or other national procedures may be more adapted since transaction and organisation costs linked to the competitive dialogue are usually quite high.

5.11 Dialogue with the economic operators

The lack of interaction between procurers and suppliers is frequently perceived as a barrier to innovation since procurer supplier interaction is a major source of innovation. "*Interaction in procurement can create an environment of trust that reduces opportunism, the need for costly monitoring and general transaction costs associated with exchange in instances where there is information asymmetry*" (Uyarra et al., p.633, 2014).

With the competitive procedure with negotiation and the competitive dialogue, parties start to exchange during the procurement stage while in traditional public procurement, they start to know each other after the awarding of the contract. These discussions lead to a better understanding of a project. And contribute to the implementation of customised solutions.

During the dialogue, the selected candidates must benefit from an equal treatment. During a competitive procedure with negotiation, minimum requirements and award criteria cannot be the subject of any negotiations.

The municipality can go for competitive procedure with negotiation, for example. In such case, it is necessary to perform good preliminary market consultation and produce sufficient data to prepare a first set of technical specification to launch a competitive dialogue with negotiation. After economic operators manifest an interest, the municipality narrows selection and invite selected ones to submit offers. Offers are then evaluated by a technical commission, which assign them a score according to the criteria set out in the invitation letter.

Subsequently, the municipality met the competitors separately, establishing a constructive comparison with them in which the needs of the authority are highlighted, in order to improve the offer. Finally, competitors are invited (second invitation letter) to reformulate the offer which is again evaluated by the municipality by following the award criteria. The contract is awarded to the competitor proposing the most economically advantageous offer.

STEP 4: SELECTION AND EVALUATION: THE AWARD CRITERIA

Integrating innovation requirements in the award criteria of tenders is a necessity in PPI. The shift from input to outcome implies this change. This is the only way to attract innovative suppliers who will otherwise consider that contracting authorities tend to select firms on price rather than quality. Suppliers are stimulated when the award criteria integrate innovation requirements (Edler et al, 2011).

The European Commission (2018a) distinguishes three types of criteria to choose the winning tender: 1/ *Exclusion grounds;* 2/ *Selection criteria;* 3/ *Award criteria.*

Most selection criteria relate to:

a) "*suitability to pursue the professional activity;*
b) *economic and financial standing;*
c) *technical and professional ability*" (Article 58 of the European Directive of 26 February 2014).

The last criterion aims at checking that the candidates have the appropriate human resources (e.g. qualified and experienced employees) to execute the works and / or provide the service.

For example, the municipality can ask bidders to prove recent experiences in subject matter, professional competency (relevant qualification and experience of project team), full civil liability insurance coverage, and solvency (economic viability, good standing with public administration).

With PPI, the works and the services provided are not standardised. Thus, award criteria cannot be based on the "lowest price". They must promote the "economically most advantageous tender". It is usually better to mix quantitative (e.g., maintenance costs, life cycle costing, net present value of the energy cost savings during the contract – energy simulations may be used to judge the proposed solutions) and qualitative criteria (e.g. quality of the action plan, compatibility of the innovative solution with existing systems, ease of installation…). Award criteria must be weighted in order to get the select the approach that offers the best value over the lifespan of the contract. These award criteria cannot be amended during the procurement process.

For the practical example of award criteria, please see the appendix **Award criteria**.

7. APPLICABILITY OF PPI IN THE MED COUNTRIES:

7.1 ITALY

This chapter provides an overview of the national context of PPI in Italy, highlighting the main legal frameworks, institutional actors and economic factors that influence its implementation, also according to the analysis of the background conditions carried out with the questionnaires in the first semester of the ProcuraMED project.

In the Italian context, PPI is recognised as a strategic tool to address societal challenges, improve the delivery of public services and stimulate innovation in different sectors. The Italian government has established frameworks and guidelines to promote the adoption of innovative solutions through public procurement.

In Italy, these procedures are regulated by the Public Procurement Code (**Legislative Decree 36/2023**).
The **relevant articles** regulating innovative procurement in this Code (Legislative Decree 36/2023) are the following:

- **Article 73 - Competitive procedure with negotiation:** Allows for negotiations with tenderers to refine technical solutions or economic conditions according to innovative requirements.
- **Article 74- Competitive dialogue**: Provides for a dialogue phase between the administration and economic operators to develop tailor-made innovative solutions to complex problems.
- **Article 75 - Innovation Partnership**: Allows cooperation between the administration and economic operators for the development and subsequent purchase of innovative products, services or works.
- **Article 92 - Award criteria:** Promotes the use of the criterion of the most economically advantageous tender, with a focus on quality, innovation and sustainability.

7.1.2 PROCEDURE

Following the report outlines the definition and key phases of the Public Procurement of Innovation (PPI) procedure in Italy, highlighting legislative references at each stage to ensure compliance and alignment with national and EU directives.
Innovative public procurement is a tool adopted by public administrations to:

- Stimulate research and development of innovative solutions.
- Address public needs not yet met by the market.
- Promote innovation and technology transfer, while also supporting the competitiveness of economic operators.

The main procedures available include:

1. **Innovation Partnership**: Involves a progressive collaboration between the administration and the operator to develop and implement innovative solutions.
2. **Competitive Dialogue**: Used when the need is complex and requires co-designing specific solutions.
3. **Competitive Procedure with Negotiation**: Allows negotiation with economic operators to optimize technical and economic proposals, maintaining a degree of flexibility.
4. **Innovation Procurement**: A specific tool for acquiring innovative solutions that include a research and development component.

The Operational Steps for Conducting an Innovative Procurement are:

Phase 1: Analysis and Planning (Legislative Decree 50 2016 transposing the directives was repealed and replaced by Legislative Decree 36.2023.

1. Identifying the Need:

- Identify a complex or unmet public need.
- Engage stakeholders to understand and define the needs.

Legislative References:

> EU Directive 2014/24/EU on public procurement, Article 18 (General Principles).
> National procurement law (e.g., Italian Public Procurement Code, Legislative Decree 50/2016, Articles 29-31 on planning and programming).

2. Market Analysis:

- Verify the absence of existing solutions.
- Conduct preliminary market consultations or a Request for Information (RFI).

Legislative References:

> EU Directive 2014/24/EU, Article 40 (Preliminary Market Consultations).
> Legislative Decree 50/2016, Article 66 (Preliminary Consultation of the Market).

3. Strategic Planning:

- Include the procurement in the three-year acquisition plan.
- Assess resources and potential funding sources (e.g., PNRR, Horizon Europe).

Legislative References:

> National procurement guidelines for three-year acquisition plans under Legislative Decree 50/2016, Article 21.
> EU funding rules (e.g., Regulation (EU) 2021/241 for the PNRR).

Phase 2: Preparation of the Tender

4. Defining Objectives:

- Draft a specification that outlines functional goals while leaving room for innovative solutions.

Legislative References:

> EU Directive 2014/24/EU, Article 67 (Contract Award Criteria).
> Legislative Decree 50/2016, Article 68 (Functional and Performance Requirements).

5. Selecting the Procedure:

- Innovation Partnership: To develop innovative solutions not available on the market.
- Competitive Dialogue: For complex needs requiring co-design of solutions.
- Competitive Procedure with Negotiation: When technical and economic details need to be negotiated for better proposals.
- Innovation Procurement: To acquire solutions requiring significant research and development activities.

Legislative References:

> Innovation Partnership: EU Directive 2014/24/EU, Article 31; Legislative Decree 50/2016, Article 65.
> Competitive Dialogue: EU Directive 2014/24/EU, Article 30; Legislative Decree 50/2016, Article 64.
> Competitive Procedure with Negotiation: EU Directive 2014/24/EU, Article 29; Legislative Decree 50/2016, Article 62.
> Innovation Procurement: Guidance from Horizon Europe Work Programme and national innovation procurement frameworks.

6. Setting Award Criteria:

Prioritize qualitative criteria that value innovation, sustainability, and social impact.
Use the most economically advantageous offer (MEAT) criterion.

Legislative References:

> EU Directive 2014/24/EU, Article 67 (Most Economically Advantageous Tender - MEAT).
> Legislative Decree 50/2016, Article 95 (Award Based on MEAT).

Phase 3: Publication and Selection

7. Publishing the Call for Tenders:

- Ensure maximum transparency and dissemination.

- Clearly highlight innovative objectives.
Legislative References:
> EU Directive 2014/24/EU, Articles 49-53 (Publication and Transparency Requirements).
> Legislative Decree 50/2016, Articles 72-73 (Public Notices and Calls for Tenders).

8. Evaluating Proposals:
- Analyze technical and economic offers based on established criteria.
- Involve sector experts for a qualified evaluation.
Legislative References:
> EU Directive 2014/24/EU, Article 67 (Evaluation Criteria).
> Legislative Decree 50/2016, Article 97 (Verification of Abnormally Low Tenders).

Phase 4: Development and Implementation
9. Collaboration for Development:
- With the innovation partnership, develop the solution in close collaboration with the economic operator.
- With the competitive procedure with negotiation, finalize technical and economic details before awarding.
Legislative References:
> Innovation Partnership: EU Directive 2014/24/EU, Article 31; Legislative Decree 50/2016, Article 65.
> Competitive Procedure with Negotiation: EU Directive 2014/24/EU, Article 29; Legislative Decree 50/2016, Article 62.

10. Monitoring and Experimentation:
- Verify the results of experimental solutions and make any necessary adjustments.
Legislative References:
> EU funding regulations for monitoring and reporting (e.g., PNRR Monitoring Guidelines).
> National rules on public contract management under Legislative Decree 50/2016, Articles 101-102.

Phase 5: Acquisition and Implementation
11. Final Awarding:
- Proceed with the acquisition of the developed or refined solution.
Legislative References:
> EU Directive 2014/24/EU, Article 67 (Award Criteria).
> Legislative Decree 50/2016, Article 33 (Final Award Procedures).

12. Operational Implementation:
- Integrate the solution into the administration's processes.
Legislative References:
> EU Directive 2014/24/EU, Article 70 (Contract Performance Conditions).
> Legislative Decree 50/2016, Articles 105-106 (Execution of Contracts).

13. Evaluation and Dissemination:
- Document the experience to promote replicability and the dissemination of best practices.
Legislative References:
> EU Directive 2014/24/EU, Article 83 (Performance Monitoring).
> National best practice dissemination guidelines under Legislative Decree 50/2016.

The Tools and Funding are:

- **Preliminary Market Consultations:** Useful for understanding available opportunities and encouraging participation.
- **National and European Funds:** Such as PNRR, Horizon Europe, and the Digital Europe Programme.
- **Technical Support:** Engage Consip, Invitalia, or other public entities for technical and operational assistance.

7.1.3 PPI CASE in ITALY

The Italian case study is selected from PROMINENT project. It was a pilot case for the refurbishment of a kindergarten "Gianni Rodari" hosting children from 6 to 36 months, parallel with earthquake-proof reinforcement of the building (1248 m^2); carried out for the municipality of **Narni** in Italy under the management of project partners **Municipality of Narni** (NARNI) and **Sviluppumbria** (SVIL).

Here are some specifics regarding some of PPI phases.

Phase: Needs identification

The Municipality of Narni was deeply affected by the earthquake of October 2016, in particular some school buildings needed to be reinforced also according with the seismic resilience parameter updated after the earthquake.

Starting form the key needs identified by the municipality, it was organized a specific needs analysis involving the kindergarten users: child's parents, teachers, and other supportive and operative staff. The needs analysis was carried out through interviews and a focus group.

According with the structural check made after the earthquake the Kindergarten Gianni Rodari luckily was not damaged by the earthquake but its structure needed urgent reinforcement interventions.

Phase: Market sounding

The municipality have organized in collaboration with Sviluppumbria an Information Workshop opened to all the interested business actors at national level on October 25th 2017 in Terni. Besides that there was a lot of contacting national business and trade association, chambers of commerce and relevant European network such as Green Building Network.

Phase: Open market consultation

After the event a specific mailing was activated both to the workshop attendees and to all the other network and organizations contacted before the event. They were sending them the material and updating them constantly on the development of the procedure (PIN publication, launching of the Open Market Consulting, etc.).

The municipality of Narni published the PIN in November 2017 (http://ted.europa.eu/udl?uri=TED:NOTICE:471758-2017:TEXT:FR:HTML&src=0&tabId=1) and did a preliminary Open Market Consultation in February 2018.

Table 3: Italian case timeline

TASK	TIME / DEADLINE
Needs identification	
Needs identification	January – June 2017
Needs verification	June – July 2017
Feasibility analysis and concept viability	July 2017 – December 2017
Market engagement	
Market engagement start (information workshop on 25 October 2017)	October 2017
Prior information notice	3 November 2017
On-site Visits	November – March 2017
Expressions of Interest (response form)	November – March 2017
Market Consultation Workshop	20 April 2018

TASK	TIME / DEADLINE
Public procurement procedure	
Tender launch date (publication of notice for expression of interest)	05/02/2019
Invitation to participate in procedure 1st letter	18/04/2019
Invitation to participate in procedure 2nd letter	19/06/2019
Selection of the preferred bidder	July 2019
Contract signed	18 November 2019
Implementation of innovative solution	
Implementation of innovative works finalization	July 2020

7.1.4 CONCLUSION

Despite this progress, challenges such as bureaucratic complexity, limited awareness of the benefits of innovative procurement and resource constraints continue to affect the effectiveness of PPI in Italy. Efforts to overcome these barriers include capacity building programmes for public authorities and increased collaboration between the public and private sectors.

7.2 CROATIA

7.2.1 NATIONAL CONTEXT

As in most other EU member states, the application of PPI in Croatia is still limited. According to the European Commission's report on using public procurement strategically to stimulate innovation in the digital economy (2021), Croatia ranked 28th out of 30 countries analysed within the framework of public procurement policy for innovative solutions.

The public sector, using its purchasing power, acts as an "early adopter" of innovations, encouraging the development of new products and services, and especially providing opportunities for small and medium-sized enterprises to enhance their competitiveness. This approach focuses on defining needs rather than specifying detailed requirements, allowing space for innovative solutions.

Regional Energy Agency North from Croatia, as part of the **ProcuraMED project**, conducted a survey to assess the awareness and application of PPI among public procurers and the private sector in Croatia. The survey aimed to gain insights into the current level of knowledge, understanding and use of PPI practices within the country. The results highlight that, despite some recognition of its potential, PPI has not yet found its place in Croatia.

Below are the key results of the survey, which demonstrate the challenges and opportunities in he process of bringing PPI into the existing framework of public procurement in Croatia.

- The majority of public procurers (52,2%) believe their knowledge of PPI is at poor level and 95,7% procurers have never applied PPI in their organization.

- Also 87% of respondents are not informed about the existence of manual or guidelines for implementing PPI and 78,3% of respondents are not informed if there is financial or other incentives for public procurers to implement PPI in Croatia.

- In public purchasing institutions 82,6% respondents do not take into account tools to evaluate the life-cycle costs (LCC) and CO2 emissions of different technologies or solutions in order to make a sounder, more efficient purchasing decision.

- Majority of respondents (60,9%) do not have a competent person to set Most Economically Advantageous Tender (MEAT) criteria within their organization and 17,4% respondents do have an expert to define MEAT criteria in tendering process within their organization.
- The majority of respondents in economic sector (37,5%) believe their knowledge of PPI is at poor level and 81,3% respondents have never submitted an offer in PPI.

- In providers opinion, actions that can improve SMEs participation in tenders are: participating in training on tender preparation, B2B events with companies to form consortia, interacting with procurers at the start of the process, consulting services, discovery visits and more quality oriented public procurement versus price only criterion.

As stated in European Commission's Guidelines for Public Procurement of Innovative Solutions (2021), two concepts of public procurement of innovative solutions are introduced:

a) the subject of procurement is the innovation process – research and development services (**Public Procuremet of Innovation**).
b) the subject of procurement is the results of innovation (**Public Procurement of Innovative Solutions**).

Croatia does not have a dedicated national action plan specifically for PPI but it takes into account the regulations and directives at the EU level. However, innovation in public procurement is supported through various policies and initiatives. Some pilot projects and initiatives have been launched to explore and implement PPI. These projects often focus on specific sectors such as healthcare, IT, and energy.

In Croatia, public procurement is regulated by the Public Procurement Act. The Public Procurement Act incorporated the EU legal acquis into Croatian legislation (Directive 2014/24/EU on public procurement, Directive 2014/25/EU on procurement by entities operating in the water, energy, transport, and postal sectors).

Croatian **Public Procurement Act** defines innovation as the implementation of new or significantly improved products, services, or processes, aimed at addressing societal challenges and supporting the Europe 2020 strategy. Public procurement of innovative solutions is a strategic approach that seeks solutions that are not easily available on the market. Also, according to Croatian Public Procurement Act, a public procurer can use a partnership for innovation if there is a need for innovative goods, services, or works that cannot be met by procuring goods, services, or works already available on the market.

In **August 2024**, the Ministry of Economy of the Republic of Croatia adopted the **Manual on Public Procurement of Innovative Solutions**. The goal of this Manual is to provide public procurement bodies in Croatia with a practical, step-by-step guide for implementing public procurement procedures for innovative solutions. The Manual combines solid theoretical approaches, best practices, and concrete examples to facilitate this process.

7.2.2 PROCEDURE

The procedure for implementing PPI and the key steps are outlined in the Manual on Public Procurement of Innovative Solutions.

Key steps

The steps in planning and implementing public procurement of innovative solutions include several key stages:

1. **Identifying the need** - The first and most important step is clearly defining the problem or challenge that needs to be solved, based on data and information gathered from users and relevant stakeholders.
2. **Business plan and project mandate** - A business plan must be developed to justify the strategic importance of the project and secure the resources necessary for its implementation.
3. **Describing the need** - It is essential to document the challenges, desired outcomes, regulatory frameworks, and constraints that will help suppliers in developing appropriate solutions.
4. **Pre-market analysis** - Research existing solutions on the market, along with an assessment of procurement possibilities to increase the chances of project success.
5. **Market consultation** - During this stage, public procurers communicate with potential suppliers to gather information about available solutions and market reactions to the defined needs.

6. **Choosing the appropriate procurement procedure** - The selection of the most suitable procurement procedure, considering the availability of solutions, technological readiness, and project complexity.
7. **Preparing procurement documentation** - The preparation of tender conditions that allow innovative suppliers to participate in the process while providing flexibility in selecting solutions.
8. **Implementing the procurement procedure** - Clearly defining the criteria for evaluating offers and forming an expert committee to assess proposed solutions.
9. **Contract management and achieving results** - During this phase, it is essential to monitor contract implementation and manage relationships with suppliers to achieve the desired outcome.

Through this approach, public procurement of innovative solutions enables public organizations to leverage their purchasing power to address specific problems and stimulate the development of new market solutions, which can lead to job creation, cost savings, and increased competitiveness in the market.

Market Consultation

There are many forms of market consultation. Depending on the specific project, public procurers may use one form, several of them, or all.

1. **Seller Conference (Open Day)** is a strategic event through which the market is informed about upcoming public procurement opportunities. The purpose of the conference is to provide the market with an opportunity to prepare for the procurement process.
2. **Dialogue Conference** focuses on a specific procurement that is already partially prepared and aims to gather information from potential suppliers, experts in specific categories, organizations, and/or public bodies interested in the procurement.
3. **One-on-One Dialogue** by giving potential suppliers the opportunity to present their information and views without their competitors being present in the room, it allows them to be more open about their processes and products without fear that sensitive information will end up in the wrong hands.
4. **Request for Information (RFI)** is a quick and effective method of market consultation in which procurers publish certain procurement-related information along with a set of questions. This method can be used at any stage before the procurement process and can serve various purposes.
5. **Prior Information Notice (PIN)** is used to notify potential suppliers about an upcoming procurement. It allows potential suppliers to adequately prepare for the procurement process.
6. **Draft Tender Documentation Feedback**. When preparing draft procurement documentation, procurers publish all or certain documents to gather feedback before the final competition is announced. In this way, it is possible to ask the market to help correct mistakes and identify unintended limitations. Specifications are usually included in the draft documentation.

Procedures according to Public Procurement Act

It is possible to carry out PPI using all the procedures provided in the public procurement regulations, although some procedures may only be applicable to a specific type of public procurement of innovative solutions.

Most public procurement in Croatia is carried out through the open procedure. Although some public procurement of innovative solutions can be effectively conducted through well-designed open procedures using tools such as functional specifications and contract

terms favorable to innovation, the open procedure is, in most cases, not fully suitable for public procurement of innovative solutions. Moreover other procedures are more innovation-friendly.

1. **The open procedure** is suitable for procuring easily available products/services. It can foster incremental innovation in the market through the wide use of specifications based on operational performance and functional specifications. This procedure cannot be used to negotiate offers and the decision to award the contract must be based on the submitted offers without the possibility of negotiating improvements to the original proposal.

2. **In the restricted procedure**, any economic operator can submit a request to participate within the submission period as stated in the call for tenders. However, unlike the open procedure, only those invited have the right to submit a bid in the restricted procedure. Since the procedure is only open to a limited number of competitors, there is a significant risk of excluding proposals from suppliers who may have a different approach to solving the need. Therefore, the restricted procedure is not fully suitable for the procurement of innovative solutions.

3. **The competitive procedure with negotiation** is a flexible process that allows for negotiations based on the initial offers submitted. The competitive procedure with negotiation can be used for both incremental and radical innovations. The contracting authority must have a certain level of understanding of the work and function it wants to procure, but unlike the open and restricted procedures, it reserves the right to negotiate initial offers from suppliers in order to adjust the proposed solutions to its specific needs.

4. **Competitive dialogue** can be used for both incremental and radical innovations. In a competitive dialogue, the contracting authority has a need but less of a clear understanding of the solutions compared to the open procedure, restricted procedure, and competitive procedure with negotiation. The contribution of the market helps determine how the need will be best addressed and fulfilled. Through extensive dialogue with the market, the contracting authority can further refine and define the need.

5. **A design contest** is suitable for obtaining a plan or design for a need, for example, in areas such as urban planning, architecture, engineering, data processing, etc. A design contest cannot be used to purchase the innovation process. The contracting authority must initiate a separate procurement procedure to implement the solution that wins the contest. After that, the contracting authority is allowed to award the contract to the contest winner through a negotiated procedure without prior publication of a call for tenders, provided that it is a service contract and that this is indicated in the procurement documentation

6. **Pre-commercial procurement** is a model that uses an exception for the purchase of research and development services under Article 14 of Directive 2014/24/EU and Article 30, paragraph 1, point 17 of the Public Procurement Act 2016. Pre-commercial procurement is suitable when significant research and development is needed for the development of a new product or solution or for seeking a radical innovation. Pre-commercial procurement can only be used to purchase the innovation process—research and development services.

7. **Innovation partnership**. Unlike the two-step procedure, the contracting authority can award a contract for the purchase of the results of innovation to one or more partners without launching a separate procurement procedure. The contracting authority may begin the partnership with one or more partners. Innovation

partnerships are primarily used for radical innovations, although they can also be used for incremental innovations.

7.2.3 PPI CASE in CROATIA

The Croatian PPI case study is selected from PROMINENT project. This was pilot project for extensive energy efficient transformation of a prefabricated kindergarten building "Loptica" (820 m²); carried out for the city of **Koprivnica in Croatia** under the management of project partners **City of Koprivnica** and **Regional Energy Agency North**.

Here are some specifics regarding some of PPI phases.

Phase: Needs identification

The City and partners have thoroughly analysed the stakeholders' and user needs to determine demands and decided to choose a kindergarten building for the innovative pilot project.

Two separated focus groups of end users were involved in needs identification. One group consisted of kindergarten personnel and one group consisted of interested parents. Each group had to give answers based on previously prepared questions, and in second part end-users were free to propose their ideas.

Phase: Market sounding

The project team launched a bilingual pilot project web page, https://ppi.koprivnica.hr/en/ (English version), https://ppi.koprivnica.hr/ (Croatian version).

Prior information notice (without call for competition) has been published on March 16, 2018. Simultaneously with PIN the Market Sounding Prospectus has been also published. Technical documentation of the building for interested suppliers has also been published under the link http://ppi.koprivnica.hr/Dokumentacija/Kindergarten_Documentation.zip.

Phase: Open market consultation

Expressions of Interest, a part of open market consultation phase, aimed to provide advance information of requirements and open a dialogue with the supply chain. Croatia invited suppliers to fill out Expression of Interest Form (Market Response Form), available as a Google Form on web page, http://tiny.cc/eoi-eng.

Suppliers were able to provide their contact information and area of expertise that was published in the Suppliers' Directory located on project web site https://ppi.koprivnica.hr under CONNECT & COOPERATE OPPORTUNITIES (direct link http://ppi.koprivnica.hr/Dokumentacija/Pilot-Imenik_subjekata.pdf). In this way, all the suppliers had the possibility to become visible to other suppliers who were interested for this project and to made contact with each other.

The City of Koprivnica organised three site visits to enable suppliers to examine the pilot project location and building.

On April 25, 2018 the Market Consultation Workshop was held under the name "Innovative pilot project for extensive transformation of a prefabricated building", hosted by Croatian Chamber of Economy in Zagreb, Croatia and attended by 60 participants (project designers, suppliers, contractors, local authorities, educators/faculties, etc.).

Table 4: Croatian case timeline

TASK	TIME / DEADLINE
Needs identification	
Needs identification	January – August 2017

TASK	TIME / DEADLINE
Needs verification	September – October 2017
Feasibility analysis and concept viability	October 2017 – December 2018
Market engagement	
Market sounding	October 2017 – April 2018
Prior information notice	March 2018
On-site Visits (Koprivnica, Croatia)	March – June 2018
Expressions of Interest (response form)	March – June 2018
Market Consultation Workshop (Zagreb, Croatia)	25 April 2018
Public procurement procedure	
Tender launch date	31 January 2019
Invitation to participate in procedure	February 2019
Competitors' participation in procedure	March 2019
Selection of the preferred bidder	10 April 2019
Contracts placed for D&B approach	24 April 2019
Implementation of innovative solution	
General technical project designing	24 April 2019 – 10 Jun 2019
Innovative and transformation works (implementation of solution)	10 Jun 2019 – 31 August 2019

7.2.4 CONCLUSION

The application of PPI in Croatia is still in its early stages, facing several challenges. Despite the potential for PPI to encourage innovation and support the growth of small and medium-sized enterprises, it remains underutilized, with limited awareness and experience among public procurers. A survey conducted by the Regional Energy Agency North, within the ProcuraMED project, revealed a significant knowledge gap about PPI in Croatia, with most public procurers and private sector respondents acknowledging their limited understanding of PPI practices.

Challenges also include the perceived risk of procuring untested solutions and limited collaboration between public and private sectors. Public procurement often involves risk aversion, which can be a barrier to adopting innovative solutions, favoring established solutions over innovative, untested ones. This can limit the adoption of new technologies. The procurement process can be complex and bureaucratic, potentially hindering the efficient adoption of innovative solutions. The time required to navigate procurement procedures can delay the implementation of innovative technologies. These challenges also can impact the effectiveness and efficiency of adopting these practices. Public institutions may face budget limitations that make it challenging to prioritize green options, even when long-term savings and benefits are evident. Securing funding for innovative projects can be challenging, particularly for pilot projects or unproven technologies.

Despite these challenges, Croatia has made efforts to align its public procurement system with EU regulations. With continued efforts to raise awareness, enhance knowledge, and provide guidance for public procurers, Croatia could unlock the full potential of PPI in the future, contributing to the development of more efficient, sustainable, and competitive solutions in the public sector.

There is a need for greater awareness and training among procurement officials regarding both GPP and PPI. Encouraging collaboration between public sector entities, private companies, and research institutions also can foster a more innovative procurement environment and enhance the effectiveness of PPI and GPP in Croatia.

7.3 PORTUGAL

7.3.1 NATIONAL CONTEXT

Portugal ranks 20th out of 30 countries in the European benchmarking of national innovation procurement policy frameworks, with a score of 26.08%, an improvement from its previous 29th position with 8.8%. Despite this progress, Portugal remains below the European average (33.05%), with gaps in 8 out of 10 indicators. A stronger policy framework is needed, as Portugal has implemented only 26% of the measures required for a comprehensive innovation procurement framework.

The **National Smart Specialisation Strategy (NSSS) 2030** recognizes innovation procurement as key to advancing transformative activities in priority sectors, such as digital technologies, green transition, and climate change. However, only two of seven regional smart specialization strategies (Central and Madeira) emphasize innovation procurement.

Portugal's **Technological and Business Innovation Strategy 2018–2030** highlights public investments in R&D and collaboration between scientific and business sectors. While R&D and innovation policy are recognized, horizontal policies lack recognition of innovation procurement as strategically vital.

Other strategies, such as the **Digital Transformation of Public Administration 2021–2026** and the **National Artificial Intelligence Strategy AI Portugal 2030**, focus on digital transformation and AI adoption but do not explicitly promote innovation procurement as a tool to achieve their objectives. Advanced computing initiatives also lack explicit encouragement for public administrations to adopt innovation procurement.

Portugal's progress demonstrates potential, but significant gaps in policy adoption, regional implementation, and strategic alignment remain.

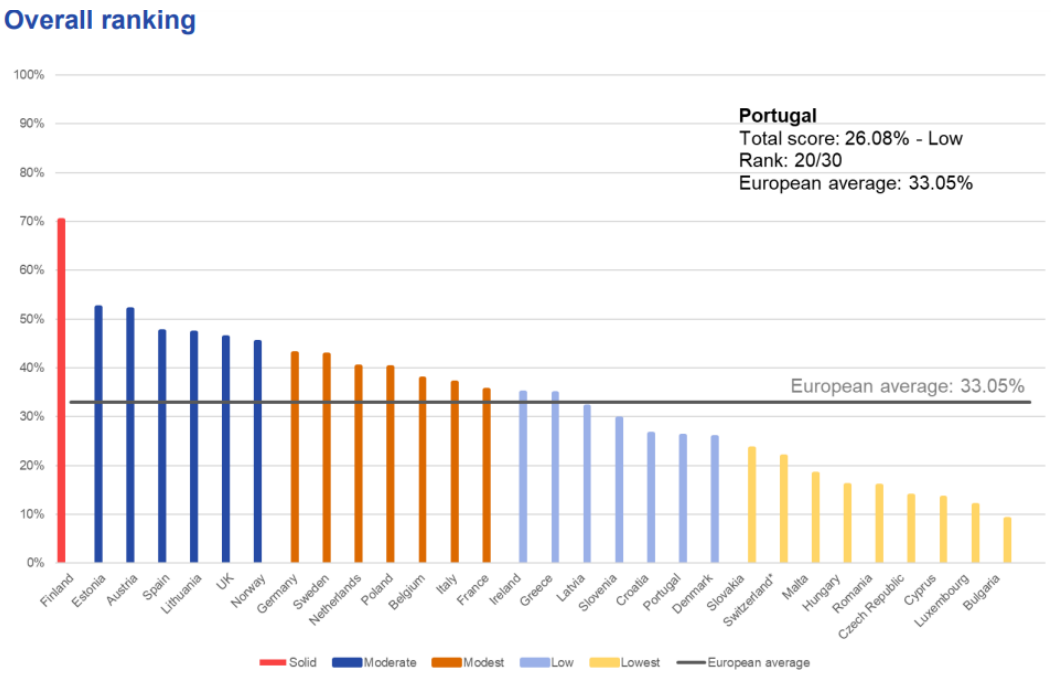

Figure 1 PPI European ranking. Source: Innovation Procurement Country report, European Comission 2024

On the other hand, according to the surveys performed in Portugal by the PROCURAMED project, the level of familiarity with PPI of public authorities is on average poor (60%) due to the lack of knowledge.

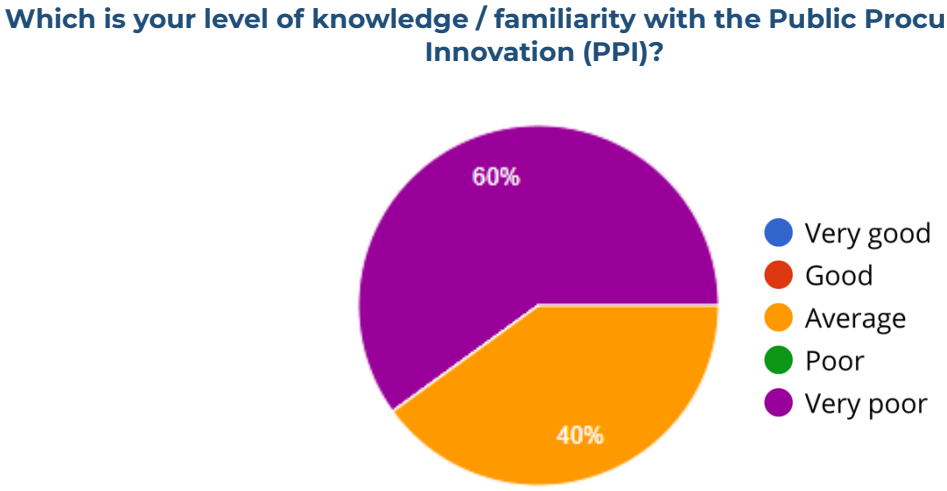

Figure 2 Public authorities Level of familiarity PPI.

Twenty percent of the participants reported that the Public Administration's legal system is regulated by intellectual property rights between public entities and economic operators in Public Procurement of Innovation (PPI).

The next figure illustrates the procedures used in Public Administration legal systems, with the open procedure and innovation partnership being the most popular.

In order to procure Innovation which of the below stated award procedures is used in your legal system

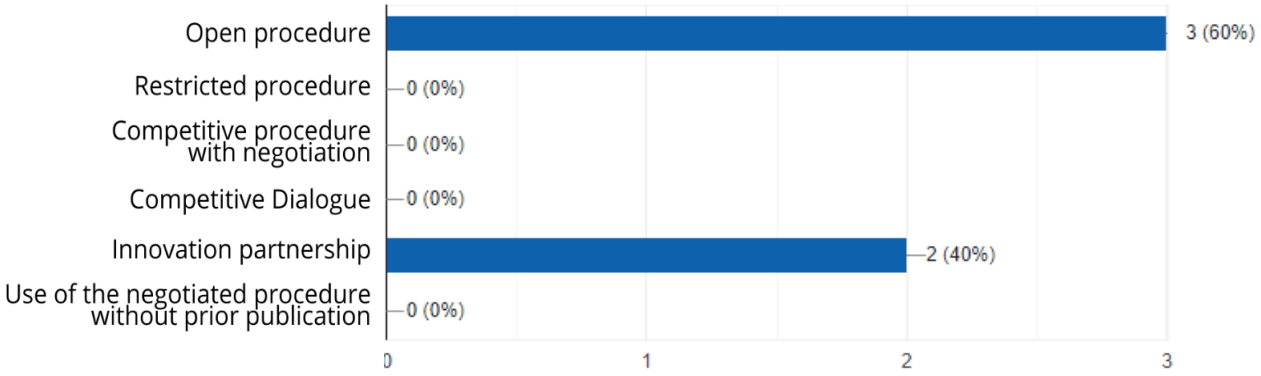

Figure 3 PPI Award procedures.

In that context, in the last 5 years the public authorities reported to have improved:

- services (40%);
- methods of communicating your activities to the public, such as new or improved methods of promoting your organization or your services (20%);
- processes or organizational methods, such as new or improved methods of providing services or interacting with your users (20%);
- new or improved supporting activities such as maintenance systems, purchasing, accounting, or computing systems, etc., (20%).

According to the company's survey' responses, 80% reported having a poor understanding of PPI, which they attributed to the lack of knowledge.

Which is your level of knowledge / familiarity with the Public Procurement of Innovation (PPI)?

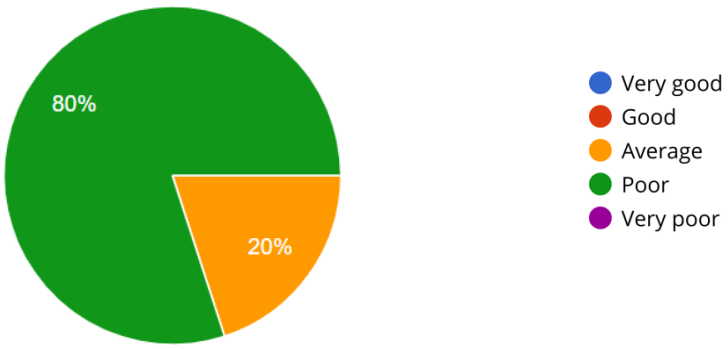

Figure 4 Companies level of familiarity PPI.

Nevertheless, it was reported that there is a good degree of innovation among the companies, with 60% of them either having implemented or actively implementing innovative solutions, such as new goods or services.

These activities include integrating innovative approaches in technical knowledge services, advancing digital transformation within the company, enhancing telecommunications, and developing management and optimization software for the urban water cycle.

On the other hand, Public procurement in Portugal has increasingly embraced innovation to enhance public services and stimulate economic growth. A notable example is the establishment of PROCURE+i, the Portuguese Competence Centre for Innovation Public Procurement. Launched in October 2021, PROCURE+i is a joint initiative by the National Innovation Agency (ANI) and the Institute for Public Markets, Real Estate, and Construction (IMPIC). Its mission is to promote innovation in public procurement by raising awareness of its benefits, disseminating best practices, and improving market conditions to align supply and demand.

7.3.2 PROCEDURE

Public Procurement of Innovation (PPI) is a strategic process designed to address unmet needs through the purchase and implementation of innovative solutions. It involves three key phases that guide the process from identifying needs to implementing solutions. Each phase requires specific actions to ensure the success of the procurement and the integration of innovative products or services.

1. **Preparatory Phase:** The first step in PPI is the preparatory phase, where the foundation for the procurement process is established. This phase includes:

    a) **Needs Assessment:** Identifying and evaluating the needs of the buyer and end-users to define the objectives of the procurement.
    b) **State of the Art Analysis:** Assessing existing solutions through market research, analysing the state of the art, and conducting patent searches to ensure the need for innovation is well-founded.
    c) **Market Engagement:** Organizing open market consultations to understand what the market can currently offer and to inform potential suppliers of the procurement objectives.
    d) **Economic Justification:** Developing a clear economic argument for pursuing an innovation purchase, including defining functionality and price requirements to ensure a cost-effective and beneficial outcome.
    e) **Tender Documentation Preparation:** Drafting detailed tender documents that include requirements for intellectual property rights, confidentiality, standardization, and other contractual terms to support innovation.

2. **Tender Phase (Contracting):** Once the groundwork has been laid, the tender phase focuses on the procurement process itself. This phase involves:

    a) Publishing tender documentation to invite proposals from suppliers.
    b) Receiving, reviewing, and evaluating submitted proposals to ensure they meet the defined criteria.
    c) Awarding contracts to the most suitable suppliers based on evaluation metrics, such as cost-benefit analysis, innovation potential, and technical compliance.

3. **Contract Execution Phase:** The final phase of PPI is the execution and implementation of the contract. This includes:

    a) Monitoring the delivery and performance of the innovative solution to ensure it meets the agreed specifications.

b) Evaluating the results and impact of the implementation to assess the overall success of the procurement and its contribution to organizational or societal goals.

While innovation can be achieved through various procurement methods, certain procedures are particularly effective in fostering innovation:

- **Negotiated Contracts:** These allow for more flexibility in tailoring procurement terms to meet specific innovation requirements.
- **Pre-commercial Procurement (PCP):** Aimed at the R&D phase, PCP supports the development of new solutions before they are commercially available.
- **Innovation Partnerships:** These involve long-term collaboration between the public sector,

7.3.3 PPO CASE in PORTUGAL

PROMINENT MED project is a notable example of Public Procurement for Innovation (PPI) in Portugal, showcasing how a **competitive dialogue (CD)** process can be used to address complex energy efficiency challenges in historic buildings. IrRADIARE and CIMBAL were the two Portuguese partners.

The project aimed to renovate historical buildings, and one example was Mértola Town Hall building, which houses a Roman Museum. The renovation sought to improve air quality, increase the use of renewable energy and enhance overall system efficiency. However, due to the building's architectural characteristics and regulatory constraints, traditional energy solutions were not viable. This complexity led to the selection of a competitive dialogue procedure, allowing companies to propose innovative solutions tailored to the unique needs of the project.

The process was divided into three phases:

· The first phase, lasting 30 days, focused on the qualification of candidates. To participate, companies had to demonstrate experience in energy efficiency projects, previous involvement in renovations of historic buildings, possession of a qualified technical team, technological capacity, an organised project structure and quality control certification. These criteria were evaluated based on experience (40%), human resources (25%), technological capacity (15%), organisational model (10%), and quality control (10%).

· The second phase, also lasting 30 days, involved dialogue between the contracting authority and the qualified candidates. This phase allowed for the discussion and refinement of technical solutions before final proposals were submitted.

· The final phase, lasting 40 days, consisted of proposal submission, evaluation, and awarding of the contract. **The most economically advantageous proposal** was selected based on the best quality-price ratio, **with 90% of the evaluation focused on technical quality and only 10% on price**. Key evaluation factors included technical quality (35%), innovation (20%), potential for energy consumption reduction (25%), and performance guarantees (10%).

The PROMINENT MED project highlights how Public Procurement for Innovation can drive sustainable development by encouraging tailored, high-quality solutions. It demonstrates that the competitive dialogue procedure is an effective tool for overcoming regulatory and technical challenges in historic building renovations while promoting energy efficiency and sustainability.

7.3.4 CONCLUSION

While Portugal has recognized the strategic importance of innovation procurement in key frameworks like the NSSS 2030, its implementation remains fragmented and below the European average. Significant opportunities exist to strengthen regional strategies, align policies, and promote innovation procurement as a driver for economic growth and sustainability.

Portugal has made progress in Public Procurement of Innovation (PPI), improving its ranking to 20th in Europe, but it remains below the European average. Key challenges include gaps in policy adoption, limited regional implementation, and a lack of familiarity with PPI among public authorities and companies.

National initiatives like PROCURE+i aim to bridge these gaps by raising awareness and promoting best practices. However, while some improvements have been reported in services, processes, and digital transformation, broader alignment across strategies like the NSSS 2030 and regional specialization plans is needed. Crucially, increased training and capacity-building for public authorities and businesses are essential to ensure widespread understanding and effective use of PPI.

Sources:

https://ec.europa.eu/assets/rtd/innovation-procurement/country-report-2024-policy-benchm-portugal.pdf

7.4 SPAIN

7.4.1 NATIONAL CONTEXT

National and regional data on public procurement

All the data given below comes from the Triennial Report on Public Procurement in Spain in 2021, 2022 and 2023 to the European Commission

The importance of public spending on works, goods and services in Spain is notable. During the three-year period 2021-2023, the overall public procurement in Spain registered in the Public Sector Procurement Platform at the national level (PLACSP) and the platforms of the Autonomous Communities amounted to **202 billion euros for the 2021-2023 period** (63,44 B€ in 2021, 65,24 B€ in 2022 and 73,55 B€ in 2023). It is estimated that it represented 11.54% of GDP in 2021, 11.46% in 2022 and 11.55% in 2023.

Fuente: elaboración propia a partir de la explotación de datos de la PLACSP y autonómicas

In 2021-2023, **e-procurement** in Spain has continued to make progress, reaching 96,9% of procurements through the PLACSP or similar platforms at autonomous level in 2023. Harmonised public procurement, i.e. procurement subject to Directives 2014/23/EU, 2014/24/EU and 2014/25/EU, has progressed and now represents 72% of all public procurement.

Regarding **SMEs**, their participation in award procedures show that 70.7% of bids submitted in award procedures during the three-year period belong to SMEs, while formalised procurement (contracting) with SMEs, for the 2021-2023 study period as a whole, stands at 67.5 %.

The first data collected on innovative procurement highlight the work started and the efforts made to encourage the development of innovative solutions through public procurement. For example, between 2021 and 2023, 1,173 **Innovative Public Procurement** contracts have been formalised.

Legal framework, laws, decrees

In Spain, the **Law 09/2017 on public sector contracts defines the framework of public procurement**. It particularly puts the emphasis on strategic procurement, to **introduce social and environmental criteria** related to the object of the contract introduced in a transversal manner in all public procurement.

But it also stipulates that the **different autonomous communities draw up their own procurement strategy**, as long as they are consistent and in line with the strategy approved by the Spanish State. Defined by the previously mentioned Law, the autonomous communities' strategies must have the following **objectives**:

- Fight corruption and irregularities in the application of the legislation on public procurement
- Increase the professionalism of the public agents involved in public procurement contracting processes
- Promote economic efficiency in the procurement of goods, services and supplies for the public sector, the private sector and the public sector services and supplies for the public sector, stimulating the aggregation of demand and the proper use of appropriate use of award criteria.
- Generalise the use of e-procurement in all phases of the procedure
- **Use the possibilities of public procurement to support environmental, social and environmental, social and innovation policies**

- Promoting the participation of SMEs in the public procurement market

The **Royal Decree 364/2024** of the 9th of April 2024 created the **Interministerial Commission for the incorporation of innovation criteria in public procurement** for the coordinated promotion of public procurement committed to innovation. The Interministerial Commission will also be responsible for assessing the incorporation of criteria linked to innovation to promote an innovative culture in the management of public procurement. This Royal Decree also aims to elaborate and regulate a Plan for Innovation in Public Procurement, which is expected to determine the products, works, services and supplies in which the General State Administration will promote public procurement that takes into account innovation parameters, as well as the criteria to be taken into account in the different phases of the tendering procedure for these products, works, services and supplies.

National/regional action plans and strategies

At the national level, the **Spanish Science, Technology and Innovation Strategy 2021-2027** (EECTI) was approved by the Council of Ministers' Agreement of 8 September 2020. This strategy aims to ensure that innovation is present throughout society and in all sectors and, in particular, in public procurement: "Public Procurement of Innovation (PPI) will be promoted from the public sphere (AGE, ACs, local entities, public companies, universities, etc.) that will turn the Public Administrations into driving elements of innovative activity. For this, specifc PPI lines will be launched in areas such as health, mobility or the smart and sustainable agri-food chain." (p.37). The EECTI has been developed through the **State Plans for Scientific, Technical and Innovation Research** **2021-2023 and 2024-2027** (PEICTI) which are the main instrument for achieving the objectives of the Strategy. The Plans are structured around the lines defined in the EECTI 2021-2027, developing state programmes, including the **Programme for innovation** which includes among its lines of action Pre-commercial Public Procurement (see Procedures) and Public Procurement for Innovation. PPI was also included in the **Spain Entrepreneurial Nation Strategy**, approved in 2021.

Resulting from the afore mentioned Law 09/2017, the Catalan government established the **Catalan Strategy for the Improvement of Public Procurement**, fully approved in the Agreement GOV/171/2022 of the 30th of August 2022 (a minimalist version had already been approved in 2020), that follows the prescriptions of the Spanish Law 09/2017 as well as the European Commission's Directive 2014/24/EU and the European Parliament's Resolution of the 4th of October 2018. The Public Procurement of Innovation is promoted under **Strand 2. Efficient public procurement of quality goods and services**: "In order to achieve the quality objectives, a selection system is needed (..) to encourage new forms of service provision" and is translated into its **specific objective 2.2 Fostering public procurement of innovation**, marked by 3 operative objectives to which several actions are planned:

- 2.2.1. Facilitating public procurement of innovation
- 2.2.2. Motivating public buyers to focus public procurement on innovation
- 2.2.3. Streamlining the processing of public procurement of innovation contracts

So far, only one of the proposed actions has been fully implemented: the creation and regulation of a circuit of unsolicited innovation proposals.

National and regional initiatives

The Spanish Centre for Technological Development and Innovation (CDTI) manages and finances the **INNODEMANDA programme**, a **financing instrument to support technological offerings in public procurement processes for innovation**. Companies will be able to finance the cost of the technological innovation required in a public tender, so that the contracting entity will have more competitive bids and a greater presence of

innovative products and services in the public administration will be facilitated. The CDTI also provides both contracting public entities and potential suppliers with the necessary guidance and support for the identification of potential public procurement of innovation, as well as for the application of INNODEMANDA. During the 2021-2023 period, the CDTI also signed a series of agreements with various entities demanding innovative solutions to finance various **pre-commercial public procurement tenders**. For its part, the Ministry of Science, Innovation and Universities manages the **programme for the Promotion of Innovation from Demand** to finance PPI actions among public sector organisations and entities.

The Catalan government also published a **Guide of PPI**, which aim is "**to encourage the incorporation by the public administration** of the Government of Catalonia and its public sector of innovation in its procurement" and that "presents the basic and fundamental aspects of public procurement in the field of innovation and provides a set of guidelines and recommendations".

Established in 2014, the **Research and Innovation Strategy for smart specialisation in Catalonia (RIS3CAT 2030)** is the tool with which the Government of Catalonia has equipped itself to meet the requirement of the European Commission that the states and regions of the European Union develop, in accordance with their innovation potential, strategies to achieve smart specialisation. Updated for the 2021-2027 European financial framework, one of its first and most important actions is the Public Procurement of Innovation Programme.
The **Innovation Public Procurement Programme of RIS3CAT 2030** aims "to use public procurement to encourage innovation and competitiveness in the business sector and the transformation of public services to improve efficiency and quality through public-private partnerships". Each year, the administration presents challenges to which companies can submit innovative solutions to improve a process or service in areas such as security and emergencies, environment, infrastructure management and knowledge, etc. These solutions, that are "not available on the market, but sufficiently developed" (TRL6-8) are then co-developed during the execution of the contract and adapted to the needs of the challenge.

ACCIÓ, the Agency for Business Competitiveness of the Catalan Government, also created an online platform dedicated to innovation challenges, among which PPI: **Catalonia Open Challenges**. The platform works as a kind of marketplace between entities faced with a specific challenges and companies that can offer them innovative solutions and proposals. It also publishes public procurement opportunities in the field of innovative public procurement and international public procurement.

The Agency also gathers all unsolicited innovation proposals via a **mailbox for innovative proposals**[2]. Companies can share with the administration their most innovative solutions to public challenges. Their proposals are then analysed and be sent to the interested public bodies, and if it is attractive, a public market consultation is opened.

All these actions are accompanied by a series of **webinars, trainings, communication campaigns and even individual assessments** for companies.

7.4.2 PROCEDURE

General procurement procedures

[2] Accessible via this webpage: https://www.accio.gencat.cat/en/serveis/innovacio/internacional/compra-publica-innovacio/index.html

Reference: Guide on Public Procurement and Competency by the Spanish National Commission on Competency

In Spain, and in Catalonia, contracting authorities have the possibility to choose a particular procurement procedure among the following, with the condition that they fulfil the requirements associated with each of these procedures imposed by public procurement rules.

The most competitive procedure, as it is more respectful of the principle of equality between tenderers, is the **open procedure**, to which all companies with the required capacity and solvency may apply. For the selection of any other procedure, contracting authorities must weigh very carefully the impact on competition resulting from such a decision.

In the **restricted procedure**, proposals may only be submitted by companies that, having requested it, are selected on the basis of their solvency, established in accordance with objective and justified criteria. Its purpose of it is to limit the number of bidders to those with the greatest solvency. When deciding the number of companies invited to participate, the impact on competition of such a decision must be assessed, avoiding unnecessary limitations on access to the tender. The limitation does not automatically have to be set at the legal minimum of five companies, and it is advisable that such a decision is adequately justified.

In the **negotiated procedure**, the contract is awarded to the tenderer chosen by the contracting authority after consultation and negotiation of the terms of the contract with one or more candidates. Except in cases where the tender notice is required to be advertised, the general rule is that the administration contacts directly the candidates that in its opinion meet the capacity and solvency requirements, and negotiates the technical and economic issues of the contract with each of them. The negotiated procedure is an extraordinary procedure, which can only be used when the circumstances that the law specifies for it are met. Even when it is possible to use it, it is advisable to apply it sparingly, especially in the following cases provided for in the public procurement regulations:

- Tenders that are unsuccessful - it may be appropriate, before launching a negotiated procedure, to assess the possibility of maintaining the original procedure with some modifications to allow a sufficient number of operators to participate in the tender;
- Supervening circumstances - this option should only be reserved for truly exceptional and unforeseeable cases, bearing in mind that there is also the possibility of emergency processing under the ordinary procedure, which in itself reduces the timeframe by half.

In the **competitive dialogue** - another of the extraordinary procedures whose use is subject to certain circumstances in the law - the public authority conducts an exchange of views with the selected candidates, upon their request, in order to develop solutions that meet their needs. This procedure, similar to the negotiated procedure, is reserved for particularly complex contracts, such as the execution of sophisticated infrastructure, and its use is mandatory in the case of public-private partnership contracts. In order to favour competition in this procedure, the number of companies invited to participate should, wherever possible, exceed the legal minimum of three in order to ensure effective competition.

Urgent procedure are only justified by the existence of an unpostponable need or when it is necessary to speed up the award for reasons of public interest. The main consequence is that the processing times are reduced to half those of the ordinary procedure. For certain formalities, such as the submission of tenders, this procedure can lead to a shortening of timeframes which is detrimental to competition by making access to the market more difficult. For this reason, given the excessive vagueness of the criterion allowing this

procedure to be used, it should be applied only after rigorous justification of the way in which these causes are met, taking into account the value of maintaining the ordinary time limits for formalities such as the submission of tenders.

Framework agreements and dynamic purchasing systems. These procedures form part of the mechanisms available for the technical rationalisation of contracting between the administration and contractors when the latter extends over a specific period of time, during which it is foreseeable that there will be continuous services. They are intended to ensure stability in the contractual conditions. Unlike the dynamic systems, designed for the procurement of current goods, in which any interested supplier that meets the requirements can participate once they have been initiated, framework agreements, once defined, do not allow the incorporation of new companies during their term of validity. Thus, whoever is left out of the framework agreement is also left out of the specific contracts that may be concluded during the term of the framework agreement. As a result, their use may be associated with the creation of barriers to entry in relation to operators who are not part of them.

Specific procedures for PPI

There are 3 types of specific procedures for PPI:

(1) Pre-commercial Public Procurement

This is a contracting of R&D services in which the public purchaser does not reserve the results of the R&D for its own exclusive use, but shares the benefits and risks with the companies. This type of procurement starts with the development of the technology validated in a laboratory environment (TRL 4) and ends with the development of a prototype validated in a real environment (TRL 7), but never in a marketable product.

(2) Public Procurement of Innovative Technology

This consists of the public purchase of a good or service that does not exist on the market at the time of purchase (TRL 7) but which can be developed and brought to market (TRL 9) within a reasonable period of time. Such a purchase requires the development of new or improved technology in order to meet the requirements demanded by the buyer.

(3) Innovation Partnership

Following a call for tenders, this may culminate in the creation of the Innovation Partnership. The IPA will itself be structured in successive phases, but will no longer take place between the contracting authority and the bidders, but between the contracting authority and one or more partners; and will generally culminate in the procurement of the resulting supplies, services or works, the outcome being between TRL 4 and 9.

Criteria

The assessment of innovation requires to take into account criteria other than price. It is incompatible with the assessment of innovation to attribute to price an excessively large weighting, since innovative solutions may normally be more expensive in terms of price (which does not imply that their cost is higher, e.g. if the solution requires less maintenance or has a longer lifetime). Therefore, rather than (or in addition to) price, innovation

procurement should consider not only the current costs but also the **whole life-cycle costs of the object of the contract**, including acquisition costs, maintenance and disposal costs of the products or services, as well as other important aspects such as the **quality and technical merit** of the offer. In this way it will be possible to award the optimal combination of all life-cycle costs and quality considerations in relation to the price. In short, it is a matter of **giving more value in relative terms to the innovative aspects than to the price**. Differences in the price premium would in any case be compensated by improvements brought about by innovative solutions winning the contract.

Examples of criteria:

- R&D content in the execution of the contract that contributes greater quality to the object of the service.
- Deadline for execution. If this criterion is used, it should be related to the previous one (R&D content), since a greater R&D content would require a longer execution period. What would have to be assessed, therefore, would be the proportionality between R&D content and the time period for its development.
- Volume or percentage of the contract price allocated to product or service development.
- Ability of the proposed innovation to lead to an improvement in the provision of a specific public service.
- Increased future energy savings resulting from the innovation solution.
- Improvement in the environment (raw material use, water use, emissions, waste, recyclability, etc.) as a direct consequence of the innovation solution.
- Reduction of maintenance, replacement, disposal or other costs, taking into account the full life cycle cost of the product.
- Proposals that offer the development of R&D activities in collaboration with other economic agents, such as Universities and Technology Centres, may also be considered.

Platforms

The principles of publicity and transparency are the backbone of the **Law 09/2017 on public sector contracts** and clearly highlighted by the European Directives. It foments open data and the use of e-procurement.

At the national level, the Spanish State manages the national **Public Sector Procurement Platform** (PLACSP). Any kind of entity acting under public law can publish a procurement, whether it be a ministry or a local government, a public university or a trading company.

For their part, the autonomous government have their own procurement platforms, and that is the case of the Government of Catalonia with its **Electronic public procurement platform** (PSCP), used by departments of the Government itself, but also local administrations, universities, independent entities and other organisations acting under public law.

7.4.3 PPI CASE in SPAIN

The Smart Procurement European Alliance, by the Barcelona City Council

In 2012, the Barcelona City Council led a European project in PPI called SPEA, *Smart Procurement European Alliance*, that also involved the cities of Birmingham and Eindhoven.

Challenge

The challenge of the project was to encourage and enhance public procurement in the field of energy efficiency in municipal buildings in the partner cities by promoting energy-efficient solutions for the partner cities, promoting innovative solutions of public services to improve their quality and efficiency, and fostering opportunities for SMEs to participate in their public procurement.

Objectives

Develop the methodology for the participation of all key actors in the development of an innovative public procurement process. Make an analysis in terms of actual technologies and requirements, followed by a needs analysis, as well as activities aimed at increasing the participation of SMEs in the process leading to the purchase of the innovative solution.

The solution of the Barcelona City Council

In the case of Barcelona City Council, the innovative project consisted in **energy monitoring and data analysis of libraries**.
It was applied to a total of ten libraries that acted as pilots and the Barcelona City Council counted with the support and collaboration of the General Services Directorate, the Logistics and Maintenance Directorate, the Energy Agency and Barcelona Activa.

A **market consultation** was carried out, enriching the process by broadening the vision of the purchasing entities. A **PIN** (preliminary information notice) was drawn up, in which around one hundred companies presented themselves, used to prepare a 'bank of energy efficiency solutions' and a list of innovative solutions that could be used was drawn up.

After a phase of **exploration of the technical and financial requirements** of the project, a **project competition** was launched in which companies could use the solution bank, and an international jury evaluated the proposals and chose the three finalists, with which a **negotiation process** was opened in the format of round table discussions. The contracting board proposed the winning entity and the contract was awarded in June 2015 for a four-year project. In 2016, the solution was implemented in ten libraries.

7.4.4 CONCLUSION

In recent years, the State of Spain as well as the different Spanish Autonomous Communities have developed the legal framework applicable to PPI with new laws and decrees, and several national and regional action plans and strategies were drafted. Many initiatives were created at a national and regional level to promote PPI at all levels. Public authorities also have at their disposal a series of tools and procedures to apply PPI.

To monitor the progress made, data is now collected on innovative procurement that highlight the **efforts made to encourage the development of innovative solutions through public procurement.** Nevertheless, despite all the progress made, **PPI is still little used in Spain**, as between 2021 and 2023, only 1,173 Innovative Public Procurement contracts have been formalised, very few among the total amount of contracts.

7.5 GREECE

7.5.1 NATIONAL CONTEXT

This chapter provides an overview of the national context of PPI in Greece, highlighting the main governance and legal frameworks, institutional stakeholders and economic factors that influence its implementation, also according to the analysis of the background conditions carried out with the questionnaires in the first semester of the ProcuraMED project.

Governance and legal framework

Law 4412/2016 incorporates EU Directives 2014/24/EU and 2014/25/EU into Greek legislation, while Law 4413/2016 implements EU Directive 2014/23/EU. Law 4782/2021, which revised Law 4412/2016, did not introduce any provisions related to innovation procurement. For defence and security procurement, Law 3978/2011 remains applicable.

The **Ministry of Development** oversees public procurement policy, while the **Hellenic Single Public Procurement Authority (HSPPA)** is tasked with promoting the national procurement strategy. HSPPA ensures transparency, efficiency, and adherence to both national and EU procurement regulations.

Several **National Central Purchasing Bodies** play a pivotal role in driving innovation procurement and encouraging others to adopt it. These include the **General Secretariat of Infrastructure** (under the Ministry of Infrastructure and Transport) for public works and related services, the **National Central Authority for Procurements in Health "EKAPI"** for health-sector procurements, and **Information Society SA**, the primary Contracting Authority for the Greek government's ICT systems and services. Additionally, the **General Directorate of Public Procurements (GDPP)** within the Ministry of Development acts as the National Central Purchasing Body for general goods and services and serves as the national competence center for green and innovation procurement. ProcuraMED project has the privilege and the honour to have the GDPP as an Associated Partner.

Innovation Procurement Policy Framework Benchmarking (2024)

In the European benchmarking of national innovation procurement policy frameworks, **Greece ranks 16th overall with a total score of 34.89%.** Although this marks a notable improvement from the previous score of 26.5%, Greece dropped one position in the ranking as other countries advanced their policy frameworks more rapidly. Greece's performance slightly surpasses the European average of 33.05%, but it exceeds the average in only 4 out of 10 indicators. Among the 30 countries evaluated, Greece is classified as a low performer. With just one-third (34.89%) of the necessary policy measures implemented to establish a robust innovation procurement framework, Greece still requires substantial policy reinforcement to unlock its full potential.

Concerning the strengths, there is growing support from horizontal policies, such as public procurement, research and innovation (R&I), and ICT policies. Financial incentives and training programs are being cautiously introduced to promote greater adoption of innovation procurement.

As for the identified weaknesses, the policy framework remains underdeveloped, lacking a dedicated action plan, spending targets, monitoring mechanisms, or personal incentives to encourage public buyers. Only one-third of sectoral policies emphasize the strategic

importance of innovation procurement, and most capacity-building and support measures are absent. Greater support for strategic technologies and enhanced financial incentives for R&D procurements in critical technologies and sensitive sectors could bolster strategic autonomy. There is no intellectual property rights (IPR) policy in public procurement that fosters innovation. Practices such as value-for-money award criteria, use of variants, and preliminary market consultations are underutilized. Additionally, there is a need to enhance transparency and competition in the public procurement market to provide more opportunities for companies to engage in and compete for innovation procurement projects.

Figure 5: Comparison of Greece to the European Average based on PPI performance indicators

7.5.2 PROCEDURE

In Greece, ***the national legislative framework does not explicitly define innovation procurement but establishes a legal foundation for implementing all types of innovation procurement***. It also provides clear definitions for R&D procurement and Pre-Commercial Procurement (PCP). The technical guidance document published by the Hellenic Single Public Procurement Authority (HSPPA) includes a definition of Public Procurement of Innovative Solutions (PPI).

Law 4412/2016 and Article 24 of its amendment, Law 4782/2021 ("Modernisation, Simplification, and Reformation of the Public Procurement Framework"), define **innovation** as: “including but not limited to production, reconstruction or manufacturing processes, new methods of marketing or organization in business practices, workplace organization, or external relations, among others, aimed at addressing social challenges or supporting the ‘Europe 2030’ strategy for smart, sustainable, and inclusive development.” This definition, being both nationwide and consistent with the EU’s definition, results in a sub-indicator score of 35%.

While Greek public procurement legislation for classical, utilities, and concession contracts does not offer an official definition of R&D procurement, Article 24 of Law 4413/2016, along

with Articles 14 and 250 of Law 4412/2016, refer to CPV codes for **R&D** as outlined in EU public procurement directives. However, a comprehensive definition of R&D procurement is provided in Article 73.3 of the Defence Procurement Law 3978/2011. Although aligned with the EU definition, this definition applies exclusively to the defence sector, leading to a sub-indicator score of 90%.

Article 2.41 of Law 4310/2014 on Research, Technological Development, Innovation, and related provisions provides a partial definition of **Pre-Commercial Procurement (PCP)**. It describes PCP as the procurement of research services where the contracting authority or entity shares risks, results, and benefits with providers under market conditions, without assuming them entirely. The contract must align with one or more research and development categories specified in the law and must be of limited duration. Except for prototypes or a small batch of pre-tested items, contracts under PCP should not include the purchase of commercial-scale goods or services developed through this process.

The Hellenic Single Public Procurement Authority (HSPPA) expands on this definition in a technical guidance document, stating that PCP involves competitive R&D conducted in phases, with risks and benefits shared under market conditions. It emphasizes a clear distinction between PCP and the acquisition of final products in commercial quantities, which is addressed through Public Procurement of Innovative Solutions (PPI) at a later stage. This definition is consistent with the EU framework and applies nationwide. However, due to the absence of a full definition in the legislation itself, the sub-indicator score for PCP is 90%.

While the national legal framework does not provide an official definition for PPI, Article 86 p.2(a) of Law 4413/2016 establishes a legal basis for its implementation by permitting contracts awarded based on innovation criteria. HSPPA's technical guidance further clarifies PPI as procurements where contracting authorities signal their intention to purchase innovative products or services in substantial volumes to encourage market investment in their development. This can include technologies already on the market in limited quantities or those in the final stages of development but not yet commercially available. This definition aligns with the EU standard, resulting in a sub-indicator score of 70%.

Overall, Greece achieved a total indicator score of 71%, reflecting a slight decline from the previous benchmarking score of 74%. Despite this, the score remains above the European average of 53% and is close to the top-performing country, Lithuania, which scored 76%.

In Greece, innovation procurement is strategically integrated into **five horizontal policies**: economic policy, public procurement policy, regional/urban policy, R&D policy, and innovation policy.

Greece's Growth Strategy (2018) outlines the country's economic and financial objectives through 2030. Within the section on public procurement, it emphasizes that "Public procurement should act as an engine for innovation." To support this goal, the Ministry of Economy participates in the EU Procure2Innovate Project as part of the European network of competence centers for innovation procurement. A key policy target is the establishment of a national competence center for innovation procurement by 2021. Based on these initiatives, the economic policy receives a score of 100%.

The adoption of Law 4782/2021 for the modernization, simplification, and reform of the public procurement framework led to the creation of the **Action Plan for the National Public Procurement Strategy** (2021–2025). This plan includes five targeted actions to advance innovation procurement.

- Strategic Objective C.2 focuses on “Broader strategic goals and implementation of policies through public contracts,” including:

  - Action 44: Development of an action plan for innovation procurement, executed by a Centre of Excellence for Innovation Public Procurement.
  - Action 45: Implementation of Project THORAX, which aims to create a real-time decision-support system for national security and defense needs.
  - Action 55: Preparation of a feasibility study to promote innovation in public contracts within the health, energy, and environment sectors.

- Strategic Objective D.2 aims to enhance the "Use of emerging technologies in digital public procurement with an emphasis on innovation."

- Strategic Objective B.3.1 includes actions for implementing procedures to designate public contracts as innovative and establishing a monitoring and assessment methodology for strategic public contracts categorized as green, social, or innovative.

As these initiatives strongly integrate innovation procurement into public procurement policy, this policy area also achieves a score of 100%.

Article 4 of Law 4310/2014 establishes that the **National Strategy on Research, Technological Development**, and Innovation aims to develop various funding mechanisms for research, technological development, and innovation, including pre-commercial public procurement (PCP). It also mandates the utilization of appropriate tools, such as public contracts, modern procurement methods (e.g., pre-commercial contracts, competitive dialogue, framework agreements), and participation in knowledge and innovation communities, to finance R&D and innovation (ETAK). As a result, Greece has implemented an R&D policy that actively supports public procurement of R&D, including PCP. This ensures a score of 100% for both R&D and innovation policies.

The **National Research and Innovation Strategy for Smart Specialization 2021–2027**, which functions as the country’s regional/urban policy, explicitly addresses innovation procurement under Objective 28: “Promoting innovation in the Public Sector.” This includes actions to implement innovation procurement, such as PCP, leading to a score of 100% for regional policy.

Currently, Greece has five horizontal policies that promote innovation procurement nationwide. This marks an improvement compared to the previous benchmarking, which identified four such policies. Consequently, the score for this indicator has risen from 57% to 71%. While this score surpasses the European average of 50%, there remains room for improvement. The score remains below the top-performing countries—Norway, Estonia, and Finland—which each achieved 86% for this indicator.

The **Digital Transformation Bible 2020–2025**, developed by the Ministry of Digital Governance, outlines Greece’s strategic roadmap for digital transformation. It highlights the integration of the **EU Strategy for Digital Transformation in Public Procurement** with Greece’s own digital strategy, emphasizing the adoption of emerging technologies. These include the restructuring of public procurement processes and electronic systems, as well as the innovative products and services procured by contracting authorities. Globally tested emerging technologies mentioned include **Artificial Intelligence (AI), Machine Learning (ML), Big Data and Analytics, 3D Printing, the Internet of Things (IoT), Robots and Drones, Virtual Reality, and Blockchain**.

However, the Greek **National Cybersecurity Strategy (2018)** does not encourage the public sector to utilize innovation procurement to advance the development and

deployment of innovative cybersecurity solutions. Furthermore, Greece's national strategies for AI, quantum technologies, and semiconductors are still under development, leaving gaps in the strategic endorsement of innovation procurement for these ICT technologies.

Despite this, Greece is actively encouraging **European Digital Innovation Hubs (EDIHs)** to promote innovation procurement. These hubs aim to assist public buyers in implementing innovation procurement, leveraging their expertise and infrastructure as testing or living labs for innovation procurement, and encouraging companies to engage in these activities. For instance, **GR digiGOV-innoHUB**, one of Greece's EDIHs, is preparing to implement innovation procurement, supported by Information Society SA, the government's main contracting authority for ICT systems and services.

The digital transformation strategy directly integrates innovation procurement into its strategic goals and promotes the adoption of innovative solutions in public procurement contracts. As a result, Greece retains a 100% score for this indicator, consistent with the previous benchmarking. This score is significantly higher than the European average of 63%. However, future improvements are possible by integrating innovation procurement into policies for specific strategic ICT technologies.

In Greece, three sectoral policies explicitly acknowledge the importance of innovation procurement: **energy policy**, **environmental policy**, and **defence policy**.

The **Greek National Energy and Climate Action Plan for the period up to 2030** (specifically in the section on measures for meeting the national energy efficiency target) includes plans for "additional horizontal actions" aimed at energy upgrades in the building sector. This includes the development of a common and open database, the creation of a legislative framework for setting up innovative technology procurement groups, and the use of innovative digital models for building construction and management throughout their lifecycle. The establishment of these innovative technology procurement groups is expected to reduce costs for designing and implementing energy-saving measures. As a result, Greece earns a **100% score** for the **energy policy** sub-indicator.

The **Greek National Green Public Procurement Action Plan** recognizes that **Green Public Procurement (GPP)** can significantly promote innovation by incentivizing the development of greener products and services. It aims to reduce the environmental impact of public sector consumption and encourages the use of GPP to stimulate innovation in environmental technologies, products, and services. This has led to a **100% score** for the **environmental policy** sub-indicator.

The **National Defence Industrial Strategy** highlights the importance of **R&D procurement** within the context of military needs. It requires the Ministry of National Defence to prioritize and evaluate R&D proposals based on how well they address operational needs. This strategic approach has led to the development of **Project THORAX**, a pre-commercial procurement initiative for creating an integrated, next-generation **Real-Time Based Decision Support System** for national security and defence. As a result, the **defence policy** sub-indicator also receives a **100% score**.

Since the previous benchmarking, where no sectoral policies recognized the role of innovation procurement, Greece has made significant progress. With three sectoral policies now in place, Greece's score for this indicator has improved from 0% to 30%, matching the European average. However, there is still room for improvement, as this score remains considerably lower than the top-performing country, the UK, which scores 90% on this indicator.

Greece currently lacks a structured system for measuring the expenditure on innovation procurement, as well as a system for evaluating the impacts of completed innovation procurements.

Strategic Objective B.3.1 of the **National Public Procurement Strategy 2021–2025** outlines actions for the "implementation of the procedure for identifying public contracts as innovative within the context of innovation procurements" and the "application of a monitoring and assessment methodology for strategic public contracts, categorizing them as green, social, or innovative."

At present, the **General Directorate of Public Procurements (GDPP)** uses data from the **Central Electronic Public Procurement Registry (CEPPR)**, but the system only allows the identification of innovation partnership procedures as innovation procurements, based on the procedure name. These are the simplest to filter as they are directly linked to innovation. However, GDPP, in collaboration with the **Ministry of Digital Governance**, is working on incorporating specific indicators into CEPPR to track all types of innovation procurements, including **PCPs** and **PPIs**, across all procurement procedures. This feature is expected to be available by the end of 2024. Because this system is not yet in place, the score for the **measurement system** sub-indicator remains **0%**.

Additionally, as Greece does not have a structured system for evaluating the impacts of completed innovation procurements, the score for the **evaluation system** sub-indicator, as well as the **total score for this indicator**, is also **0%**.

Summarising, Greece does not have a stand-alone action plan for innovation procurement although the National Public Procurement Strategy for the period 2021-2025 foresees preparation of one by the end of 2024 – begining of 2025.

Having said that, the process fro PPI to be followed is presented belos:

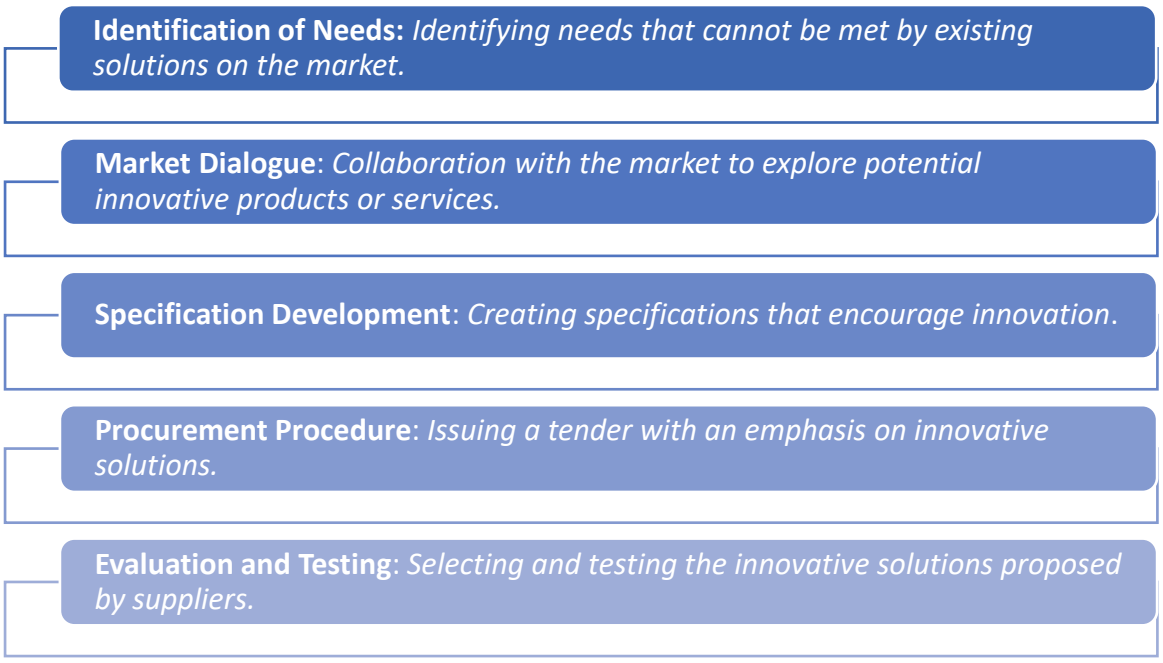

Figure 6: Steps of PPI process.

However, in practice few complete PPI proceeses have been implemnted in Greece. The two main weeknesses are presented below:

- Concerning **IPR Default Regime,** there is an absence of a default regime for the allocation of IPR (Intellectual Property Rights) between public procurers and contractors in Greek Public Procurement Law, the general terms and conditions for government contracts, or public procurement guidelines. As a result, the responsibility for deciding whether to assign IPR ownership to the contractor or retain it with the public procurer is left entirely to the procurer, in an attempt to encourage innovation. Law No. 4412/2016 does allow for technical specifications to require the transfer of IPR to the public buyer. However, the Law 2121/1993 (with its latest amendments under Law 5046/2023), which governs copyright in Greece ("Copyright, Related Rights and Cultural Matters"), specifies that "authors, upon creating a work, hold the copyright, which includes exclusive rights such as the economic right to exploit the work and the moral right to protect their personal connection with the work." The author may transfer economic rights—such as usage, translation, adaptation, rental, broadcasting, and licensing rights—through an exploitation contract. However, moral rights are non-transferable between living individuals. The procurer is required to request the transfer of economic rights in the tender specifications, at fair payment. The Copyright Law applies to artistic, scientific, and software creations, as well as database rights.

- As regards, **Preliminary Market Consultations**, Greece has not used at all preliminary market consultations in procurement procedures published in TED (Tenders Electronic Daily).

Greece is lagging behind on adopting an IPR default regime that fosters innovation and is seriously underutilizing value for money award criteria, variants and preliminary market consultations.

7.5.3 PPI CASE in GREECE

Here you can find some PPI cases in Greece, concluded or ongoing, funded or co-funded by different EU inanities:

1. **Procure2Innovate**

Initiated by the Greek government, through the participation of General Directorate of Public Procurements (GDPP) in the Ministry of Development, this project was a part of a broader European initiative aimed at enhancing innovation in public procurement. Through Procure2Innovate, Greece worked to strengthen its national public procurement framework by providing public buyers with tools, knowledge, and resources to engage more effectively with innovative markets. By doing so, it encouraged public sector organizations to explore and invest in cutting-edge solutions, which lead to more efficient and effective public services. The initiative also aimed to support the development of small and medium-sized enterprises (SMEs) by creating opportunities for them to participate in public procurement processes, especially those offering innovative products or services.

In addition, the project played a key role in promoting collaboration between different sectors. By connecting public authorities with private companies, research institutions, and other stakeholders, the initiative fostered a dynamic ecosystem for innovation. This not only improved the quality of public services but also stimulated the local economy by driving demand for innovative solutions.

Through this initiative, Greece also working towards aligning its procurement practices with broader European Union goals, such as sustainability and digital transformation. By incorporating innovative solutions into public procurement, the government aims to address complex societal challenges, such as environmental sustainability, energy efficiency, and digital governance.

2. **AI for natural disaster prevention - Information Society (INFOSOC)**

In cooperation with the Greek Ministry of Climate Crises and Civil Protection and the Fire Brigade, the main central purchase body for digital solutions in Greece (INFOSOC) is preparing an innovation procurement to obtain better prediction models for natural disasters (fires and floods) based on real sensor and historical data. This is also the first innovation procurement implemented by a European Digital Innovation Hub. The upcoming open market consultation and further preparation of the procurement is supported by the European Assistance For Innovation Procurement.

3. **Open Market Consultation: Space applications for urban challenges**

The SPACE4CITIES buyers group, with cities from Finland, Belgium, the Netherlands, Greece and Portugal is inviting interested bidders to participate in the open market consultation between June and October 2024 in preparation of their pre-commercial procurement. Aim is to buy the development of innovative solutions for dynamic management of public space, green areas, transport infrastructure and city maintenance. Participate in the open market consultation webinars, survey and matchmaking forum to find partners for making an offer to this upcoming procurement. The Greek partner is Regional Development Fund of Attica.

4. **Open market consultation: Home based care and remote monitoring**

The PROCURE4HEALTH buyers group brings together 18 healthcare buyers from France, Belgium, Poland, Italy, Portugal, UK, Denmark, Turkey, Poland, Norway, Spain, Sweden, Estonia and Greece. The buyers group invites all interested suppliers to participate in the open market consultation for its upcoming pre-commercial procurement that challenges the market to develop innovative solutions for home based care and remote monitoring. Join the online meeting on 26 June between 10h00-11h30 CET and complete the online questionnaire. The Greek partner is the 5th Regional Health Authority.

7.5.4 CONCLUSION

Greece is currently in the process of establishing a **competence centre for innovation procurement, which will be operated by the General Directorate of Public Procurements (GDPP) within the Ministry of Development.** The centre is designed to promote innovation procurement practices throughout the Greek public sector and will have several specific goals. It will work to increase the number of Greek contracting authorities engaged in innovation procurements, including pre-commercial procurement. Additionally, the centre will map the Greek procurement landscape and collaborate with relevant stakeholders to foster joint initiatives. However, as the centre's website is still under development, it has so far provided limited guidance to contracting authorities on innovation procurement.

This is expected to reduce the weaknesses and barriers in PPI implementation in the country. Both the use of specific techniques to promote innovation in Greece and the openness of the country's procurement market to innovations from the wider EU single market should be centrarly prompoted and enhanced. Unforunately, till now, Greece has not yet implemented a default IPR regime in public procurement to encourage innovation, and key tools such as value for money criteria, variants, and preliminary market consultations remain underutilized in public procurement processes.

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7.6 BOSNIA AND HERZEGOVINA

7.6.1 NATIONAL CONTEXT

Bosnia and Herzegovina has started its very challenging and complex path towards modernizing its public procurement processes in order to improve them systematically to align them with European Union standards and requirements. Public procurement, particularly in innovative and green sectors, remains an underused tool for fostering sustainability and technological advancement.

The legal framework in Bosnia and Herzegovina is shaped by the Public Procurement Law, which underwent substantial amendments in August 2022. These changes were designed to improve transparency and efficiency, creating a more competitive procurement environment. However, implementing these reforms has proven difficult, as political decentralization results in varying procedures and standards across the country's administrative units. This fragmentation undermines efforts to apply unified procurement practices and makes it challenging for public bodies to adopt strategic approaches like Green Public Procurement (GPP) and Public Procurement of Innovation (PPI).

Strategic procurement, while still in its beginnings, is gaining recognition as a vital instrument for sustainable development. Both public authorities and private stakeholders are starting to see the potential of PPI to address pressing public needs while simultaneously driving innovation. However, the non-existent application of PPI is largely attributed to gaps in technical knowledge, insufficient financial incentives, and a lack of coherent strategies tailored to the unique context of Bosnia and Herzegovina.

The 2014 EU procurement directives, which emphasize the principles of sustainability and innovation, have served as a model for B&H's ongoing reforms. Key provisions of these directives include the integration of life-cycle costing, the promotion of green public procurement (GPP), and the use of award criteria that prioritize the best value for money over the lowest price. However, the adoption of these practices in B&H has been slow, mostly because of limited institutional capacity and a lack of awareness among public officials and private sector stakeholders.

PPI allows public authorities to act as early adopters of innovative solutions, thereby stimulating market demand for cutting-edge technologies and practices. Yet, the practical implementation of PPI in B&H faces significant barriers. These include insufficient expertise in drafting functional specifications, limited engagement with potential suppliers, and a risk-averse culture that prioritizes compliance over innovation.

Environmental considerations are gradually being integrated into procurement processes, although some challenges exist. The current Public Procurement Law allows for the inclusion of environmental criteria in technical specifications, as outlined in Article 54. However, the concept of life-cycle costing, a starting point of green procurement, remains underdeveloped. The draft amendments to the procurement law propose the adoption of life-cycle costing methodologies, aligning with Directive 2014/24/EU.

7.6.2 PROCEDURE

The successful implementation of Public Procurement of Innovation in Bosnia and Herzegovina requires a methodical and well-structured approach that takes into account the country's specific administrative and economic conditions. The process should begin with serious preparation and planning, transitions into active engagement with the market, and culminate in the careful execution and evaluation of procurement contracts.

Preparation and planning:
foundational to PPI implementation where the identification of public needs has to be focused on addressing inefficiencies and gaps in service delivery. Rather than dictating specific solutions, public authorities should emphasize functional requirements that allow for creative and innovative responses from suppliers. To achieve this, stakeholders, including end-users, are encouraged to be actively engaged through consultations and focus groups. These discussions are critical for ensuring that the procurement process is aligned with the real needs of the community.

Market engagement:
one of the key phases in the PPI process. Contracting authorities should invest significant effort in understanding market dynamics and communicating their procurement needs effectively to potential suppliers. This can be achieved through comprehensive market analyses that identify key suppliers and assess the availability of innovative solutions.

The procurement process:
should be tailored to the complexity of the project and the maturity of the market.

- In cases where needs and solutions are well-defined, **open or restricted procedures** may be appropriate.
- However, for more complex or innovative projects, **competitive dialogues or procedures with negotiation** are preferred.

These approaches enable a more interactive process, allowing public authorities to refine specifications and solutions collaboratively with suppliers. It is important to state that the adoption of technology-neutral specifications and the use of the Most Economically Advantageous Tender (MEAT) criteria ensure that quality and innovation are prioritized over cost alone.

Post-award activities:
should focus on contract management and evaluation. Continuous monitoring is essential to ensure that the delivered solution meets performance expectations and lessons learned from these evaluations should inform future procurement processes, creating a cycle of continuous improvement.

7.6.3 PPI CASE in BOSNIA AND HERZEGOVINA

In Bosnia and Herzegovina, the Public Procurement of Innovation (PPI) is recognized through initiatives like the collaboration between the Sarajevo Regional Development Agency (SERDA) and the Cantonal Public Institution for Protected Areas of Sarajevo Canton. This collaboration represents a pioneering example of PPI in Bosnia and Herzegovina. This initiative was developed as part of the P5 Innobroker project, which was supported by the European Union. The P5 Innobroker project was specifically designed to facilitate innovation procurement practices that address pressing environmental and societal challenges, aligning with EU sustainability goals.

The partnership began in November 2023, formalized through a Memorandum of Understanding between SERDA and the Cantonal Public Institution. This document outlined the mutual commitment to fostering innovation within the context of protected area management, a critical sector in Bosnia and Herzegovina given the country's rich biodiversity and natural heritage. As part of this initiative, the partners identified specific environmental needs, such as improving waste management, promoting sustainable tourism, and enhancing energy efficiency in protected zones.

By leveraging PPI practices, the project demonstrated how public procurement can drive innovation in addressing environmental challenges. It also showcased the importance of

stakeholder involvement and transparent processes, which built trust among suppliers and ensured the project's alignment with the community's needs.
The PIPLS (Public Infrastructure and Public Services) project in Bosnia and Herzegovina was also a standout example of how PPI can drive improvements in local governance, service delivery, and transparency. Implemented with support from the United Nations Development Programme (UNDP), the project focused on enhancing the efficiency and sustainability of public services across 11 local governments over a 23-month period.

At its core, the PIPLS project sought to integrate innovation into public procurement processes, emphasizing modern solutions to address local challenges. One of the most significant outcomes of the project was the establishment of Bosnia and Herzegovina's first Open Data Portal, launched by the City of Prijedor. This portal was designed to increase transparency by making local government data readily available to the public. It serves as a key tool for fostering accountability and encouraging civic engagement while enabling the private sector and civil society to leverage open data for innovative applications and services.

In line with PPI principles, the project emphasized collaboration and market engagement throughout its implementation. Local governments were encouraged to engage with private companies, startups, and other stakeholders to identify innovative solutions tailored to their specific needs. The focus was on fostering partnerships between the public and private sectors to co-create solutions that addressed key issues, such as improving public infrastructure, waste management, energy efficiency, and digital governance.

7.6.4 CONCLUSION

Bosnia and Herzegovina is making steady progress in reforming its public procurement system, guided by EU standards and supported by international partners. While reforms in the legal framework have introduced measures for greater transparency and competitiveness, their practical application remains somewhat slow because of political and administrative fragmentation. Public Procurement of Innovation (PPI) offers a promising solution for addressing these challenges, fostering sustainable development, and driving technological advancements. However, realizing this potential will require sustained political commitment, capacity-building efforts, and a cultural shift towards viewing procurement as a strategic enabler of public policy objectives. However, its adoption is constrained by gaps in expertise, limited market engagement, and a risk-averse culture.

Initiatives like the P5 Innobroker project and the PIPLS project exemplify the transformative potential of PPI in addressing environmental and governance challenges. These projects demonstrate the importance of collaboration, stakeholder engagement, and transparency in creating innovative solutions that meet community needs. By building on the lessons learned from these initiatives, the country can further integrate PPI into its procurement strategies, fostering a culture of innovation and aligning with EU standards for public procurement.

Moving forward, Bosnia and Herzegovina must continue building institutional capacity, encouraging market engagement, and adopting strategic approaches such as life-cycle costing and the Most Economically Advantageous Tender criteria. By addressing these barriers, the country can harness the full potential of public procurement as a catalyst for innovation, sustainability, and socio-economic progress.

7.7 CYPRUS

7.7.1 NATIONAL CONTEXT

Public Procurement of Innovation in Cyprus operates within the framework of EU Directives, especially Directive 2014/24/EU, which seeks to facilitate innovation through procurement. The Public Procurement Law 73(I)/2016 ensures a transparent, competitive, and EU-principled environment. The Treasury of Cyprus, especially its Public Procurement Directorate, is responsible for enforcing these regulations. [3]

The Key institutions include:

- Directorate General for European Programs, Coordination and Development (DG EPCD), integrates EU funding and innovation strategies.[4]
- Research and Innovation Foundation - RIF supports projects in innovation, as well as public-private collaborations.[5]

Cyprus' Smart Specialization Strategy (S3) focuses on priority areas such as green innovation, digital transformation, and sustainable infrastructure.[6]

7.7.2 PROCEDURE

In Cyprus, the PPI process is followed in a structured manner:

1. **Identification of Needs and Market Analysis**
   Public bodies need to identify their functional needs by consultation with stakeholders, without specifying the solution to be provided. In this regard, the Preliminary Market Consultation under EU Directive 2014/24/EU allows the authorities to determine the readiness of the market and also to align their procurement strategies with available innovative solutions.[7]
2. **Selection of Procedure**
   According to the outcome of the market analysis, authorities will choose one of the following procedures:
   - Open Procedure: used for transparent and straightforward procurements.
   - Competitive Procedure with Negotiation: appropriate for the development of technical specifications with contractors.
   - Innovation Partnership: for projects that involve heavy investment in R&D.[8]
3. **Award Criteria**
   The Most Economically Advantageous Tender (MEAT) is the preferred approach to ensure a proper balance among quality, innovation, and economy. The typical criteria of evaluation are life cycle costs, environmental impact, and technical performance.[7]
4. **Contract Management and Monitoring**
   The Public authorities actively collaborate during the implementation phase with active suppliers for compliance and maximization of project outcomes accordingly.

Insights from the Questionnaire

The results of the ProcuraMED survey give further insight into the practical implementation and understanding of PPI in Cyprus. The survey mapped the level of acquaintance with procurement innovation among public authorities and identified barriers and opportunities:

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Knowledge and Application

- Only a limited percentage of respondents showed high acquaintance with PPI procedures, which indicates a gap in knowledge that acts as a barrier to wider adoption.
- Among PPI familiarity, in the best case few had been able to implement the tool to environmental management or energy efficiency, suggesting a capacity building need of public procurement officers.
- Lack of relevant skills was also put forward as a major obstacle to successful PPI implementation, such as project management and legal.

Identified Challenges

- The majority of respondents reported financial constraints and lack of technical expertise as main challenges to PPI implementation.
- Risk aversion was another factor, with authorities being unwilling to invest in untested or innovative solutions due to uncertainties in cost and performance.

Opportunities and Encouraging Findings

- A number of respondents acknowledged that MEAT criteria have the potential to drive quality and innovation, even if its application is still uneven.
- Collaborative procurement practices and knowledge-sharing initiatives were identified as areas with potential to strengthen innovation outcomes.

7.7.3 PPI CASE in CYPRUS

Example: E-Government Services for Public Sector Efficiency

One of the most famous examples of PPI in Cyprus is the contract for an e-Government Portal in order to facilitate digital public services. The project was supported by the Cyprus Ministry of Research and Innovation and focused on facilitating better access and efficiency for citizens and businesses.[9]

Key Phases:

- **Needs Identification**: Stakeholder consultations highlighted a need for a centralized digital platform that would reduce administrative burdens.
- **Market Engagement**: A market consultation workshop was conducted to explore innovative solutions, with participation from local tech companies.
- **Procurement Process**: The Competitive Procedure with Negotiation was used to complete the specification and choose the best solution.
- **Implementation**: The selected contractor developed a cloud-based, multi-service platform.

Outcomes:

- The administrative processing time was reduced by 20%.
- Public satisfaction increased with user-friendly digital services.
- Increased collaboration between government bodies and local SMEs.

7.7.4 CONCLUSION

While Cyprus has made significant steps in implementing PPI, several challenges remain: limited expertise, especially in smaller municipalities; low awareness of the benefits; and resistance to innovative procurement methods. To overcome these barriers, Cyprus is leveraging the EU funding programs such as Horizon Europe and Digital Europe.

Recommendations:

- Expand training programs for procurement officers, in order to build capacity.
- Enhance public-private partnerships to involve SMEs and startups in PPI processes.
- Use EU and national funding mechanisms to develop innovative public projects.

[9] https://www.nrdcompanies.com/insights/transforming-governance-the-impact-of-e-government-projects-on-efficiency-public-value/

Meeting these challenges Cyprus will further raise its role in advancing innovation and sustainability through PPI.

7.8 SLOVENIA

7.8.1 NATIONAL CONTEXT

In Slovenia, Public Procurement of Innovation (PPI) is recognised as a strategic tool for addressing societal challenges, improving public service delivery and fostering innovation in different sectors. The Slovenian Government has put in place a legislative framework and guidelines to promote the use of innovative solutions through public procurement.

Legal framework
Slovenian public procurement legislation is aligned with EU legislation, including Directive 2014/24/EU and Directive 2014/25/EU. The main regulations governing public procurement in Slovenia are:

- Public Procurement Act (ZJN-3): This Act regulates public procurement procedures in the general area and in the infrastructure area.
- Law on Legal Protection in Public Procurement Procedures (ZPVPJN): This law regulates the legal protection of tenderers, contracting authorities and the public interest in public procurement procedures and establishes the bodies competent for the protection of rights under this law.

In addition, Slovenia adopted the Law on Public Procurement in the Field of Defence and Security (ZJNPOV), which lays down the rules for the procurement of goods, services and works in the field of defence and security.

Institutional actors

The main institutional actors influencing the implementation of the PPI in Slovenia include:

- The Directorate for Public Procurement: operates within the Ministry of Public Administration and is responsible for overseeing public procurement in Slovenia.
- National Audit Commission: An independent body responsible for resolving disputes in public procurement procedures.

Economic factors

Slovenia recognises the importance of innovation for economic development. Public procurement of innovative solutions is key to fostering competitiveness and technological progress. However, it faces challenges such as limited awareness of the benefits of innovative procurement and resource constraints.

7.8.2 PROCEDURE

Slovenian legislation provides for various procedures for public procurement of innovation, including:

1.innovative partnership: This procedure allows cooperation between the contracting authority and economic operators for the development and subsequent purchase of innovative products, services or works.

2. Competitive dialogue: Used when the contracting authority is not in a position to specify the technical specifications or the legal and financial terms of the project, and therefore seeks the best solutions through dialogue with the selected tenderers.

3. Competitive negotiated procedure: Allows negotiations with tenderers to adapt technical solutions or economic conditions to innovative requirements.Faze postopka javnega naročanja inovacij

Analysis and planning

- Identification of needs: Identification of complex or unmet public needs.
- Market analysis: Verification of existing solutions on the market and carrying out preliminary market consultations.
- Strategic planning: Inclusion of the procurement in the procurement plan and assessment of available resources and possible sources of funding.

Preparation of the call for tenders

- Definition of objectives: Preparation of specifications defining functional objectives and enabling innovative solutions.
- Choice of procedure: Deciding on the appropriate procedure according to the nature of the needs and the solutions available.
- Determining the award criteria: Prioritising quality, innovation and sustainability in the selection of tenders.

Publication and selection

- Publication of the call for tenders: Ensuring transparency and informing potential tenderers.
- Evaluation of tenders: Analysis of technical and economic tenders on the basis of predefined criteria.

Development and implementation

- Collaborative development: Working together with the selected tenderer to develop an innovative solution.
- Monitoring and testing: Verification of results and adjustments if necessary.

Take-up and implementation

- Final delivery: Acceptance of the developed or customised solution.

- Operational implementation: Integration of the solution into the client's processes.
- Evaluation and Dissemination: Documenting the experience to promote re-use and dissemination of best practices.

Tools and funding

- **Pre-market consultations:** Useful to understand the options available and encourage participation.
- **National and European funds:** Such as funding from Horizon Europe and other European programmes.
- **Technical support:** Involving institutions such as the Directorate for Public Procurement for technical and operational assistance.

7.8.3 PPI CASE in SLOVENIA

Good PPI Practices in Slovenia are already in place:

eHealth & Smart Healthcare Solutions

- Slovenia has procured digital patient records and AI-driven diagnostics through innovation-friendly procurement frameworks.Example: The Ministry of Health launched a PPI to implement telemedicine solutions in rural areas.

Smart Cities & Public Infrastructure

- Cities like Ljubljana and Maribor have implemented smart lighting, traffic management, and waste collection systems through PPI. Example: The Ljubljana Energy-Efficient Street Lighting Project used innovative LED technology and smart control systems.

Green & Circular Economy Projects

- The government has encouraged innovative waste management, energy efficiency, and water treatment solutions.Example: Procurement of biodegradable packaging in the food sector to reduce plastic waste.

Digital Public Services & AI

- Slovenia has invested in AI-powered chatbots for government services, blockchain-based public records, and data-driven decision-making tools.Example: The eUprava portal simplifies administrative services through AI and digital identity verification.

7.8.4 CONCLUSION

Public Procurement of Innovative Solutions (PPI) in Slovenia is progressing but still faces challenges in widespread implementation. The country follows EU guidelines and initiatives, such as Horizon Europe, Green Public Procurement (GPP), and the European Innovation Partnership (EIP), to promote innovation through public tenders.

Summarising,

Key Developments & Strengths:

- Supportive Legal Framework – The Public Procurement Act (ZJN-3) allows for innovation-friendly procurement, including functional specifications and competitive dialogues.
- Growing Awareness – Government agencies and municipalities are increasingly recognizing PPI as a tool for modernization.
- Successful Pilot Projects – Innovative procurement has been applied in smart cities, digital public services, and green technologies (e.g., Ljubljana's smart lighting system, eHealth solutions).
- EU Funding & Collaboration – Slovenia participates in cross-border initiatives, such as Pre-Commercial Procurement (PCP) and Joint Procurement of Innovative Solutions.

Challenges & Barriers:

- Limited Use of Innovation-Friendly Procedures – Many procurers still rely on traditional lowest-cost selection instead of value-based, outcome-driven procurement.
- Risk Aversion & Administrative Complexity – Public officials often prefer proven solutions over experimental innovations due to legal uncertainty and fear of procurement failures.
- Low SME & Startup Participation – Many small, innovative companies struggle to enter the procurement market due to complex tendering requirements.
- Insufficient Knowledge & Training – Public buyers need specialized skills to evaluate and manage innovation-focused tenders effectively.

Conclusion & Future Outlook

Slovenia has made notable progress in integrating PPI into public sector procurement, but there is still significant room for improvement. To unlock the full potential of innovative procurement, the country should:

- 1ncrease Training & Capacity Building – Equip procurement officers with skills to design and manage innovation-friendly tenders.
- Encourage Market Engagement – Foster dialogue with startups, SMEs, and research institutions before launching tenders.
- Expand Use of Pre-Commercial Procurement (PCP) – Support R&D-based procurement to co-develop cutting-edge solutions.
- Simplify Administrative Procedures – Reduce bureaucratic barriers for SMEs and startups to enhance competition and participation.
- Prioritize Sustainability & Digital Transformation – Leverage PPI to drive green innovation, circular economy, and AI-based public services.

Final Thought: PPI in Slovenia has strong potential, but a shift in procurement culture—from cost-driven to value-driven decision-making—is essential for long-term success.

8. CONCLUSION

PPI is a powerful mechanism to drive innovation and address societal challenges. While significant progress has been made, continued efforts to streamline procedures, enhance stakeholder collaboration and address systemic barriers will be essential to realise the full potential of PPI initiatives. The objective of this guide is to provide guidance on how to proceed with innovative procurement. The different legal frameworks of the countries described in the guide show that PPI is still at an early stage. However, efforts are ongoing to promote and raise awareness among suppliers and procurers.

Although this report is rather theoretical, the case studies presented for each country provide real-life examples of how PPI can be implemented throughout the whole process, including the difficulties encountered and the main costs and time needed.

ANNEX III: Adaptation of GPP application guidelines according with the results of background analysis in each transfer country

ProcuraMED

Innovative and Green Procurement towards sustainable economy in MED area Euro-MED0200775

D.1.1.1 Strategic Procurement Unified Platform

WP1 - Strategic Procurement to accelerate technology transfer of green innovations
Activity 1.1 - Integration and development of Strategic Procurement Unified Platform

"Adaptation of GPP application guidelines according with the results of background analysis in each transfer country"

ProcuraMED | Interreg Euro-MED | Co-funded by the European Union

Content

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1. INTRODUCTION

The European Commission has identified Strategic Procurement as a crucial element in guiding Europe's transition towards an innovative and sustainable economy. In line with this vision, the ProcuraMED project has been established to accelerate the adoption of advanced green technologies and innovation capacities in the Mediterranean region. By promoting the use of Green Public Procurement (GPP) and Public Procurement of Innovation (PPI), ProcuraMED facilitates the integration of green innovations into public services, thus fostering competitive, sustainable, and resilient ecosystems.

To achieve these goals, ProcuraMED engages a wide range of stakeholders, including local, regional, and national public authorities, SMEs, business support organizations, research institutions, and sectoral agencies. Through activities such as awareness-raising, capacity building, skills development, and knowledge transfer, these groups are empowered to increase their expertise in strategic procurement procedures and adopt specialized tools.

In the centre of these efforts is **Activity 1.1 - Integration and Development of the Strategic Procurement Unified Platform**. This activity focuses on merging the GPP Unified Platform, developed under the GRASPINNO project, with the guidelines, examples, documentation, and best practices on PPI from the PROMINENT MED project.

Specifically, PROMINENT MED played a key role in promoting PPI by developing and testing approaches in small municipalities across four Mediterranean countries—Italy, Spain, Portugal, and Croatia—and producing comprehensive guidelines translated into English and French. These guidelines were further adapted by PROMINENT PLUS to suit the legal and social contexts of Slovenia, Greece, and Bosnia. Meanwhile, GRASPINNO, implemented in eight Mediterranean countries, created the GPP Unified Platform, which includes:

- eGPP: assisting public authorities in designing green procurement processes by collecting green specifications and preparing tender documents.
- Life Cycle Costing (LCC): Allowing public authorities to assess all cost parameters for proposed solutions, such as lifetime, maintenance, energy performance, and disposal/resale.
- Best Available Technology (BAT) database: Provides a repository of green products and services, and in parallel a pool of SMEs and public authorities interested in GPP.

Before the integration of the tool, the framework conditions for the use of green and innovative tenders in the transfer countries were analysed, and the guidelines for the application of GPP and PPI were adapted according to the results of the context analysis in each transfer country.

The result is a Strategic Procurement Unified Platform - key deliverable of ProcuraMED - designed to be widely applicable across the Euro-MED cooperation area. It consolidates the results of the previous projects into one tool, offering all the necessary information, guidelines and support tools for both GPP and PPI. The platform is available since December 2024 and will be continuously updated and integrated throughout the duration of the project.

This document reports on the adaptation of the GPP guidelines according to the context analysis in each transfer country, represents a significant development and consolidation of GRASPINNO's methods and practices, linking the results of the previous project to the ProcuraMED framework.

2. GREEN PUBLIC PROCUREMENT (GPP)

What is Green Public Procurement?

Green Public Procurement (GPP) is described in the Communication (COM-2008-400) "Public Procurement for a Better Environment" as a process where public authorities aim to procure goods, services, and works that have a reduced environmental impact throughout their life cycle, compared to alternatives with the same primary function.

Although GPP is a voluntary instrument, allowing Member States to decide the extent of its implementation, it plays a pivotal role in advancing the EU's transition toward a resource-efficient economy.

GPP is part of the broader ***Strategic Public Procurement framework***, alongside Socially Responsible Public Procurement (SRPP) and Innovation Procurement. Its core principle is to establish clear, verifiable, justifiable, and ambitious ***environmental criteria*** for products and services, grounded in a life-cycle approach and supported by scientific evidence.

The European Commission (EC) has developed ***voluntary GPP*** criteria for various product groups. Building on the 2020 Circular Economy Action Plan, the Commission is also introducing minimum mandatory GPP criteria and targets in specific sectoral legislation, along with phased mandatory reporting to track progress.

Complementary to the green criteria, EU Ecolabels are labels that play a significant role in formulating technical specifications, award criteria, and verifying compliance. They assist public buyers in saving time, in line with Article 43 of Directive 2014/24/EU. Additional details about EU Ecolabel product groups are available online.

The last years, European Commission has put a lot of effort in shaping a clear framework for the implementation of the GPP in the Member States and had provided them with useful material such as the Green Criteria, the Good Practice Library, the Green Public Procurement Helpdesk and training material. All these sources can be found in the official EU GGP website.

3. WHY “GPP”?

To answer the question “WHY we should use GPP”, we should think that public procurement accounts for approximately 19% of the EU's GDP, with a significant portion dedicated to improving public infrastructure, such as buildings and roads. If the public sector uses green criteria and a LCC assessment to procure all the goods and services, then the contribution a much more sustainable future is incredible, concretely enhancing the green transition.

Managing public buildings is a key responsibility for municipalities and other local and regional authorities. However, adopting GPP within public authorities, including municipalities, can be challenging. Based on the survey carried out in the first months of ProcuraMED project, the ***following general conclusions and considerations were highlighted***.

The survey revealed that GPP criteria are primarily applied in the renewable energy and refurbishment sectors, while their use is nearly absent in areas like computer, paper, and cleaning product procurement. This observation prompts reflection. In countries such as Italy and Greece, GPP criteria are mandatory for purchasing computers and paper, making their application virtually unavoidable. For instance, in Italy, this can be attributed to the work of CONSIP, the national purchasing centre, which facilitates GPP tenders through MEPA (Public Administration Electronic Marketplace). Public administrations can purchase directly on MEPA, and in many cases, small municipalities use GPP-compliant procedures unknowingly, as they rely on pre-prepared tenders.

However, the mandatory nature of GPP in certain sectors does not guarantee its implementation. In most countries, GPP criteria are developed at the national level, and without sector-specific criteria for mandatory GPP procedures, their application often remains theoretical. For example, in Italy, minimum environmental criteria for the design, construction, maintenance, and upgrading of road infrastructure only came into effect in August 2024. Among the countries analyzed, only Cyprus has fully transposed EU GPP criteria into national legislation, whereas other countries rely on their own national criteria.

Additionally, the preparation of complex tenders, such as those for energy-efficient buildings, often involves significant use of external experts. This outsourcing trend can be attributed to austerity measures aimed at controlling public debt, which have led to a reduction in public sector staffing. The survey highlights that many partner countries lack personnel with the professional expertise to handle the complexity of such procurement procedures, further incentivizing the outsourcing of tender preparation.

The survey created a key dilemma for the PROCURAMED partnership: who should be the primary focus of any training or informational efforts? Should the emphasis be on retraining internal staff, or should external consultants be the main target? Two critical factors need to be weighed when making this decision. The first is the cost of outsourcing tender implementation, which is undoubtedly high. The second involves the willingness to take on risk, particularly for innovative procedures like Public Procurement of Innovation (PPI). Survey data underscores this challenge: while some administrations are open to taking risks, others remain cautious.

Another point of attention is the use of credible evaluation system such as the Life Cycle Cost (LCC). Unfortunately, the use of GPP and PPI does not imply that their application brings the hoped-for benefits in terms of sustainability of the local economy and public budget especially if this application is separated from a credible evaluation.

Although European and national legislators have encouraged the use of Life Cycle Costing (LCC) as an evaluation criterion for determining the Most Economically Advantageous Offer, its adoption, unlike GPP, remains optional. The GRASPINNO project has clearly demonstrated the advantages of LCC for evaluating the Most Economically Advantageous Tender. Unlike other methods, LCC is not subjective; it relies on objective values derived from existing technologies and market conditions for the goods or services offered.

LCC effectively addresses the long-standing challenge of decoupling economic and environmental considerations. By using this methodology, decision-makers can identify environmental solutions that are compatible with medium- to long-term economic development, tailored to specific technologies and markets. Furthermore, LCC offers clear and unambiguous insights into the impact of strategic procurement on public budgets over the medium and long term. Unlike traditional price-focused evaluations, LCC considers all possible costs, making its fiscal implications transparent and comprehensive.

Another challenge revealed by the analysis is the difficulty in distinguishing between common concepts in strategic procurement, even when differentiating GPP from PPI. While many public administrations report frequent use of the Most Economically Advantageous Tender (MEAT) criterion, MEAT simply includes price as one of several selection factors. Both GPP and PPI fall under the broader MEAT umbrella. Given that public administrations often claim to use MEAT but report limited engagement with GPP or PPI, it raises questions about the alternative criteria being used. This may indicate an underestimation of green and innovative procurement due to a lack of clarity in definitions.

In some countries, the distinction between GPP and PPI is minimal due to national legislation that mandates specific procedures. For example, in Italy, implementing PPI inevitably involves GPP, as the latter is a legal requirement. Similarly, in Greece and Croatia, GPP is mandatory in certain sectors, making it integral to procurement processes. However, the absence of an official definition of PPI in many countries further complicates its adoption.

4. HOW TO "GPP"?

How to conduct GPP in a credible way

Conducting GPP in a credible and effective way requires a structured and transparent approach that aligns with environmental objectives while meeting procurement needs. Here are the ***key steps*** to achieve this:

1. Define Clear Environmental Objectives

- Identify the environmental goals you want to achieve, such as reducing carbon emissions, promoting energy efficiency, minimizing waste, or supporting the circular economy.
- Ensure these objectives align with national and EU environmental policies.

2. Establish Green Criteria

- Use established frameworks like the European Commission's GPP criteria, which provide clear, scientifically based environmental standards for various product and service categories.
- Ensure the criteria are specific, measurable, and relevant to the procurement context, focusing on the entire life cycle of the product or service.

3. Apply the Life Cycle Costing (LCC) Approach

- Evaluate bids based on the total cost of ownership, including purchase price, operation, maintenance, and end-of-life disposal, alongside environmental performance.
- LCC ensures that long-term benefits are considered over short-term cost savings.

4. Embed GPP in Procurement Policies

- Make GPP an integral part of your organization's procurement strategy and align it with broader sustainability goals.
- Develop internal guidelines and procedures to standardize the application of GPP across all procurement activities.

5. Train and Build Capacity

- Provide training for procurement staff to understand GPP concepts, criteria, and evaluation methods.
- Equip staff with the skills to assess environmental claims and verify compliance effectively.

6. Use Verified Environmental Labels

- Incorporate certifications like the EU Ecolabel into tender specifications as a way to verify environmental performance.
- Ensure that the labels or certifications used are recognized and meet high environmental standards.

7. Promote Market Engagement

- Communicate with suppliers to ensure they understand GPP requirements and can meet them.
- Encourage innovation by clearly stating environmental objectives in tender documents and allowing flexibility for suppliers to propose innovative solutions.

8. Monitor and Evaluate Compliance

- Establish systems for verifying compliance with GPP criteria during the tender process and contract performance.
- Include provisions for environmental reporting and audits in contracts to ensure ongoing adherence to agreed standards.

9. Encourage Collaboration Across Levels

- Work with other public authorities to share best practices, templates, and resources for GPP.
- Collaborate with national or regional purchasing centers to leverage expertise and economies of scale.

10. Ensure Transparency and Accountability

- Clearly document the environmental criteria, evaluation process, and decision-making rationale.
- Publish procurement outcomes to demonstrate compliance with GPP objectives and to build trust among stakeholders.

By following these steps, public authorities can conduct GPP in a credible manner that not only ensures compliance, but also contributes significantly to broader environmental and sustainability goals.

5. STRUCTURE OF THE GUIDELINE

The objective of this guideline is to:

- offer practical step by step introduction into GPP process at national level
- give an emphasis on the EU GPP criteria that can be used by the Member States
- provide a basic framework for the use of the Unified Platform and examples for the assessment approach such as LCC

The GPP cycle has several stages as shown below:

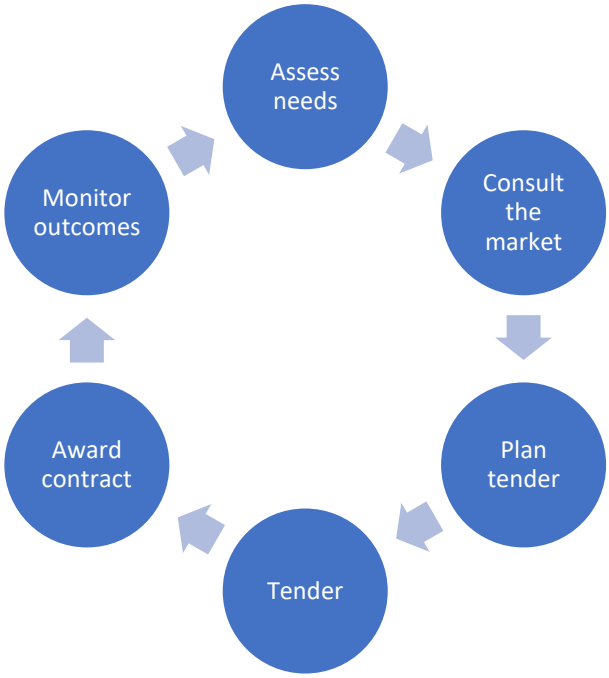


Figure 3: The stages of GPP cycle

Among these stages, the present guideline document focuses on 4 key steps that are the most difficult for the public authorities. In particular, it adopts a step-by-step approach, starting with preparation and planning and progressing to the selection and evaluation of tenders. It does not cover the specifics of procurement procedures outlined in the national legislation of each country or the final stage of the process, contracting. The national specificities are presented in Chapter 7. The step-by-step approach will focus on the following:

- ✓ Preparation and planning
- ✓ Definition of specification - Green criteria and Verified Environmental Labels
- ✓ Selection and implementation of the procedure
- ✓ Selection, evaluation and notification of the tenders

The key issues associated to each of these stages will be presented (table 1).

Table 4: The key steps of GPP application

	Preparation and planning	Definition of specification - Green criteria and Verified Environmental Labels		Promote Market Engagement	Selection and evaluation
Key issues	Needs assessment	Consult the EU green criteria	Incorporate certifications into tender specifications	Ensure that the market can meet the set green criteria & labels	Award process using LCC
	Creation of the project team	Select existing or establish green criteria	Dialogue with the economic operators	Encourage them to apply	

6. THE COUNTRY LEGISLATION SPECIFICS

Public purchasing bodies must carefully consider the national regulatory framework before initiating the GPP process. This framework encompasses the laws, rules, and guidelines that govern public procurement, including GPP, and is critical to ensuring fair, transparent, and efficient processes.

Some key considerations within the National Regulatory Framework of the [participating countries are:

Procurement Rules and Procedures
Public purchasing bodies must adhere to procurement rules and procedures specific to GPP (if any). These govern supplier selection, tender evaluation, and contract award. For instance, they may require conducting market consultations, publishing procurement notices, or utilizing electronic procurement systems to ensure equal opportunities for all suppliers to participate in the process.

Legal and Ethical Requirements
Compliance with legal and ethical standards is essential. Procurement processes must uphold principles of non-discrimination and fairness, ensuring suppliers are treated impartially. Public purchasing bodies must avoid anti-competitive practices, such as colluding with suppliers or drafting discriminatory tender specifications.

GPP-Specific Regulations and Guidelines
In some countries, specific regulations or guidelines apply to the GPP (for example in Italy) products, services, or solutions. These may include requirements for evaluating selecting suppliers and awarding contracts. Public purchasing bodies must familiarize themselves with and adhere to these regulations and guidelines to ensure compliance throughout the GPP process.

Additionally, to the national framework, the ProcuraMED project offers the updated GRASPINNO Unified Platform, which offers a set of supporting tools that assist public authorities in selecting green criteria, preparing the tender documents and use the GRASPINNO LCC tools.

To assist public purchasing bodies, this document includes detailed descriptions of country-specific legislation that must be followed during the preparation and execution of GPP processes in Chapter 7.

7. COMMON EXPERIENCES WITH GPP PHASES

STEP 1: PREPARATION AND PLANNING

Needs assessment

What is needs assessment?

Needs assessment ensures that the procurement process addresses a genuine demand for goods, services, or works while identifying the most environmentally efficient way to meet that demand.

Examples of Needs Assessment Impacting Procurement Outcomes:

- **Furniture Repairs:** A local authority opts to repair existing furniture instead of purchasing new items.
- **Reduced Desktop Purchases:** A government department reduces the number of desktops procured, recognizing that some staff prefer working on laptops.
- **Flexible Catering Contracts:** A school awards a catering contract that adjusts food provision to match daily student attendance.

Benefits of Needs Assessment:

By integrating needs assessment into the pre-procurement process, organizations can save both money and resources. This approach may also require a cultural shift—from focusing on the quantity of items purchased to considering sustainable ways to meet needs.

Steps to Implement Needs Assessment:

Organizations can adopt a structured approach to embed sustainability and efficiency into their procurement practices, following clear and actionable steps that align with this mindset shift

User consultation

The **users** of a good, service or work are often not the same people buying it. They may be other individuals within the same organisation, employees of another public body, or citizens (e.g. hospital patients, residents, school or university students). To avoid unnecessary or inappropriate purchases, any of the following techniques may be used to consult users prior to launching a procurement:

- A **questionnaire or online survey** to determine user needs and preferences
- **Observation and analysis** of existing use patterns
- A **review and planning meeting** to which all relevant stakeholders are invited
- Inviting users to attend **supplier demonstrations** held as part of preliminary market consultation

Why we are buying – needs statement

Based on the information gathered during the user consultation, it should be possible to formulate a simple **needs statement** which describes:

- · The **reason** for the purchase
- · Any **alternatives to purchasing** which have been taken into account

Alternatives to purchasing may include **sharing resources** within your organisation or with another organisation (e.g. meeting rooms and equipment), **repairing or upgrading** items rather than purchasing new ones (e.g. furniture, computers), and **leasing or renting** rather than buying (e.g. vehicles).

The needs statement can be used both to develop the **business case** for procurement and to inform suppliers during **preliminary market consultation** and tendering. It should be **open to challenge** on environmental grounds, for example by internal or external sustainability experts.

What we are buying

Based on the user consultation and needs statement, you will be able to define the **subject-matter of the contract** and to develop a **specification**. These steps are very important because they affect the GPP criteria which will be applicable to the contract – as explained in Module 3: Legal aspects of GPP.

Defining the subject matter means:

- · Deciding whether the contract is for **supplies**, **services** or **works**
- · Choosing a **title** and **brief description** for the contract
- · (If it is an OJEU-level1 tender) Choosing the appropriate **CPV codes**

These elements inform the market about your needs, and should include relevant environmental aspects (e.g. "Supply of energy-efficient smart screens"). In some cases it may be more efficient to award a **service contract** – for example to keep buildings at a certain temperature – rather than paying for gas or electricity to meet the need for heating.

The procurement documents will need to contain a more detailed technical specification of what you are buying, unless you are using the competitive dialogue procedure (in which case only an outline description is required). The specification should reflect the information gathered from the needs assessment, but should not be **overly prescriptive**. For example, if you are buying smart screens you may not need to specify all aspects of functionality, allowing bidders to propose innovative solutions. These innovative aspects (e.g. connectivity, energy-saving features, upgrade options) can then form part of the evaluation under the contract **award criteria.**

One approach to defining technical specifications in GPP is to use **performance-based or functional specifications**. Instead of describing the inputs or standards to which products must conform, these define the outcome you are looking for – for example by stating the average room temperature to be achieved rather than the heating and cooling technology for a building. This can encourage the market to propose a range of solutions, which can then be evaluated under your award criteria

Who we are buying for

Instead of just purchasing for your own organisation, you should consider **joint procurement** at the needs assessment stage. This can help to create stronger demand for green products and services, and result in better value too. Bidders may be more willing to invest in green production processes, equipment, certification/labels etc where they see that there is a larger demand.

Different approaches to joint purchasing exist, some of which involve a **centralised purchasing body**. Other approaches include:

- Buying from an **existing** framework or contract which is accessible by your organisation and which meets your needs
- **Setting up** a framework or contract that will be used by others
- Conducting a **joint procurement** with one or more other authorities

As part of needs assessment, consider each of these options and contact potential partners.

How much we are buying

In an OJEU-level tender, you will need to estimate the **total quantity or scope** of the contract or framework. This gives the market an idea of the volume and value of what is being purchased – but does not form a binding commitment on the part of the contracting authority. The estimate may be in the form of a range (e.g. 50-70 units over three years) and for a framework should reflect all planned purchases by the contracting authorities who intend to use it.

Needs assessment can help to ensure that the quantity of what you are purchasing is appropriate and minimises any waste. This is sometimes even more important for **services and works** than for supplies, because they cannot be stored and may represent significant **embedded environmental impacts**. For example:

- The **size** of a new office building should be based on current user needs and any projected growth, taking account of trends in home working, desk sharing etc.
- The **frequency** of street cleaning services should be based on observation and analysis of the area, taking account of any initiatives on waste reduction and recycling
- The **number** of printers should be based on current usage, taking account of planned print management activities to reduce demand. In some cases, it may be more efficient to have just a few larger printers rather than many small ones.

How we are buying – flexible contracts

Public authorities should avoid getting 'locked in' to contracts which require a **specific volume** of supplies, services or works to be purchased. While these may seem to offer good value at the outset, if needs change then the environmental impact of excess purchasing will quickly become apparent.
Intelligent contract design for GPP involves flexibility, so that the volume is always '**just right**'.

Framework agreements can be particularly useful as they allow for multiple contracts to be awarded without going through a new tender process. This means that adjustments to volume or frequency can be made over time, and potential future needs (such as additional furniture or equipment for a building) do not need to be included in the initial contract.

Creation of the project team

Among the stakeholders, it is crucial to identify the actors who will compose the project team. The efficiency of this managerial approach relies on:

- The appointment of a GPP project manager who will bypass traditional hierarchies and services with different targets. The GPP project manager must belong to the contracting public authority and be recognised for its experience and expertise.
- The gathering of experts with complementary competencies. There is frequently a gap between the capabilities held by public authorities and the skills required for procuring green solutions. If needed, external experts can be hired to act as facilitators. This is more common for PPI application, than GPP.
- The definition of the roles and responsibilities of the members of the project team for a better coordination: the public demand is frequently fragmented. This is due to lack of coordination among functional departments that buy goods or services separately. This reduces the purchasing power and the impact on the market of public authority (Yeow et al., 2015). This poor intra-organisational interaction can hamper the decision process and the relationships with the suppliers. The lack of coordination before the call is a problem for the buying organisation during the procurement process which may require new organisational routines.

The creation of a strong project team with technical, administrative and legal expertise is a key to the success, along with the political support.

STEP 2: DEFINITION OF SPECIFICATIONS

The technical specifications are essential for the success of the procurement since they provide economic operators who intend to prepare a tender, the information they need to participate.

The European Commission suggests the use of the EU Green Criteria and verified Environmental Labels.

Public authorities should use established frameworks such as the EU Green Criteria, which offer clear, scientifically-based environmental standards for various product and service categories. These criteria should be specific, measurable, and relevant to the procurement context, with a focus on the entire life cycle of the product or service. In order to verify the environmental performance of suppliers, public authorities can incorporate certifications like the EU Ecolabel into their tender specifications. It is important to ensure that the labels or certifications selected are widely recognized and meet high environmental standards, ensuring credibility and alignment with sustainability goals.

Green Criteria and Verified Environmental Labels

a. **Understand and Apply the EU GPP Criteria**

- The **EU GPP criteria** are developed by the European Commission to guide public authorities in selecting environmentally friendly goods, services, and works. These criteria are based on **life-cycle thinking**, focusing on the environmental impact of a product or service throughout its life, from production to disposal.
- Public authorities should review and adopt the relevant EU GPP criteria for the specific product or service they are procuring. These criteria are regularly updated for various categories (e.g., energy-efficient buildings, transport services, office equipment, cleaning products, etc.).

The voluntary GPP Criteria cover the following product groups:

- Computers, monitors, tablets and smartphones
- Data centres, server rooms and cloud services
- Electricity
- Food catering services and vending machines
- Furniture
- Imaging equipment, consumables and print services
- Indoor cleaning services
- Office building design, construction and management
- Paints, varnishes and road markings
- Public space maintenance
- Road design, construction and maintenance
- Road lighting and traffic signals
- Road transport
- Textile products and services

b. Select Relevant Criteria for the Tender

- Not all EU GPP criteria apply to every procurement. Authorities should select the most appropriate environmental criteria based on the product or service category they are purchasing.
- **Environmental performance criteria** can include energy efficiency, the use of recycled materials, durability, and the product's end-of-life impact, such as recyclability or safe disposal.
- Authorities should ensure that the criteria are clear, measurable, and enforceable in the context of the tender.

c. Incorporate GPP Criteria into Tender Documents

- Public authorities should **embed GPP criteria** into their tender specifications, using clear language that sets the expectations for suppliers. For example, if procuring energy-efficient office equipment, the tender should specify the required energy performance levels.
- These criteria should be included in the **technical specifications** of the tender, as well as in the **award criteria** to evaluate the environmental performance of bidders.

d. Use Verifiable Environmental Labels

- Where possible, public authorities can require suppliers to demonstrate compliance with **environmental certifications and labels** such as the **EU Ecolabel**, **Energy Star**, or **Fair Trade**. These labels simplify the verification process and ensure that products meet high environmental standards.
- If applicable, public authorities should make sure that suppliers use certified products that meet the required environmental criteria, reducing the need for detailed assessments during the tender evaluation.

STEP 3: MARKET ENGAGEMENT

In GPP, the **market engagement** is not as essential as in PPI. However, it allows contracting authorities to adapt their ambitions to the reality of the market and to avoid unsuccessful call for tenders.

The market engagement stage comes once public procurers have identified their needs. It is used to inform economic operators about the forthcoming procurement but also to examine whether the needs previously identified can be fulfilled by the market. The aim is to go away from the routine while most procurements are perfunctorily procured. "*Market engagement breaks down barriers between customers and suppliers to the benefit of all concerned"* (Whyles, 2018).

Public authorities should communicate with suppliers to ensure they fully understand the Green Public Procurement (GPP) requirements and can meet them. By clearly stating environmental objectives in tender documents, authorities can also encourage innovation, allowing suppliers the flexibility to propose creative and innovative solutions that align with sustainability goals. This approach not only fosters innovation but also helps identify the most effective ways to meet environmental standards.

Market engagement may take place ***before***, during and after a formal tender procedure. Prior to tendering, it is typically used to identify potential suppliers and relevant product/services, and to give suppliers an opportunity to prepare for the tender, for example by forming partnerships. ***During*** a tender, the contracting authority may meet with bidders – particularly in the competitive dialogue or competitive procedure with negotiation. Following a tender, debriefing may be offered to bidders.

Market analysis

Market analysis is an essential step for public authorities before launching a Green Public Procurement (GPP) tender to mainly ensure that the ***market can meet the set green criteria and the labels***. It doesn't make sense of the public authority sets ambitious green criteria that cannot be met by the market, especially in some cases in regional or national level.

Below the main reasons for market analysis are presented:

1. Understanding Market Availability

Market analysis helps authorities assess the availability of environmentally friendly products, services, and solutions in the market. It ensures that there are viable options that meet the desired green criteria, preventing the tender from being too restrictive or unrealistic. By understanding what is already available, authorities can set realistic expectations and avoid over-specifying green requirements that may limit supplier participation.

2. Identifying Innovative Solutions

Conducting a market analysis allows public authorities to identify potential innovative solutions that could meet environmental goals. Suppliers may offer new, cutting-edge technologies or services that could provide significant sustainability benefits. A thorough market analysis helps authorities explore all possible solutions, fostering innovation and potentially achieving better outcomes.

3. Assessing Cost Competitiveness

A market analysis allows authorities to evaluate the cost implications of green alternatives compared to traditional options. It provides insight into the cost-effectiveness of environmentally friendly products and services, enabling authorities to determine if green solutions are within budget. This is crucial for balancing environmental goals with fiscal constraints and ensuring that the procurement remains economically viable.

4. Understanding Supplier Capacity and Capability

By analyzing the market, authorities can identify suppliers who are capable of delivering the required goods or services that meet green procurement standards. This helps in ensuring that suppliers have the technical expertise, capacity, and resources to meet the specific environmental criteria outlined in the tender.

5. Anticipating Risks and Barriers

A market analysis allows authorities to identify any potential barriers or risks that could arise during the procurement process, such as limited supplier options, higher costs, or lack of availability of certain green products. By understanding these challenges upfront, authorities can develop strategies to address them, such as adjusting the procurement criteria or extending supplier outreach.

6. Encouraging Market Growth

Market analysis helps public authorities gauge the maturity of the green procurement market. In some cases, it may reveal opportunities to stimulate market growth by providing more clarity on demand for green products and services. This can encourage more suppliers to enter the market or invest in green innovations, helping to build a more sustainable and competitive marketplace.

7. Ensuring Compliance with Legal Requirements

Conducting a market analysis helps ensure that the chosen green solutions comply with both national and international sustainability standards. It enables public authorities to avoid selecting solutions that may not meet legal or regulatory environmental standards, ensuring the procurement process remains transparent and legally compliant.

In summary, market analysis is vital for informing the planning of Green Public Procurement. It helps public authorities ensure that green requirements are feasible, cost-effective, and aligned with market capabilities, ultimately leading to more successful and impactful procurement outcomes.

Further market engagement

In GPP, further market engagement can be decided if it is needed based on the following criteria:

Criterion #1: How complex is the product or service?

When the requirements of the contract are intricate, it can be challenging to effectively convey these details in written procurement documents. In such cases, face-to-face discussions can be invaluable, as they help clarify the requirements, encourage compliance with the specifications, and foster innovation and competition.

Criterion #2: How complex is the market?

Does the market feature a monopoly, perfect competition, or something in between? This can influence the effectiveness of different engagement strategies and the value of involving one or multiple stakeholders in the process.

Criterion #3: How mature is the market?

If many suppliers in a given market are not accustomed to tendering for public sector contracts, this can impact competition, particularly if they are not offered adequate support. SMEs, in particular, may struggle to allocate resources for responding to public contract opportunities and may require tailored assistance both before and during the procurement process.

Criterion #4 What is the scope for innovation?

For contracts aiming to introduce innovative solutions, market engagement is crucial. Two-way communication with suppliers will allow procurement leads to assess the risks and opportunities tied to the level of innovation expected. Strong pre-procurement market engagement can often help avoid lengthy and resource-intensive processes like competitive procedures with negotiation or competitive dialogue, though these may still be necessary in some cases.

Criterion #5: What is the potential for delivering policy through procurement objectives, such as social value?

Similar to innovation, when new or ambitious policy requirements, such as social value, are included as procurement objectives, it is essential to clearly communicate these expectations to the market and provide appropriate support where needed.

Criterion #6: What is the value of the contract?

Some types of market engagement can be time and resource-intensive, so it is essential to ensure that the allocation of resources for engagement is justified. A well-thought-out approach to resource allocation will contribute to the long-term success of the market engagement process.

Criterion #7: What is the balance of knowledge between buyer and supplier?

When the buyer has extensive knowledge about the goods or services being procured, one-way communication may suffice. However, if suppliers and the broader market possess more expertise in the goods or services, two-way communication is likely to be necessary to ensure effective engagement and a better understanding of the market dynamics.

STEP 4: SELECTION AND EVALUATION

When awarding a green tender, it is essential to consider both the environmental performance and the economic value of each bid. This ensures that the selected solution provides the best overall value, not just in terms of cost, but also in its contribution to sustainability goals.

The evaluation process can be approached in the following ways:

1. Evaluating Environmental Criteria:

Focus on assessing how well each bid meets environmental sustainability goals. This could involve examining factors such as:

- ✓ Carbon emissions
- ✓ Energy efficiency
- ✓ Use of renewable resources
- ✓ Recyclability
- ✓ Waste reduction

These criteria help to measure the environmental impact of the product or service throughout its life cycle.

2. Weighing Environmental Impact Alongside Life Cycle Costing (LCC):

LCC provides a financial assessment of the total cost of ownership over the product's or service's life cycle, including maintenance, energy consumption, and disposal. While the LCC focuses primarily on economic aspects, integrating environmental criteria into the decision-making process is vital.

In some cases, a higher initial purchase cost may be acceptable if it leads to long-term savings due to lower energy consumption, reduced maintenance costs, or extended product life. By considering both the financial and environmental impacts together, public authorities can make well-rounded procurement decisions that offer long-term benefits to both the budget and the environment.

8. APPLICABILITY OF GPP IN THE MED COUNTRIES

8.1 ITALY

8.1.1 THE NATIONAL CONTEXT

Green Public Procurement (GPP) in Italy has undergone significant evolution thanks to Legislative Decree No. 50/2016, as amended in 2017, which introduced the obligation for public administrations to apply the **Minimum Environmental Criteria (CAM)** in all procurement of goods, services and works for which the CAM have been defined. Italy is still the only country to have a procurement code that mandates the introduction of CAM for all contracts. The CAM, prepared by the Ministry of the Environment and Energy Security (MASE), represent technical and environmental parameters designed to reduce the environmental impact throughout the life cycle of the products and services subject to the contract.

Since GPP was mandatorily introduced in Italy, apart from an initial period when the still inexperienced public administration had some difficulties in applying it, the only obstacle to the diffusion of this procedure was the absence of CAM in some important sectors. In the early years of GPP implementation, the effectiveness was limited by the scarcity of available CAM, which covered only a few sectors. With the progressive expansion of the number of defined criteria, the situation has improved, allowing for greater application of GPP in increasingly diversified sectors.

With the introduction of the DNSH (Do No Significant Harm) principle for the projects of the National Recovery and Resilience Plan (NRRP or PNRR in Italian), the situation has become even more complicated, as the criteria of this principle, mandatory in many public funding contexts (especially for the PNRR but not only), partially overlap with the criteria of the GPP, which is also mandatory. In particular, PNRR is divided into 2 regimes:

- Regime 1, i.e. Projects with Significant Environmental Impact where an Environmental Impact Assessment (EIA) is required due to the likely significant impact on the environment and human health.
- Projects falling under Regime 2, characterized by limited or no environmental impact, are exempt from a full Environmental Impact Assessment (EIA) but may require a simplified assessment known as a "Verifica di Assoggettabilità a VIA." This assessment determines if further monitoring is necessary. Projects in this regime are typically considered simpler and benefit from streamlined authorization procedures.

Within Regime 2, the focus shifts towards implementing Minimum Environmental Criteria (CAM), in the framework of Green Public Procurement (GPP), rather than a thorough evaluation of the six "Non-Damage" principles (DNSH). This is in contrast to Regime 1, where significant impact necessitates a broader consideration of the DNSH. In Regime 1, CAM may not be sufficient to ensure the achievement of environmental goals outlined by the DNSH. If there's partial overlap between GPP criteria and those required to achieve the aforementioned goals, the more stringent criteria will prevail.

8.1.2 PROCEDURE

The Green Public Procurement process is quite simple; a necessary and sufficient condition for a tender to be considered Green Public Procurement is the application of the Minimum Environmental Criteria (CAM). Consequently, the tender will require compliance with the parameters set out in the specific sectoral CAMs prepared by the Ministry for the goods, services to be used and works to be realised.

The main complication is the value to be attributed to the CAM, which may be considered as a minimum requirement to be met in order to participate in the tender, or it may take on a higher value within a weighted average that takes into account environmental and economic aspects, when the identified good and service takes on a value higher than the minimum threshold indicated by the specific CAM. The selection criterion by weighted average is quite widespread but contains a good margin of discretion on the value to be attributed to the environmental compared with the economic component. This aspect, as we shall see below, represents a major limitation to the effectiveness of GPP procedures.

The complete and updated list of CAM is available on the official MASE portal:
https://gpp.mase.gov.it/CAM-vigenti

At the end of 2024, the CAM cover numerous sectors:

1. Here is the list of all the CAM currently in force:

- INDOOR FURNITURE: supply and rental service of indoor furniture (approved with Ministerial Decree 254/2022);
- URBAN FURNITURE: minimum environmental criteria for the award of the service of designing playgrounds, the supply and installation of products for urban furnishings and outdoor furnishings, and the award of the service of ordinary and extraordinary maintenance of products for urban furnishings and outdoor furnishings. (Adopted with Ministerial Decree of 7 February 2023);
- INCONTINENCE AIDS: supplies of incontinence aids (approved with Ministerial Decree of 24 December 2015);
- WORK FOOTWEAR AND LEATHER ACCESSORIES: supplies of work footwear non-PPE and PPE (PPE is the acronym of Personal Protective Equipment), leather articles and accessories (approved with Ministerial Decree of 17 May 2018)
- PAPER: purchase of copy paper and graphic paper (approved with Ministerial Decree of 4 April 2013)
- CARTRIDGES: minimum environmental criteria for the award of the managed printing service; the award of the rental service of printers and multifunction office equipment; the purchase or leasing of printers and multifunction office equipment. (approved with Ministerial Decree of 17 October 2019 – Explanatory Circular)
- CONSTRUCTION: award of the design service for building interventions, for the award of works for building interventions and for the joint award of design and works for building interventions" (approved with Ministerial Decree 256/2022)

- PUBLIC LIGHTING (supply and design): acquisition of light sources for public lighting, the acquisition of public lighting fixtures, the award of the design service for public lighting systems (approved with Ministerial Decree of 27 September 2017)
- PUBLIC LIGHTING (service): public lighting service (approved with Ministerial Decree of 28 March 2018)
- LIGHTING, HEATING/COOLING FOR BUILDINGS: award of energy services for buildings, lighting and power service, heating/cooling service (approved with Ministerial Decree of 7 March 2012, published in the Official Gazette no. 74 of 28 March 2012);
- ENERGY PERFORMANCE: adoption of minimum environmental criteria for the integrated award of an Energy Performance Contract (EPC) for energy services for building-plant systems (CAMEPC). Adopted with Ministerial Decree of 12 August 2024 published in the Official Gazette General Series no. 202 of 29-8-2024 in force from 28 December 2024.
- ROAD INFRASTRUCTURE: adoption of minimum environmental criteria for the award of the design and execution of construction, maintenance and upgrading of road infrastructure services (CAM Strade). Adopted with Ministerial Decree No. 279 of 5 August 2024, published in the Official Gazette General Series no. 197 of 23-8-2024 and in force from 21 December 2024.
- INDUSTRIAL WASHING AND RENTAL OF TEXTILES AND BEDDING: award of the industrial washing and rental of textiles and bedding service (approved with Ministerial Decree of 9 December 2020)
- CLEANING AND SANITISATION: minimum environmental criteria for the award of the cleaning and sanitisation service of buildings and environments for civil, health and detergent products (approved with Ministerial Decree 51/2021 – Ministerial Decree of 24 September 2021)
- URBAN WASTE: award of the urban waste collection and transport service, the street cleaning and sweeping service, the supply of the related vehicles and containers and bags for the collection of urban waste (approved with Ministerial Decree 255/2022)
- COLLECTIVE CATERING: collective catering service and supply of food commodities (approved with Ministerial Decree No. 65 of 10 March 2020 – Accompanying Report)
- CATERING AND VENDING MACHINES: minimum Environmental Criteria for tenders related to catering services and the distribution of tap water for drinking purposes (approved with Ministerial Decree of 6 November 2023)
- ENERGY SERVICES FOR BUILDINGS: award of energy services for buildings, lighting and power service, heating/cooling service (approved with Ministerial Decree of 7 March 2012)
- ENERGY SERVICES ON PERFORMANCE FOR BUILDING-PLANT SYSTEMS: integrated award of an Energy Performance Contract (EPC) for energy services for building-plant systems (CAMEPC) (approved with Ministerial Decree 12/08/2024)
- PRINTERS: award of the managed printing service, award of the rental service of printers and multifunction office equipment and purchase or leasing of printers and multifunction office equipment (approved with Ministerial Decree of 17 October 2019)
- TEXTILES: Minimum Environmental Criteria (CAM) for the supply and rental of textile products and for the restyling and finishing service of textile products (adopted with Ministerial Decree of 7 February 2023)

- VEHICLES: purchase, leasing, rental, hire of vehicles used for road transport and for public passenger transport services, special road passenger transport services (approved with Ministerial Decree of 17 June 2021);
- PUBLIC GREEN: public green management service and supply of products for green care (approved with Ministerial Decree 63/2020)

8.1.3 GPP CASE in ITALY

Considering that GPP procedures in Italy are now an established practice, this section has focused before on the limits of current use and then on the description of a pilot project using a correct application method.

Despite the regulatory obligation and the progressive increase in the sectors in which the CAM have been defined, the GPP procedure is still not very effective for the implementation of long-term sustainable development in all its components (environmental, economic and also social). The poor application of Life Cycle Costing (LCC) as a selection criterion contributes to the "decoupling" between economy and environment, that is, the impossibility of improving the economic (environmental) situation without worsening the environmental (economic) condition; this occurs in the presence of:

- ecological products and services with significantly higher costs compared to traditional alternatives. The excessive price could reduce the demand for goods for citizens and companies and therefore create negative effects on the economy.
- lack of economic sustainability of tenders, with negative impacts on the budgets of public authorities in the medium/long term.

In other words, LCC is a calculation tool that allows to evaluate that the overall cost of any ecological product or service, throughout its life cycle, is lower than the alternatives, even in the presence of a higher purchase price. This is possible because Life Cycle Costing includes, in addition to the purchase price, the duration of the asset, the costs of use, maintenance and disposal.

GPP promotes the economically most advantageous offer (OEPV), which includes not only the price but also specific environmental qualities of goods and services. However, without an objective evaluation system like the LCC, the final price of the selected good could be too high.

LCC allows to:

- evaluate the overall costs during the entire life cycle of the product or service;
- establish an economic limit beyond which the price of an ecological good should not rise to ensure the economic sustainability of GPP;
- compare the life cycle cost of the ecological good with that of a traditional good, demonstrating which choice is more advantageous in the long term.

In summary, LCC not only strengthens the principle of sustainability, but avoids repercussions on public budgets and the local economy. Unfortunately, the use of LCC as a selection criterion is

suggested by both national legislation and the specific European directive, but has never been made mandatory.

The correct approach to the GPP procedure was presented in a GRASPINNO PLUS pilot project. The pilot action carried out by UMBRIA Region in the framework of the GRASPINNO PLUS project aimed at developing and testing a method for calculating the life cycle cost of a building based on the cost of individual components. In such a way, Umbria region added LCC to the price list: in other words, the price list of each component for public work will be defined by the Region by taking into account the LCC (in charge of of the regional Department responsible of the Public Work).

The definition of the price list was used by SMEs operating in the region with European funds (FESR; FSE; Next generation EU and other national resources).

The final step was to transform the price List in a BIM. library (Building information Modelling -BIM), collecting generic and manufacturer BIM objects in a 3D format with associated technical data, converted into digital formats compatible with design software.

The methods and then these price for the components were used to implement a project about the design and construction of a new building and a restructuring of an ancient building in Spoleto town (Umbria) by the financing of the National Recovery and Resilience Plan (Piano Nazionale di Ripresa e Resilienza, NRRP) which is part of the Next Generation EU (NGEU) programme.

In particular, Umbria region tested the method on 2 buildings:

Buildings 1 (New construction): **Expansion of the Spoleto operations center for the conservation, maintenance and enhancement of the historical-artistic, archival and book heritage of Umbria".**

Buildings 2 Restructuring of an ancient building (last 1800): **Edificio Ex Mattatoio, Via delle Mura di Spoleto.**

In the pilot project of the Regione Umbria the LCC tool was applied in a project to mitigate the effect of a recent earthquake on artistic heritage and reduce the soil consumption reusing a abandoned factory. Artistic heritage and, unfortunately, earthquakes are characteristics of the Mediterranean world but the tool allows complete customizable solutions.

8.1.4 CONCLUSION

In conclusion, given the mandatory nature of environmental criteria for all public administration contracts, Italy is probably the country with the highest uptake of GPP in tenders but the systematic integration of environmental criteria for public administration purchases does not automatically guarantee a sustainable development path. For any type of criteria adopted, whether stemming from GPP or DNSH, the use of objective tools like Life Cycle Cost (LCC) is crucial for harmonizing environmental and economic evaluations. This prevents inefficiencies and contradictions in procurement processes. Only a holistic and objective approach can ensure sustainable development, simultaneously realizing environmental and economic benefits.

8.2 CROATIA

8.2.1 NATIONAL CONTEXT

Croatia, as an EU member state, is subject to EU regulations and directives on GPP. This includes compliance with the EU's **Green Public Procurement (GPP)** criteria and guidelines. The Croatian Public Procurement Act incorporates provisions related to environmental criteria, aligning with EU standards.

Croatia has developed a **National Action Plan for Green Public Procurement (GPP)**. The plan was first adopted in 2015. and it outlines strategies and actions to promote and integrate green procurement practices within the country. The plan provides specific guidelines on how to integrate environmental criteria into procurement procedures.

One of the most important changes introduced by the **Public Procurement Act** in 2016 was the obligation to use the Most Economically Advantageous Tender - **MEAT criteria** as the sole selection criterion in most procurement procedures. This encourages the inclusion of green criteria in public procurement processes, resulting in multiple positive effects: environmental, social, and financial.

In 2022, the Ministry of Economy and Sustainable Development adopted the **National Energy Efficiency Action Plan for the period from 2022 to 2024**, which includes green public procurement as one of its measures.

In november 2024. the Government of the Republic of Croatia has adopted **the Decision on the Mandatory Implementation of Green Public Procurement**. This significant step makes Croatia one of the few EU members that has made green public procurement, previously a voluntary instrument, mandatory for state administration bodies. This decision enters into force on January 1, 2025 and represents a significant step towards a sustainable future, in line with national and European environmental protection goals.

The Decision establishes **the obligation to implement green public procurement for state administration bodies** and bodies under their jurisdiction. The aim is to promote sustainable products and services, reduce harmful environmental impacts and contribute to the development of a circular economy. The new Decision is aligned with the objectives of the European Green Deal and the National Action Plan for the Circular Economy.

Also, there are **trainings on GPP** for procurement professionals in Croatia to increase their capacity to apply GPP criteria effectively. GPP has been gradually adopted in Croatia, with public institutions integrating environmental criteria into their procurement processes. This includes prioritizing energy-efficient products, reducing waste, and considering the lifecycle impact of products.

Regional Energy Agency North from Croatia, as part of the **ProcuraMED project**, conducted a survey to assess the awareness and application of GPP among public procurers and the private sector in Croatia. Below are the key results of the survey.

- The majority of respondents in public procurers institutions (47,8%) believe their knowledge of GPP is at an average level.
- A total of 56,5% of respondents have never applied GPP in their organization. Others have conducted procurement of green electricity, electric vehicle or reconstruction works of buildings.
- The majority of respondents are informed about the Do No Significant Harm (DNSH) principle and well informed about Sustainable productive process and Circular Economy.

- The majority of respondents from economic sector (37,5%) believe their knowledge of GPP is at poor level and total of 75% of them have never submitted an offer in GPP.
- Moreover, 68,8% of respondents from econoic sector are informed about the Do No Significant Harm (DNSH) principle.

8.2.2 PROCEDURE

The application of the Decision on the Mandatory Implementation of Green Public Procurement is not binding for other public procurement entities such as local and regional self-government units, and other bodies within their jurisdiction, but it encourages them to implement green public procurement.

Green goods and services

According to the Decision, **state administration bodies are obliged** to implement green public procurement for the following procurement items or groups of procurement items:

- electricity
- office paper
- paper goods
- cleaning and hygiene products
- room cleaning service
- computers and computer equipment
- toners and inks
- printed paper products, writing paper products and paper bags
- promotional materials
- equipment for recording, processing and displaying images and televisions
- air conditioners
- lamps and electric bulbs
- road vehicles
- tires for motor vehicles
- furniture and joinery and other construction elements made of wood
- food and catering
- apparel.

Mandatory criteria and objectives

No.	Subject of procurement	Mandatory application from 1.1.2025.	Mandatory application from 1.1.2028.	Mandatory application from 1.1.2030.
1	share of electricity generated from renewable sources	at least 50%	at least 60%	at least 65%
2	Office paper must comply with the EU Ecolabel criteria for graphic paper and meet the requirement for a high recycled fibre content	at least 15% of the fibers come from recycled material	at least 50% of the fibers come from recycled materials	100% of the fibers come from recycled materials
3	The paper product must comply with the EU Ecolabel criteria for absorbent paper and meet the requirement for a high recycled fibre content.	at least 15% of the fibers come from recycled material	at least 50% of the fibers come from recycled materials	100% of the fibers come from recycled materials

4	hygiene products, soap, shampoo, conditioner, creams, oils, hair products, decorative cosmetics and deodorants/antiperspirants	must comply with the criteria of the EU Ecolabel for cosmetic products		
5	cleaning products	must comply with the criteria of the EU Ecolabel for cleaning products		
6	indoor cleaning service	must comply with the criteria of the EU Ecolabel for indoor cleaning services		
7	computers, computer equipment, monitors, printers and photocopiers	must be placed in the highest energy class		
8	personal and laptop computers	must comply with the EPEAT environmental label criteria or equivalent		
9	toners and inks	must have a defined print capacity determined by applying appropriate ISO standards or equivalent		
10	toners	must be manufactured in a way that allows them to be refilled and reused		
11	the proportion of printed paper products, writing paper products and paper bags that must comply with the EU Ecolabel criteria	(from 1 January 2026) at least 10%	at least 20%	at least 40%
12	promotional materials	must not be packaged in plastic packaging		
13	when purchasing printers and photocopiers	a minimum of 10% of the quantitative criterion for selecting the most economically advantageous offer is given for devices suitable for using paper containing 100% recycled fibers		
14	equipment for recording, processing and displaying images and televisions	must be from an energy class no lower than E+		
15	all air conditioners	must be from an energy class of no less than A+		
16	share of procurement of electric bulbs classified in the highest energy class available on the market	at least 50%	at least 70%	at least 90%
17	share of the procurement of lamps that allow the use of electric bulbs classified in the highest energy class available on the market	at least 90% in each year of implementation of this Decision		

18	Share of clean and energy-efficient road transport vehicles, excluding vehicles purchased for civil protection, fire services, public order forces and military vehicles, by vehicle category	amounts as determined by Article 4 of the Ordinance on the obligation to report to the European Commission and minimum objectives in public procurement procedures for road transport vehicles (Official Gazette, No. 86/21)		
19	the proportion of tyres that must be classified in the highest energy class according to fuel consumption for tyres for which this is applicable	at least 30%	at least 50%	at least 70%
20	the proportion of wood in furniture in relation to the volume of materials from which the furniture is made, unless this is prohibited or prevented by regulation or intended use, provided that it has proven traceability, i.e. FSC, PEFC and/or other internationally recognized certificates that guarantee that the wood is obtained from sustainably managed forests	at least 20%	at least 30%	at least 50%
21	construction joinery and other construction elements made of wood, i.e. FSC	proven traceability for construction joinery an other construction elements made of wood, i. FSC, PEFC and/or other internationally recognized certificates that guarantee that th wood comes from sustainably managed fores		
22	food procurement and catering services	Fruit and vegetables must not be purchased in disposable plastic packaging.		
23	procurement of catering services	Food and drinks must be served in reusable packaging and the catering service provider must submit a plan to reduce and eliminate waste from food preparation.		
24	food procurement and catering services	80% of drinks must be in reusable packaging, and the remaining 20% can be in disposable packaging that must not be made of plastic.		
25	agricultural and food products must be organic and/or integrated agricultural and food products, and/or products from quality systems registered at national and European level and/or products from a short food supply chain, with an emphasis on seasonality and freshness of agricultural and food products over other products in that group	at least 10%	at least 20%	at least 30%

26	The bidder must offer at least 50% of the food products from its own production or at least 50% from micro, small and medium-sized agricultural producers.	These two criteria can be combined.		
27	the proportion of organic cotton grown in accordance with relevant standards in purchased cotton clothing	at least 60%	-	at least 80%

Voluntary criteria

In accordance with the Decision, **all public procurers are invited**, where applicable, to include one or more of the following environmental protection aspects when procuring the subject or group of subjects that are not covered by this Decision:

- energy efficiency and the use of renewable or other alternative energy sources
- efficient and reusing of water
- efficient use of other resources
- preventing threats to health or the environment, especially air, water, and soil pollution, as well as environmental burden from artificial light sources and reducing biodiversity
- efficient use of secondary raw materials obtained from waste and preventing and reducing waste generation through preparation for reuse and recycling
- promoting the use of products that can be reused instead of disposable, that have a longer lifespan and are suitable for repair, including products containing recycled materials, and which, when they become waste, are suitable for preparation for reuse and recycling
- environmental management of organizations in compliance with EMAS or the ISO 14001 environmental management standard
- when procuring promotional materials, preference should be given to materials that are not made of plastic.

8.2.3 GPP CASE in CROATIA

REA North - Joint Public Procurement of Electricity

As a public procurement body Regional Energy Agency North (REA North) operates also as a central purchasing body, authorized to conduct joint public procurement activities on behalf of other public entities.

REA North has played a pivotal role in supporting local public sector entities by managing the joint public procurement of electricity for over 240 public procurers across Croatia. Starting as a pilot project in 2016 with only 29 participants, this initiative has grown to include a wide range of public entities, including cities, municipalities, counties, and various public institutions such as schools, kindergartens, museums etc. This joint procurement process covers an impressive annual electricity consumption of around 80,000,000 kWh (80 GWh).

The joint public procurement procedure follows the MEAT criteria, where 90% of the evaluation is based on price and 10% on the offer of renewable energy. A key technical specification mandates that at least 50% of the electricity supplied must come from

renewable energy sources. This stipulation is in line with Croatia's goals to increase the use of renewable energy and reduce environmental impact.

The supplier selected through the joint public procurement process went above and beyond the requirement by offering 100% electricity from renewable energy sources. This commitment not only meets the minimum requirements but significantly contributes to Croatia's renewable energy targets and supports the national green transition. An important feature of the procurement process is the requirement for the selected supplier to provide guarantees of origin for the electricity supplied, ensuring that the renewable energy is verifiable.

Through this joint public procurement initiative, REA North has not only achieved substantial cost savings for public entities and ensure better terms for all participating entities, which would be difficult to achieve individually, but has also contributed to Croatia's renewable energy goals by significantly increasing the share of electricity sourced from renewables.

This case shows how centralized public procurement can play a pivotal role in the transition towards a more sustainable energy future, demonstrating that public procurement is not only a tool for cost-efficiency but also a powerful driver for environmental sustainability.

8.2.4 CONCLUSION

The Republic of Croatia has made significant progress towards the implementation of green public procurement through the Government Decision on the Implementation of GPP. This Decision confirms Croatia's commitment to combating climate change and supporting the green transition, using public procurement as a tool to positively impact the environment.

Monitoring the implementation of GPP in Croatia is carried out through annual statistical reports on public procurement in the Republic of Croatia which includes a chapter on green public procurement. According to the Statistical Report on Public Procurement in the Republic of Croatia for 2022, contracting authorities concluded 2,772 contracts in which green public procurement criteria were used, and public contracting authorities in 2,548 contracts. Compared to 2021 (2,492 contracts), 280 more contracts were announced, which is an increase of 11.24%.

Public procurement in Croatia accounts for around 16% of GDP, so green public procurement will significantly contribute to the development of the market for sustainable products and services.

8.3 PORTUGAL

8.3.1 NATIONAL CONTEXT

In Portugal, three key action plans/strategies related to Green Public Procurement currently stand out:

1. ***National Strategy for Green Public Procurement*** ENCPE 2020

The National Strategy for Green Public Procurement recommends the inclusion of environmental criteria in public procurement, fostering the adoption of green procurement policies and encouraging suppliers and service providers to benefit from the advantages of environmentally focused purchasing.

It presented as main objective the promotion of the reduction of pollution and consumption of natural resources and, inherently, the increase of systems efficiency. It is a complementary instrument to environmental policies, focusing on the definition of technical specifications for the set of priority products and services.

ENCPE 2020 established a list of priority goods and services, incorporating environmental specifications and technical requirements during the pre-contractual phase, including:

Figure 2 List of priority goods and services, source: ENCPE2020

ENCPE 2020 supported the shift from a predominance of economic criteria in public procurement to a greater emphasis on the application of ecological criteria. These criteria varied according to their type and the stage of the procurement process at which they are applied.

Procedural Phase

- **Technical specifications** - Quantifiable requirements for evaluating proposals, serving as compliance criteria.
- **Selection criteria** - Determinants in the selection of candidates who move on to the proposal submission phase.
- **Award criteria** - Applied when they relate to the object of the contract. Integration of criteria in the advertisement and relevant parts of the procedure.
- **Implementation clauses** - Integration of environmental criteria in the tender specifications.

Typology

- **Essential** - Implementation in Green Public Procurement (GPP), focusing on key areas of the environmental performance of a product or service.
- **Complementary** - Considers a greater number of higher levels of environmental performance, intended to be used by entities that wish to go further with regard to environmental and innovation objectives.

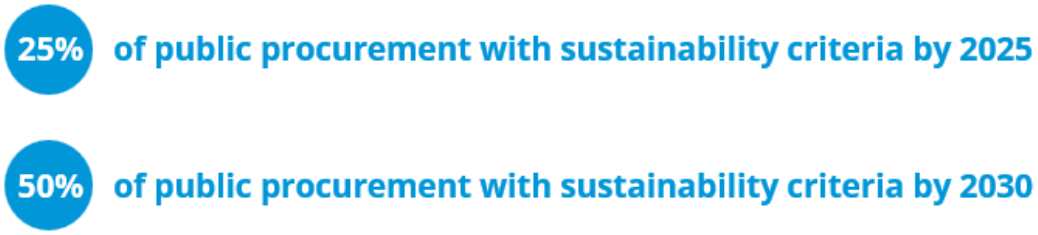
2. National Strategy for Green Public Procurement 2030 – ECO360

ECO360 updates ENCPE 2020, being a lever for the ecological reform of the Public Administration so that it acts as a vector of positive change in the transition to an environmentally sustainable, competitive and resilient economy. The strategy is based on four key objectives:

1. Stepping up the uptake of green public procurement and enhancing its transformative role for public administration and markets;
2. Promote resource efficiency;
3. Sustainable bioeconomy and the transition to the circular economy;
4. Stimulate the Portuguese economy towards climate neutrality and encourage eco-innovation in industry and suppliers.

ECO360 promotes the adoption of green procurement criteria and sustainable bioeconomy products in public procurement.

The main targets are:



Ultimately, ECO360 is a crucial component of Portugal's broader commitment to sustainable development, climate change mitigation, and a circular economy, positioning public procurement as a key driver in advancing these objectives.

Additionally, the Resolution n° 132/2023, of 25 October, defines the ecological criteria applicable to contracts performed by direct and indirect administration entities of the State.

3. Circular Economy Action Plan

The Circular Economy Action Plan is the outcome of nearly a year of interministerial collaboration between representatives from the Ministries of Science, Technology and Higher Education, the Ministry of Economy, the Ministry of the Environment, and the Ministry of Agriculture, Forestry and Rural Development.

Within this framework, seven actions were defined, consolidating ongoing initiatives by the Government (e.g., the National Strategy for Combating Food Waste by the Ministry of Agriculture) while also introducing complementary initiatives (e.g., streamlining methodologies for classifying by-products, reducing the primary consumption of disposable plastic from fossil sources, and extracting and regenerating value-added materials from waste flows).

The plan operates at three levels:

- national, with dedicated political instruments (e.g., green taxation, voluntary agreements, the Portugal 2020 environmental network);

- sectoral and regional (e.g., industrial symbiosis networks, circular cities, circular businesses), which will be implemented through specific support for solution development (e.g., planning, technological solutions) via mechanisms designed for this purpose (e.g., the Environmental Fund, the Fund for Innovation, Technology and Circular Economy, Portugal 2020).

The proposed governance model aims, at the first level, to ensure long-term political commitment, as this topic, much like climate change, is increasingly gaining national and international relevance. It has substantial impacts on the efficient and productive use of resources and on contributing to the mitigation of greenhouse gas emissions. Therefore, it is proposed to include the "Circular Economy" domain in the Interministerial Committee for Air and Climate Change, which will now be called the CA2 - Interministerial Committee for Air, Climate Change, and Circular Economy.

On the other hand, PROCURAMED was doing a survey to companies and municipalities in Portugal, and the answers showcased that there is lack of information and understanding of Green Public Procurement (GPP) among Portuguese municipalities and companies, highlighting the need for targeted training and resources to enhance sustainable procurement practices. Despite recognizing the potential benefits of GPP, most of them have not implemented these procedures, indicating a critical gap that must be addressed to foster innovation and sustainability in public procurement.

Municipalities participating in the survey reveal, in general, poor or very poor knowledge about Green Public Procurement procedures (GPP) (Figure 3).

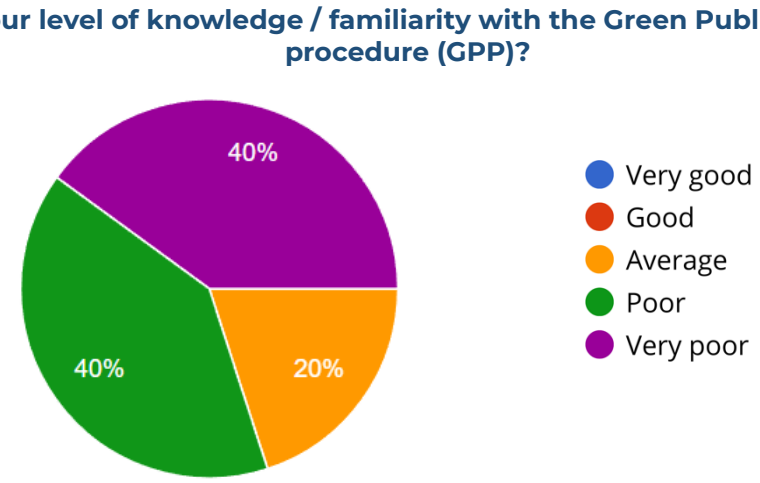


Figure 3 Municipalities' knowledge GPP.

The reasons reported are lack of knowledge and a local authority reported that GPP is not compulsory and the lowest price still applies. None of the municipalities have ever used this procedure, and they are unaware of any action plan for implementing Green Public Procurement (GPP) in their region.

Nevertheless, 80% of the municipalities consider that GPP has a positive effect on the public budget.

Survey results indicate that understanding of Green Public Procurement (GPP) criteria varies significantly among respondents. 40% have a medium level of familiarity, while another 40% report a very poor understanding. An additional 20% have a poor grasp of GPP criteria (Figure 4).

Which is your level of knowledge / familiarity with the Green Public Procurement criteria?

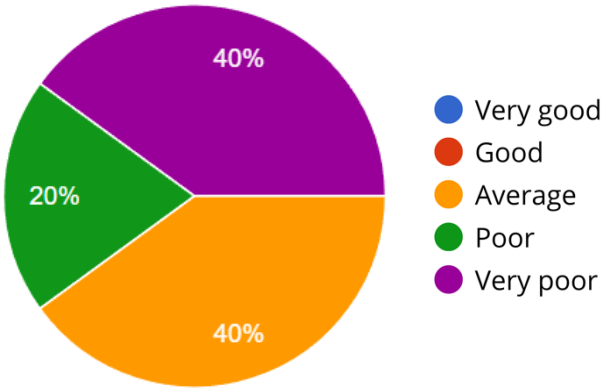


Figure 4 Knowledge GPP Criteria.

Only 20% of the respondents apply GPP criteria, they are mostly used in the following sectors:

- Copying and graphic paper;
- Office Building Design, Construction and Management.

The answers about the environmental certification that could be used to apply GPP are diverse and include Ecolabel, LCA Life Cycle Assessment and LCC Lyfe Cycle Costing (UNI EN ISO 14040 and UNI EN ISO 14044), EPD Environmental Product Declarations, Carbon footprint (ISO 14064 – ISO 14067) and EMAS. However, none of the municipalities have ever applied for these certifications.

Regarding the companies, 80% of the participants reported poor or very poor level knowledge/ familiarity with the Green Public Procurement procedure (GPP).

Level of knowledge/ familiarity with the Green Public Procurement procedure (GPP)?

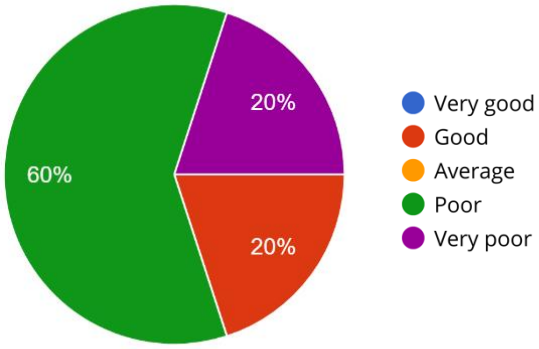


Figure 5 Level of knowledge with the Green Public Procurement procedure (GPP).

On the other hand, the level of knowledge / familiarity with the Green Public Procurement criteria was reported as good by 20%.

8.3.2 PROCEDURE

According The National Strategy for Green Public Procurement 2030 – ECO360 Public procurement entities must integrate environmental sustainability criteria in the purchasing process. The ecological criteria specified in the strategy refer to public contracts for the acquisition of:

Figure 6 List of priority goods and services, source: ECO360

Below are described the main factors to take into consideration for Green public procurement procedures:

1 - When awarding public contracts, the contracting authority shall take into account the ecological sustainability of the services provided;

2 - When preparing the procedure documents, the contracting authority shall preferably adopt the multi-factor method as the award criterion;

3 - When preparing the documents for the procedure, the contracting authority shall preferably include factors relating to the environmental sustainability of the services, whenever it adopts the multi-factor method as the award criterion.

4 - When identifying the aspects of the performance of the contract and the technical specifications, the contracting authority should preferably establish minimum standards for the environmental sustainability of services.

5 - When identifying the aspects of contract performance and technical specifications, the contracting authority should preferably establish services certified by systems of recognised reliability (e.g. EU Ecolabel).

The ecological criteria are classified according to their nature:

- **Mandatory**: the organisation is obliged to use the ecological criterion, unless its application would result in an appreciable restriction of competition;
- **Voluntary:** the organisation is not obliged to use the criterion, unless it wishes to use, in which case it must use the criteria set out in the strategy;
- **Recommended:** the organisation is only exempted from using the ecological criterion in specially substantiated cases;
- **Occasional**: the organisation is not obliged to use the ecological criterion.

Below, as an example of a practical case, there is a table that showcase the criteria that should be applied in Food products and catering and vending services.

Procedural Phase	Type	Nature
Eligibility Criteria	The candidate must demonstrate that has certification applicable to circular economy management practices for the activity related to the object of the contract to be concluded.	Eventual.
Award criteria	**Multi-factor**	**Obligatory**
Factors of the award criterion	A minimum percentage of products supplied in non-individual packaging (in bulk).	Eventual
	A minimum percentage of food purchased through short circuits (marketing by direct sale from the producer to the consumer or by indirect sale through a single intermediary).	Recommendable

Aspects of the performance of the contract and technical specifications	Purchase of food products: (a) A percentage in at least one specific group of food products supplied must come from integrated and/or organic production practices;	Recommendable
	b) Carrying out a minimum of one training action for workers, per year, and raising awareness of customers with a view to preventing food waste;	Recommendable
	(c) paper products, such as kitchen paper or paper napkins, to be used in the provision of the service shall be reusable or manufactured from fibres that are sustainably managed or recycled;	Recommendable
	d) Sugar, coffee, chocolate and tea must be wholly or partly organic and fair trade;	Recommendable
	e) The olive oil must be organic...	Recommendable
	f) Fresh fish and seafood must come from controlled and sustainable sources (preferably with certifications such as MSC, Friend of the Sea, etc.);	Eventual
	g) Use of seasonal products...	Eventual
	h) Food products not from intensive agricultural and livestock practices;	Eventual
	i) Use of methods and strategies to avoid food waste;	Obligatory
	j) Food products from farms of farmers holding the "Family Farming Status", or equivalent;	Eventual

	k) In vending machines, at least one third of the products are organic or fair trade;	Recommendable
	l) Vending machines do not include perishable products within a period of less than three days.	Recommendable

This procedure aims to promote sustainability in public procurement, supporting the transition towards a circular and low-carbon economy, and ensuring that public spending contributes to environmental goals.

8.3.3 GPP CASE in PORTUGAL

An example of Green Public Procurement (GPP) in Portugal is the Lisbon Municipality's purchase of electric buses in 2023 to replace diesel buses in public transport. This initiative, aligned with the ENCPE 2020 strategy, prioritized zero emissions, energy efficiency, and life-cycle costs in the procurement process. The project reduced CO_2 emissions, improved urban air quality, and served as a model for sustainable transportation solutions in other municipalities.

Figure 7 Model of electric buses in Portugal. Source: Lisboaparapessoas.pt

Green Criteria Applied:

- Vehicles had to meet strict environmental performance standards, including zero emissions.

- Life-cycle costs (LCC), such as energy consumption and maintenance, were considered alongside the initial purchase price.
- Noise reduction and energy efficiency were critical factors in the procurement process.

This procurement aligns with GPP principles by incorporating environmental criteria, focusing on long-term sustainability, and using public purchasing power to promote green innovation and products.

The deployment of electric buses significantly reduced CO_2 emissions and improved air quality in urban areas.It set a benchmark for other municipalities in Portugal to adopt similar sustainable transportation solutions.

8.3.4 CONCLUSION

Portugal has advanced in Green Public Procurement (GPP) through frameworks like ENCPE 2020, ECO360 and the Circular Economy Action Plan, promoting sustainability and eco-innovation. These initiatives demonstrate a clear commitment to integrating environmental criteria into public procurement to drive sustainability, circular economy, and climate neutrality.

The case of Lisbon's electric bus procurement showcases the potential of GPP to achieve tangible results. By prioritizing zero emissions, life-cycle costs, and energy efficiency, the project reduced CO_2 emissions, improved air quality, and set an example for other municipalities.

In conclusion, while Portugal has established robust frameworks and successful examples of GPP, further efforts are needed to enhance awareness, training, and implementation at the local level. By addressing these gaps, Portugal can strengthen its role in sustainable public procurement and accelerate the transition to a greener and more resilient economy.

Sources:
Resolução do Conselho de Ministros n.º 38/2016 | DR
Resolução do Conselho de Ministros n.º 13/2023 | DR
Resolução do Conselho de Ministros n.º 190-A/2017 | DR
https://lisboaparapessoas.pt/en/2023/08/29/carris-metropolitana-electric-buses/#google_vignette

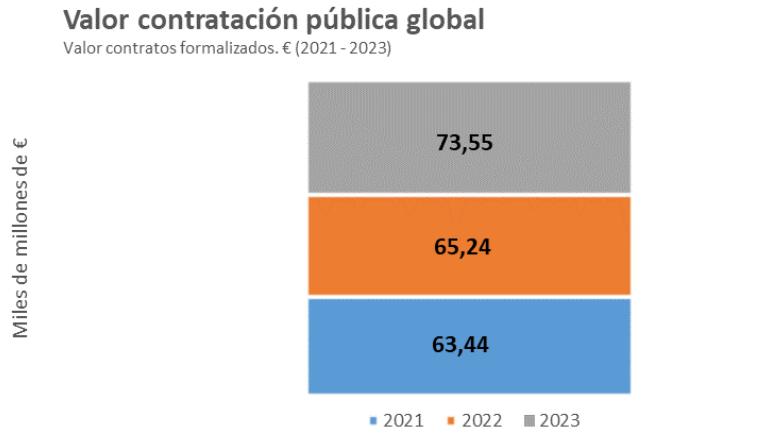
8.4 SPAIN

8.4.1 NATIONAL AND REGIONAL CONTEXT

National and regional data on public procurement

All the data given below comes from the Triennial Report on Public Procurement in Spain in 2021, 2022 and 2023 to the European Commission

The importance of public spending on works, goods and services in Spain is notable. During the three-year period 2021-2023, the overall public procurement in Spain registered in the Public Sector Procurement Platform at the national level (PLACSP) and the platforms of the Autonomous Communities amounted to **202 billion euros for the 2021-2023 period** (63,44 B€ in 2021, 65,24 B€ in 2022 and 73,55 B€ in 2023). It is estimated that it represented 11.54% of GDP in 2021, 11.46% in 2022 and 11.55% in 2023.



Fuente: elaboración propia a partir de la explotación de datos de la PLACSP y autonómicas

In 2021-2023, **e-procurement** in Spain has continued to make progress, reaching 96,9% of procurements through the PLACSP or similar platforms at autonomous level in 2023. Harmonised public procurement, i.e. procurement subject to Directives 2014/23/EU, 2014/24/EU and 2014/25/EU, has progressed and now represents 72% of all public procurement.

Regarding **SMEs**, their participation in award procedures show that 70.7% of bids submitted in award procedures during the three-year period belong to SMEs, while formalised procurement (contracting) with SMEs, for the 2021-2023 study period as a whole, stands at 67.5 %.

Green procurement accounts for 34.7% of procurement in 2023. Strategic procurement with green technical solvency requirements or special performance conditions accounted for 32.3% of procurement. In addition, 4.32% of procurement in 2023, 7,199 contracts, included green award criteria.

Legal framework, laws, decrees

In Spain, the **Law 09/2017 on public sector contracts defines the framework of public procurement**. It particularly puts the emphasis on strategic procurement, to **introduce social and environmental criteria** related to the object of the contract introduced in a transversal manner in all public procurement. It establishes that '*in all public contracting, social and environmental criteria will be incorporated in a transversal and mandatory*

manner whenever they are related to the object of the contract', and Article 202 obliges the contracting body to establish in the specifications at least one of the special environmental or social conditions of execution.

But it also stipulates that the **different autonomous communities draw up their own procurement strategy**, as long as they are consistent and in line with the strategy approved by the Spanish State. Defined by the previously mentioned Law, the autonomous communities' strategies must have the following **objectives**:

- Fight corruption and irregularities in the application of the legislation on public procurement
- Increase the professionalism of the public agents involved in public procurement contracting processes
- Promote economic efficiency in the procurement of goods, services and supplies for the public sector, the private sector and the public sector services and supplies for the public sector, stimulating the aggregation of demand and the proper use of appropriate use of award criteria.
- Generalise the use of e-procurement in all phases of the procedure
- **Use the possibilities of public procurement to support environmental, social and environmental, social and innovation policies**
- Promoting the participation of SMEs in the public procurement market

National/regional action plans and strategies

The 2024-2026 period will therefore be marked by a paradigm shift in green public procurement in the European Union, shifting from voluntary to mandatory in some cases, with a new instruments incorporating green public procurement obligations (mandatory imposition of certain requirements in public tenders, either as a technical specification, award criterion, solvency criterion or special performance condition, or as a mandatory minimum percentage of green public procurement out of the total) covering a number of sectors. In the meantime, in the 2021-2023 period, **voluntary green public procurement** has still prevailed and has been **promoted in a decisive manner by Spain**.

Indeed, green public procurement is the aspect of strategic public procurement to which Spanish public decision-makers have put most effort. At the national level, the National Government issued a **Green Public Procurement Plan 2018-2025**, approved in 2019 by the Council of Ministers, at the proposal of the Ministry of Ecological Transition and the Demographic Challenge, and the Ministry of Finance. It responds to the need to **incorporate green criteria in public procurement** to promote and contribute to the objectives of economic and environmental sustainability. As such, it contains a **set of voluntary general environmental procurement criteria**, which may be incorporated into the procurement documents as selection criteria, award criteria, technical specifications and special performance conditions. It sets the following objectives for GPP:

- Reduce environmental impact
- Energy efficiency
- Provide sustainable restauration and supply
- Sustainable mobility
- Circular economy
- Innovation through GPP
- Territorial planning and green infrastructures
- Green clauses in public procurement

Resulting from the afore mentioned Law 09/2017 at the Spanish national level, the Catalan government established the **Catalan Strategy for the Improvement of Public Procurement**, fully approved in the Agreement GOV/171/2022 of the 30th of August 2022 (a

minimalist version had already been approved in 2020), that follows the prescriptions of the Spanish Law 09/2017 as well as the European Commission's Directive 2014/24/EU and the European Parliament's Resolution of the 4th of October 2018. Regarding Green Public Procurement, this Strategy is the logical next step of a process initiated in 2005 with the **Agreement on measures to promote the greening of public procurement** of the Administration of the Government of Catalonia and the public entities and companies that are attached to it or linked to it, and the creation of the **Commission for Monitoring the Greening of Administrative Procurement** (CSACA), and that was followed by the **Agreement on measures in the area of public procurement** (9 December 2009) which approves a catalogue of measures and instructions, including environmentalisation, and **series of sectorial measures** (Catalan Food Public Procurement Plan, Energy efficiency and conservation plan for buildings and equipment, Strategy for promoting the green economy and the circular economy, Catalan ecodesign strategy, Programme for the prevention and management of waste and resources of Catalonia, etc.).

The **Green Public Procurement** is promoted under **Strand 3. Using contracting to make public policies**: "Public procurement should be used to improve the environment" and is translated into its **specific objective 3.1 Promoting environmentally sustainable contracting** marked by 3 operative objectives:

- 3.1.1. Increasing and improving the greening of public contracts
- 3.1.2. Promoting the circular economy in public procurement
- 3.1.3. Raising awareness and training public buyers

So far, 4 of the proposed actions have been implemented: Greening of key purchases and services in the terms defined in the Green Public Procurement Action Plan; Preparation of reports analysing the results of the greening of contracts; Training of the staff of the contracting units and of the promoter and technical units of the Catalan Green Public Procurement Action Plan; and Incorporation of the measures of the Government's Food Agreement into all catering and food supply plans.

National and regional initiatives

At the national level, **a body coordinating GPP matters**, the Interministerial Commission for the incorporation of ecological criteria in public procurement, was created by Royal Decree 6/2018.

The **Ministry** for Ecological Transition and Demographic Challenge has **a specific space on its website for the GPP Plan**. This space includes **documents** of interest related to best practices in national public procurement **policies**, **manuals** on GPP, different **tools** for green public procurement, as well as publicity on GPP **workshops**. In addition, the Ministry has developed a number of tools to facilitate the calculation of an organisation's **carbon footprint** and the estimation of the carbon dioxide removals generated by an absorption project. It also has a space for specific promotional campaigns by areas of activity where conferences, initiatives, experiences, etc. are publicised.

The Catalan government published a **Catalan green public procurement action plan 2022-2025**. This Plan is **addressed to the departments of the Government of Catalonia, public universities and other public sector entities** and aims to encourage "the promotion of environmentally sustainable public procurement, the incorporation of the circular economy into public procurement and the awareness-raising and training of public purchasers in this area". Within the framework of this plan, several services will be made available to public entities that adhere to the Plan (and others), such as **trainings, events,**

evaluations, toolkits, criteria sets, working groups, good practices, templates, label catalogues, several guides on specific issues[10], etc.

8.4.2 PROCEDURE

General procurement procedures

Reference: Guide on Public Procurement and Competency by the Spanish National Commission on Competency

In Spain, and in Catalonia, contracting authorities have the possibility to choose a particular procurement procedure among the following, with the condition that they fulfil the requirements associated with each of these procedures imposed by public procurement rules.

The most competitive procedure, as it is more respectful of the principle of equality between tenderers, is the **open procedure**, to which all companies with the required capacity and solvency may apply. For the selection of any other procedure, contracting authorities must weigh very carefully the impact on competition resulting from such a decision.

In the **restricted procedure**, proposals may only be submitted by companies that, having requested it, are selected on the basis of their solvency, established in accordance with objective and justified criteria. Its purpose of it is to limit the number of bidders to those with the greatest solvency. When deciding the number of companies invited to participate, the impact on competition of such a decision must be assessed, avoiding unnecessary limitations on access to the tender. The limitation does not automatically have to be set at the legal minimum of five companies, and it is advisable that such a decision is adequately justified.

In the **negotiated procedure**, the contract is awarded to the tenderer chosen by the contracting authority after consultation and negotiation of the terms of the contract with one or more candidates. Except in cases where the tender notice is required to be advertised, the general rule is that the administration contacts directly the candidates that in its opinion meet the capacity and solvency requirements, and negotiates the technical and economic issues of the contract with each of them. The negotiated procedure is an extraordinary procedure, which can only be used when the circumstances that the law specifies for it are met. Even when it is possible to use it, it is advisable to apply it sparingly, especially in the following cases provided for in the public procurement regulations:

- Tenders that are unsuccessful - it may be appropriate, before launching a negotiated procedure, to assess the possibility of maintaining the original procedure with some modifications to allow a sufficient number of operators to participate in the tender;
- Supervening circumstances - this option should only be reserved for truly exceptional and unforeseeable cases, bearing in mind that there is also the possibility of emergency processing under the ordinary procedure, which in itself reduces the timeframe by half.

In the **competitive dialogue** - another of the extraordinary procedures whose use is subject to certain circumstances in the law - the public authority conducts an exchange of views with the selected candidates, upon their request, in order to develop solutions that meet their needs. This procedure, similar to the negotiated procedure, is reserved for particularly complex contracts, such as the execution of sophisticated infrastructure, and its use is

[10] Some are already available here: https://agricultura.gencat.cat/ca/departament/contractacio/compra-publica-verda/guies-compra/

mandatory in the case of public-private partnership contracts. In order to favour competition in this procedure, the number of companies invited to participate should, wherever possible, exceed the legal minimum of three in order to ensure effective competition.

Urgent procedure are only justified by the existence of an unpostponable need or when it is necessary to speed up the award for reasons of public interest. The main consequence is that the processing times are reduced to half those of the ordinary procedure. For certain formalities, such as the submission of tenders, this procedure can lead to a shortening of timeframes which is detrimental to competition by making access to the market more difficult. For this reason, given the excessive vagueness of the criterion allowing this procedure to be used, it should be applied only after rigorous justification of the way in which these causes are met, taking into account the value of maintaining the ordinary time limits for formalities such as the submission of tenders.

Framework agreements and dynamic purchasing systems. These procedures form part of the mechanisms available for the technical rationalisation of contracting between the administration and contractors when the latter extends over a specific period of time, during which it is foreseeable that there will be continuous services. They are intended to ensure stability in the contractual conditions. Unlike the dynamic systems, designed for the procurement of current goods, in which any interested supplier that meets the requirements can participate once they have been initiated, framework agreements, once defined, do not allow the incorporation of new companies during their term of validity. Thus, whoever is left out of the framework agreement is also left out of the specific contracts that may be concluded during the term of the framework agreement. As a result, their use may be associated with the creation of barriers to entry in relation to operators who are not part of them.

GPP criteria and other measures

At the national level, the **National Government's Green Public Procurement Plan** includes a **series of general environmental procurement criteria**, of a voluntary nature, which may be included in the contracting specifications as selection criteria, award criteria, technical specifications and special performance conditions. The annex to the Plan includes a table with these criteria that may be taken into account by the contracting body.

Other measures to guarantee compliance with environmental clauses in the execution of contracts that are applied are **external environmental audits**, **monitoring** during the execution of the contract, or the imposition of **penalties associated with non-compliance** with the special execution conditions, including the possibility of terminating the contract when conditions qualified as essential for the fulfilment of the contract are breached.

The contracting authority can also require economic operators participating in tendering procedures to prove, by means of **environmental labels and certificates** issued by conformity assessment bodies, that they comply with the technical standards of the contract in environmental matters

Platforms

The principles of publicity and transparency are the backbone of the **Law 09/2017 on public sector contracts** and clearly highlighted by the European Directives. It foments open data and the use of e-procurement.

At the national level, the Spanish State manages the national **Public Sector Procurement Platform** (PLACSP). Any kind of entity acting under public law can publish a procurement, whether it be a ministry or a local government, a public university or a trading company.

For their part, the autonomous government have their own procurement platforms, and that is the case of the Government of Catalonia with its **Electronic public procurement platform** (PSCP), used by departments of the Government itself, but also local administrations, universities, independent entities and other organisations acting under public law.

8.4.3. GPP CASE in SPAIN

The Sustainability Protocol, by the Barcelona Metropolitan Area

Challenge

Climate change is a fact. Although faced with dire effects directly resulting from climate change, the Barcelona Metropolitan Area also counts with a few advantages: the population density makes the use of public transport a viable and sustainable alternative; it is supplied by a sea with 42 km of coastline, two rivers, countless aquifers and a reclaimed water system under construction; it has three natural parks that occupy 52% of the territory, with 900 km of connection between the urban fabric and natural areas, as well as green infrastructures; and it enjoys mild temperatures, high levels of solar irradiation and a constant sea breeze, ideal for the production of photovoltaic and wind energy.

Objective

To respond to this challenge, the **Sustainability Protocol** establishes environmental criteria to be met by projects and works contracted by the authority of the Barcelona Metropolitan Area. It is a guide for building housing and public facilities, as well as for carrying out urban planning interventions in streets, squares and parks that respect the environment.

The Sustainability Protocol has a **two-fold objective**:

i. **Mitigation**, i.e. to reduce the effects of climate change: the Sustainability Protocol proposes to reduce the material used in construction, energy consumption, emissions and water consumption, as well as to favour the generation of clean energy.
ii. **Adaptation**, i.e. to enable adaptation to climate change: the Sustainability Protocol promotes wastewater reuse, biodiversity and urban renaturation, sustainable mobility and improved human health.

Solution

Published for the first time in 2024, the Sustainability Protocol is a **transversal tool** with an integral vision that allows to take into account the **environmental impact throughout the design and execution** of any architectural or engineering action. The Protocol is a guide that aims to improve resource management, advance in the reduction of water and energy demands, limit the embedded carbon footprint and promote biodiversity, sustainable mobility, renewable energies and urban renaturalisation; all of this to mitigate climate change and adapt to it.

The Protocol is not a scoring methodology: it incorporates **19 criteria** to assess projects qualitatively and quantitatively in terms of sustainability. They include aspects associated with six cross-cutting areas:
- Cross-cutting monitoring and analysis
- Energy
- Water
- Materials
- Comfort and health

- Site sustainability

It is an ambitious protocol, but it **sets a starting point and achievable targets** from the outset. The intention is to facilitate the incorporation of sustainability criteria from the earliest stages of project planning. Including for public procurement. The criteria set final targets with the intention that they will be met as far as possible, based on programme and design optimisation strategies, to minimise the need to incorporate additional elements or technologies.

The criteria are broken down into a number of requirements which set out different demands depending on the type of project they refer to: equipment; housing; and urbanisation.

8.4.4 CONCLUSION

With the acceleration of climate change in the recent years, and effects that are becoming more and more frequent and impactful, the State of Spain as well as the different Spanish Autonomous Communities have put the emphasis on accelerating the development of Green Public procurement. They developed the legal framework applicable to GPP with new laws and decrees, and several national and regional action plans and strategies were drafted. To promote GPP at all levels, many initiatives were created at a national and regional level. Public authorities also have at their disposal a series of tools and procedures to apply GPP.

And **it is starting to have an impact**, as in 2023 green procurement accounted for 34.7% of procurement, but some more **efforts must be made to encourage the application of green public procurement**, especially at a local level.

8.5 GREECE

8.5.1 NATIONAL CONTEXT

The national framework of Green Public Procurement in Greece reflects the country's compliance with European Union policy and its commitment to sustainability and innovation.

Based mainly on **Law 4412/2016**, the legal framework introduces the principles of Directive 2014/24/EU into public procurement procedures in Greece. This legislation promotes transparency, equal treatment, and efficiency while allowing for integrating environmental concerns at the bidding procedure. It encourages competitive procedures, value-for-money decisions, and mechanisms for legally protecting and thus establishing sound bases for inserting GPP principles within public contracts. Legal protections in procurement procedures are also an important part of Law 4412/2016. It ensures that companies and individuals who believe they have been unfairly treated during the process, have access to judicial review and other remedies. The law also guarantees that procurement decisions can be appealed, providing a legal framework to resolve disputes in a fair manner. Finally, the law outlines specific provisions for contract modification, ensuring that changes made to contracts after they have been awarded are done transparently and under regulated conditions. This prevents excessive or unjustified changes to contracts, which could undermine the initial competition.

The modernization of public procurement in Greece has been further supported by **Law 4782/2021**, which amends and enhances the original framework. This law introduces simplified procedures for small-scale projects, incorporates private sector supervision to improve project accountability, and expands the use of digital platforms like **ΕΣΗΔΗΣ** for procurement, ensuring greater transparency and efficiency. These updates facilitate the practical adoption of GPP, encouraging environmentally friendly practices and reducing administrative barriers. One of the major changes is the increase in the threshold for direct awards. The limit was raised from €20.000 to €30.000 (Article 50, para.1) simplifying the procurement process for smaller projects and giving public authorities more flexibility in handling contracts with lower values. This aims to reduce bureaucratic transparency. Law 4782/2021 also introduces minor contracts valued up to €2.500 (Article 47, para. 3). These contracts benefit from simplified procurement procedures, enabling faster execution of small-scale projects. In terms of project management, this law allows for certified private sector supervision alongside the main contracting authority (Article 1, para. 2). This inclusion of private supervision is intended to enhance accountability and reduce delays caused by inefficiencies within public administrations. Further, the law introduces new provisions for third-party entity support. If a third-party entity does not meet the required criteria, there is now a 30-day window for its replacement (Article 26, para. 1). This change strengthens the responsibility of third-party participants in public contracts, ensuring that projects continue smoothly even if a contractor fails to meet the standards.Another important amendment is arbitration in public contracts without prior approval from a technical council for projects over €10 million and services or studies exceeding €1 million (Article 88, para. 1). This offers a quicker, more flexible dispute resolution mechanism, providing contractors and authorities with an alternative to lengthy legal processes in case of disagreements. Lastly, the mandatory use of the Electronic Public Procurement System (ΕΣΗΔΗΣ) has been expanded by lowering the threshold from €60.000 to €30.000 (Article 4, para. 1). This broadens the scope of electronic procurement, ensuring that more contracts are managed digitally, which increases transparency, reduces administrative errors and prevent corruption. Overall, Law 4782/2021 represents a significant step toward modernizing the Greek public procurement system, fostering greater efficiency and improving the speed and quality of project delivery while ensuring compliance with EU directives.

On top of this procurement-specific legislation, broader frameworks like **Law 4342/2015** underline energy efficiency and sustainability in public contracts. The law complies with the EU Directive 2012/27/EU, which sets measures for savings in energy for public buildings and the promotion of energy-efficient products and services. It establishes national energy-saving targets, aiming for 32.5% improvement in energy efficiency by 2030, aligning with broader European Union goals. This happens by mandating that public buildings undergo regular renovations to meet specific performance standards, with an annual target of 3% energy efficiency improvements. Additionally, the law encourages public authorities to prioritize energy-efficiency products and services in their procurement processes, balancing economic viability and sustainability. Large enterprises are required to conduct energy audits and adopt energy management systems to monitor and optimize energy use. The legislation also promotes the use of combined heat and power systems (CHP) and renewable energy sources in both buildings and industrial sectors, reinforcing the country's transition to more sustainable energy practices.

Except the strong legislative framework, Greece also has some very important strategic plans and roadmaps to advance sustainability, innovation and inclusive growth. These strategies drive the nation's public procurement and wider economic policies toward long-term goals, especially within EU frameworks.

The **National Action Plan on GPP (KYA 14900/2021), the National Strategy for Public Procurement (KYA 58305/2021 and KYA9331/2024)** and the **National Strategy for Circular Economy**, further solidify the place of GPP in national policy. These documents underline the need to integrate green criteria, promote innovative and sustainable solutions, and assist SMEs in penetrating the green market.

In particular, the last update of the **National Strategy for Public Procurement for the period 2021-2025** considers current achievements with regard to public procurement and how priorities might evolve over the next two years. The Strategy includes new measures, such as proposing new legislation to further simplify and improve the regulatory framework concerning public contracts, and creating digital tools, such as an e-procurement system, which introduces more efficiency. Some of the major new interventions adopted include the establishment of electronic health procurement registries and coding systems for medical technology in healthcare establishments. The legislative framework regarding inspections conducted by the Hellenic Single Public Procurement Authority (ΕΑΔΗΣΥ) was amended to ensure more effective supervision. Some of them have been implemented, like proposals monitoring compliance with social and labor legislation in public contracts, while others have been shelved for later consideration in the subsequent strategy for 2026-2030. Such an example is the development of a Smart Contract Register that has been left for the next phase of the strategy.The other amendments relate to simplification, through the updating of titles and objectives of existing actions, with a view to their better reflecting the current situation. These include measures to extend anti-pollution technology to public transport and to facilitate the involvement of SMEs in the public procurement process by improving market consultation and training.

8.5.2 PROCEDURE

The procedure for Green Public Procurement (GPP) in Greece begins with the **identification of needs**, where contracting authorities assess the goods, services, or works required and determine the environmental impacts associated with their procurement. During this phase, authorities evaluate how green criteria can be incorporated to align with sustainability goals, such as reducing greenhouse gas emissions or promoting resource efficiency.

The next step involves the **development of technical specifications** for the tender. These specifications must include measurable environmental criteria, such as energy efficiency standards, the use of recyclable or sustainable materials, or adherence to specific eco-label requirements. Authorities often refer to guidelines provided under the National Action Plan for GPP (ΚΥΑ 14900/2021) or EU standards to define these criteria accurately and ensure compliance.

Once the tender documents are prepared, they are published through the **Electronic Public Procurement System (ΕΣΗΔΗΣ)** to ensure transparency and open competition. During the bid evaluation phase, authorities use criteria such as lifecycle costing to assess not only the price but also the environmental performance of offers. The awarding process prioritizes value for money, taking into account long-term benefits like reduced energy consumption or lower maintenance costs. However, there is not an official tool to be used for calculating and evaluating key points as Life Cycle Cost of the offers; this is a need that should be addressed by the competent governmental bodies.

After a contract is awarded, the implementation phase involves **monitoring and verification** to ensure compliance with the green criteria specified in the contract. Contracting authorities may perform audits or require regular reporting to confirm that suppliers adhere to the agreed environmental standards. This process ensures that GPP objectives are met and helps build a culture of sustainability within public procurement in Greece.

8.5.3 GPP CASE in GREECE

The **GRASPINNO** and **GRASPINNO PLUS** projects (Interreg MED).
The **GRASPINNO project**, funded under Interreg MED Programme 2014-2020, worked systematically for the enhancement of Green Public Procurement (GPP) and the smart management of innovative solutions. UPatras supported both public and private actors to implement and participate actively in e-GPP for the energy refurbishment of public buildings and the application of Renewable Energy Sources (RES). GRASPINNO Unified Platform was developed integrating useful electronic innovative tools (initially designed in GRASP project) for public and private stakeholders. The GRASPINNO Unified Platform supports Public Authorities to have one-single access point for a) searching for green products and services that are available in the market, b) identity which green criteria should include in their tenders depending on a variety of available categories in the sector of energy efficiency and RES, c) select the most appropriate criteria for each tender and prepare tenders' documents by introducing these criteria, d)assess the LCC of products and services using project's decision-support tools, namely 3 different LCC tools (1 ex-post LLC tool and 2 ex-ante LLC tools). At the same time, "green" SMEs can register their products /services in the platform to make them visible to the public procurers. Thus, "ProcuraMED" will use the Unified Platform to incorporate beyond "green" SMEs along with their products/services, also innovative SMEs who will communicate their products /services in case these are already in the market, but further their domain of expertise, their innovative ideas and in general what they can offer to the market. Also, during GRASPINNO, 6 Living Labs (LLs) were established in Mediterranean.

The **GRASPINNO PLUS project** aims to transfer key deliverables/outputs developed & tested at transnational level within GRASPINNO project such as Data-Base, eGPP Support tool & Life Cycle Costing tool (Unified Platform Package) to new MED territories. These instruments are expected to generate territorial dynamics impacting on local and regional communities, in terms of decision-making procedures and policies. The new dynamics will also be favorably impacting on eco-innovation of clusters/networks for their products/services provision, focusing on GPP methods and other possible intervention areas such as Energy-Efficiency & other investment sectors. These impacts are key for the implementation of a sustainable, circular and aware public procurement considering all the

costs that will be incurred during the lifetime of a product, public work or service. The transferring process combines thematic training sessions & guided practical applications, which leads the receiver partners (regions & Chamber of enterprises) in designing concrete joint solutions adapted to specific green specs/criteria, eGPP support & LCC application plans in tenders with green products/services thus increasing their capacity in green growth. GRASPINNO PLUS achieved the formal commitment of receivers to replicate the transferred methodology in their territories, taking into account specific local needs & challenges emerged during and after its completion.

The **GPP4Growth project** (Interreg Europe) aimed to address the challenges and exploit the opportunities related to the adoption of the new EU public procurement system, effective since April 2016. GPP4Growth supported public authorities to seize new opportunities for using their purchase power to stimulate eco-innovation, resource efficiency and green growth, mostly by using new award criteria in calls and tenders that pay particular attention to environmental considerations. More specifically, the project increased the capacity of regional administrations to effectively implement resource efficiency policies through the application of green public procurement. It also improved the implementation of national and regional resource efficiency policies by providing incentives for businesses to integrate environmental factors and costs into their production of goods and services. Additionally, the project intends to unlock regional and national investments in green public procurement to encourage the development of new green products and services. The expected outcomes include a more than 7% increase in the number of businesses in the partner regions that integrate environmental considerations into their production processes. The project also built the capacity of 200 public administration staff to better implement resource efficiency policies through GPP. It aimed to unlock 10 million euros of investment to support the development of new green products and services. Moreover, GPP4Growth increased knowledge and awareness among over 1000 stakeholders regarding the impact of GPP on sustainable business practices.

Initiated by the Greek government itself, **Procure2Innovate** was part of a broader initiative at the level of the European Union toward better innovation within public procurement. Under the leadership of the project Procure2Innovate, the Greek national system of public procurement has been reinforced through specific provision of means, knowledge, and resources, empowering public buyers to interact successfully with innovative markets. It encouraged public sector entities to research and invest in innovative solutions, which led to an increase in the effectiveness and efficiency of the public services provided. The policy also aimed to promote the development of small and medium-sized enterprises by making it easier for them to participate in public procurement, especially those that offer innovative products or services.

Moreover, the project significantly contributed to improving collaboration among different sectors. The initiative brought together public authorities with private enterprises, research organizations, and other relevant actors, thus creating a **dynamic ecosystem for innovation**. This development not only improved the quality of public services but also revitalized the local economy by creating demand for innovative solutions.
With this initiative, Greece is also working to align its procurement practices with broader goals of the European Union, such as sustainability and digital transformation. The government is trying to solve complex societal challenges-environmental sustainability, energy efficiency, and digital governance-by incorporating innovative solutions into public procurement.

8.5.4 CONCLUSION

Greece has made notable progress in Green Public Procurement (GPP), aligning its framework with EU directives and national sustainability goals. Laws 4412/2016 and 4782/2021 provide a solid foundation for transparency, efficiency, and the inclusion of green

criteria in public contracts, while complementary legislation like Law 4342/2015 emphasizes energy efficiency.

Initiatives such as the National Action Plan on GPP (KYA 14900/2021) and the Procure2Innovate project highlight efforts to foster innovation, support SMEs, and promote sustainable practices. Through clear procedures and collaboration with stakeholders, Greece effectively integrates GPP to address challenges like environmental sustainability and energy efficiency.

Collectively, these measures position Greece as a **forward-thinking nation** in leveraging public procurement to achieve sustainability, innovation, and economic growth, paving the way for a more resilient and green future.

8.6 BOSNIA AND HERZEGOVINA

8.6.1 NATIONAL CONTEXT

Public procurement in Bosnia and Herzegovina has seen gradual improvements, although it remains an area with significant potential for development and faces challenges in achieving full alignment with European Union (EU) standards. Even though the country has a complex administrative structure, the legislative framework for public procurement in Bosnia and Herzegovina has seen progressive amendments aimed at increasing transparency and efficiency. According to the findings from the analysis of the background conditions carried out with the questionnaires within the ProcuraMED project, public authorities and private providers acknowledge the importance of Green Public Procurement (GPP) but struggle with its practical implementation due to a combination of legislative, institutional, and knowledge-related barriers.

The EU has been actively supporting Bosnia and Herzegovina's efforts to modernize its public administration and procurement processes. One of the key initiatives is the Public Administration Reform (PAR) project, which focuses on enhancing strategic planning, policy coordination, and public financial management. This initiative includes strengthening institutions, providing policy advice, and building the capacities of civil servants.

The findings from public administration organizations surveyed in the ProcuraMED project indicate a low level of familiarity with GPP. Only a small percentage of representatives demonstrated good knowledge of GPP procedures and criteria, while most reported an average or poor understanding. Furthermore, practical application of GPP remains minimal. The procurement of schoolbooks in Zenica-Doboj Canton is one of the few reported examples where green criteria were applied. Apart from this case, most public organizations have not actively integrated GPP into their procurement processes.
One of the major gaps identified is the absence of a regional action plan to support the structured implementation of GPP. The majority of public administration representatives indicated that they were unaware of any formalized plans or strategies promoting GPP adoption in their respective regions.

The lack of awareness extends to environmental certifications and sustainability principles. Most public officials are unfamiliar with ecolabels and sustainability-related certifications such as Environmental Product Declarations (EPDs) and life-cycle cost (LCC) methodologies. Although some acknowledge the potential benefits of LCC analysis in procurement decisions, its actual application remains limited. Furthermore, the principle of "Do No Significant Harm" (DNSH), which is crucial for ensuring environmentally responsible procurement, is largely unknown among public procurers in Bosnia and Herzegovina.

Awareness and knowledge of GPP principles among public administration entities in Bosnia and Herzegovina vary significantly. Application of GPP criteria is sporadic and limited to specific sectors, such as in procedures of procurement of educational materials, in the construction and building sector in public infrastructure projects. In these cases the GPP criteria was introduced to minimize environmental impact concerning use of energy-efficient materials, low-carbon concrete and sustainable insulation solutions and in the procurement of equipment and central heating and air conditioning (CHA) systems where the GPP criteria mandates energy efficiency ratings and proposes the use of renewable energy sources to ensure sustainability and long-term cost savings.

Notably, there is a lack of regional action plans to guide the implementation of GPP, further complicating its broader adoption. Efforts to improve the adoption of GPP in Bosnia and

Herzegovina face several obstacles. These include limited budgetary resources, inadequate technical expertise, and insufficient training programs on strategic procurement.
Strengthened capacity-building initiatives and enhanced political commitment are crucial for overcoming these barriers and ensuring that Bosnia and Herzegovina can effectively integrate GPP practices in alignment with EU norms.

8.6.2 PROCEDURE

The successful implementation of GPP in Bosnia and Herzegovina depends on adopting standardized procedures which will be aligned with EU guidelines which are mandatory for EU member states. The European Commission defines GPP as "a process whereby public authorities seek to procure goods, services, and works with a reduced environmental impact throughout their life cycle" which clearly emphasizes how important is that the environmental criteria are integrated into public procurement processes. Considering the fact that Bosnia and Herzegovina has the status of candidate country, adopting common EU GPP criteria would be a significant step towards reducing the environmental impacts of procurement activities and would probably have a positive influence on the complete process of becoming a member state.

Preparation and planning:
Action plans and monitoring - putting additional efforts in the development of localized action plans could also prove to be very important for the effective application of GPP in Bosnia and Herzegovina. These action plans should be oriented towards establishing environmental objectives, timelines, and responsibilities which will ensure that public organizations across various administrative levels are harmonized in their sustainability efforts. As an added point, monitoring mechanisms should be established to assess the impact of GPP on both public budgets and environmental outcomes. Developing and implementing transparent reporting systems could help build trust among stakeholders by demonstrating the tangible benefits of strategic procurement practices.

Capacity building is another very important element to consider while talking about advancing GPP. Public administrators are in a need for specialized training which is necessary to help them understand and apply tools such as life-cycle cost (LCC) analysis. Although awareness of LCC concepts is relatively high among some stakeholders, practical application remains limited and is a factor that needs to be worked on. Special needs-tailored workshops and technical support are essential to provide those public administration representatives with the necessary skills to integrate LCC into procurement decisions effectively. If such measures are not integrated and stressed, the potential for GPP to drive sustainability in Bosnia and Herzegovina remains constrained.

Market engagement:
Contracting authorities should invest significant efforts in understanding market dynamics and communicating their procurement needs effectively to potential suppliers. This can be achieved through comprehensive market analyses that identify key suppliers.

The procurement process:
- **open or restricted procedures**
- **competitive dialogues or procedures with negotiation**

These approaches enable a more interactive process, allowing public authorities to refine specifications and solutions collaboratively with suppliers. It is important to state that the adoption of technology-neutral specifications and the use of the Most Economically Advantageous Tender (MEAT) criteria ensure that quality is prioritized over cost alone.

Post-award activities:
should focus on contract management and evaluation. Continuous monitoring is essential to ensure that the delivered solution meets performance expectations and lessons learned

from these evaluations should inform future procurement processes, creating a cycle of continuous improvement.

8.6.3 GPP CASE in BOSNIA AND HERZEGOVINA

Application of the Green Public Procurement (GPP) criteria in procurement procedures in Bosnia and Herzegovina is still at its very beginnings but there have been some cases where they were incorporated into tender documentation. One of the most notable examples is the pilot project which was implemented by the Joint Services of the Institutions of Bosnia and Herzegovina supported by the United Nations Development Programme (UNDP). This initiative provided practical guidelines for integrating green requirements into various stages of the procurement process, including bidder eligibility criteria, technical specifications, contract award criteria, and supplier contracts. The project demonstrated the application of GPP in procuring items such as electricity, food and beverages, business attire, work clothing, toners, postal services, hygiene supplies, and printing services.

However, even with those efforts, the adoption of GPP practices in Bosnia and Herzegovina remains limited. Despite these advancements, significant barriers remain. The absence of a centralized GPP policy has resulted in inconsistent application of green criteria, often limited to individual cases driven by other legislative requirements rather than a unified environmental objective. Awareness of GPP benefits among public officials and SMEs remains limited, and many stakeholders lack familiarity with tools such as LCC and environmental certifications. These gaps restrict the broader adoption of strategic procurement practices. Furthermore, the lack of collaborative frameworks among public agencies impedes opportunities for joint procurement actions that could amplify GPP's impact.

This highlights the need for stronger political commitment and greater consistency in implementing GPP principles across the country. While the UNDP has developed recommendations and guidelines to encourage the inclusion of green requirements in public procurement, these initiatives are relatively recent and their widespread implementation remains limited. Therefore, specific examples of tenders incorporating GPP criteria are not readily available in public records

8.6.4 CONCLUSION

In conclusion, while Bosnia and Herzegovina has initiated steps toward integrating GPP practices, achieving widespread adoption requires addressing systemic challenges through concentrated efforts in policy development, capacity building, and stakeholder collaboration. By leveraging international support and fostering cooperation among public and private actors, the country can advance its strategic procurement practices in line with EU standards, making its position more favourable in green procurement within the Mediterranean region.

To overcome these challenges, several strategies and/or action plans could enhance the implementation of GPP in Bosnia and Herzegovina. Developing a comprehensive GPP policy or strategy that sets clear environmental goals, timelines, and responsibilities is a critical first step. Promoting public-private partnerships (PPPs) can foster the exchange of best practices and innovative approaches to sustainability. Additionally, integrating principles such as "Do No Significant Harm" (DNSH) into public tenders would align procurement practices with broader environmental objectives. Establishing a strategic platform for GPP could also facilitate greater participation by SMEs, providing them with the tools and knowledge needed to contribute effectively to strategic procurement.

8.7 CYPRUS

8.7.1 NATIONAL CONTEXT

Cyprus has been gradually adapting its public procurement policies to the corresponding European Union directives for environmental sustainability. The Public Procurement Directorate of the Treasury of the Republic of Cyprus is designated as the Competent Authority on issues of public procurement, with responsibility for ensuring that the legal framework is upheld, issuing relevant regulations, and monitoring procurement activities.[11] In the last couple of years, Cyprus has increased efforts towards professionalizing procurement by developing special skills in view of effectively applying GPP. This involves an overall reform strategy that places emphasis on, among other things:

- Training and certifying procurement professionals[11]
- Creating a Central Purchasing Unit with the purpose of enhancing the overall procuring practices.[12]
- Integrating procurement experts in key projects.

The Cyprus Energy Agency (CEA) provides technical support, training for contracting authorities, and standard tender documents and is thus considered a key promoter of GPP. Also, it is considered a GPP Supporter and cooperates with the Environmental Department for better application of green criteria in public contracts. Despite this progress at improving such application, there are still obstacles mainly related to small Contracting Authorities without capacity or expertise to apply GPP properly. These are gaps that the current professionalization drives are trying to bridge by embedding a culture of sustainable procurement at all levels of government.

Analysis of Questionnaire Data

According to survey responses, the current state of GPP implementation in Cyprus is characterized by both progress and challenges:

Familiarity with GPP:

- A portion of public officials rated their knowledge of GPP as "Good" or "Average," demonstrating an adequate awareness of the process.
- However, gaps remain, with some respondents identifying a lack of training and financial constraints as barriers to effective GPP implementation.

Implementation of GPP:

- Several respondents confirmed that their organizations had applied GPP in sectors such as office building management, electricity procurement, and sustainable infrastructure.
- Positive experiences highlight a growing understanding of how GPP can contribute to national sustainability goals.

Action Plans and Circular Economy:

- A majority of respondents acknowledged the existence of regional GPP action plans.
- Notable progress was observed in sectors like waste management and public space maintenance, which align with the principles of the circular economy.

Challenges:

- Limited capacity among smaller contracting authorities to conduct life cycle cost (LCC) evaluations remains a significant obstacle.
- Some stakeholders expressed concerns about the perception of GPP as potentially increasing public expenditure, though others recognized its long-term economic and environmental benefits.
- Insufficient integration of environmental certifications, such as EU Ecolabels and Life Cycle Assessment (LCA) frameworks, was noted in public tenders, despite awareness of their importance.

[11] https://www.treasury.gov.cy/treasury/treasurynew.nsf/page21_en/page21_en?opendocument

[12] https://www.cea.org.cy/en/about-us/orama/

Awareness of "Do No Significant Harm" (DNSH) Principle:

- While awareness of the DNSH principle is growing, its integration with GPP criteria remains inconsistent. This indicates the need for clearer guidelines and training on applying these principles in procurement processes.

8.7.2 PROCEDURE

The GPP procedure in Cyprus involves various key steps:

1. **Needs Assessment and Planning:** Contracting authorities identify the needs for procurement, while assessing possibilities to include environmental criteria. The Central Purchasing Unit helps in aggregating common needs in order to draw economies of scale.[13]
2. **Defining Green Criteria**: Authorities define technical specifications of the tender with environmental performance requirements, using support from the Cyprus Energy Agency and in conformation with the EU standards and national sustainability goals.[14]
3. **Market Engagement**: Authorities engage with potential suppliers to communicate the green criteria and test the market's readiness, thereby ascertaining whether supply side would be in a position to meet the specified environmental standard.
4. **Tendering Process:** The contracting authorities publish the tenders through the national eProcurement system, with the green criteria ensuring transparency and accessibility for all potential bidders
5. **Evaluation and Awarding:** The bids would be evaluated, not only in terms of cost, but also of environmental performance, ensuring VFM with minimized environmental impact.
6. **Contract Management and Monitoring:** Post-award, the Authorities would monitor compliances with Green criteria, ensuring thereby that suppliers comply with the environmental commitment during the contractual period.
7.

These procedures are guided and supported by standardized documents from the Public Procurement Directorate (PPD), and competencies among procurement professionals have been enhanced through continuous training programs.[14]

8.7.3 GPP CASE in CYPRUS

One successful example of GPP implementation in Cyprus is the PEDIA Project.[15] Within this project, public school buildings across Cyprus were renovated in order to improve their energy performance.

Activities included in this initiative are the following:

- Application of green criteria for selecting insulation materials, lighting systems, and HVAC installations.
- Collaboration with the private sector to ensure compliance with EU energy performance standards.
- Using life cycle costing (LCC) in bid evaluation and solution selection for the best long-term economy.

The project will convert at least 25 public school buildings in Cyprus to Nearly-Zero Energy Buildings, contributing to the achievement of the goals of the European and National targets for energy and climate.[16]

[13] https://green-business.ec.europa.eu/news/interview-mr-phlippos-katranis-2024-11-27_en
[14] https://www.cea.org.cy/en/services/prasines-dimosies-symvasis/
[15] https://cea.org.cy/en/pedia/

8.7.4 CONCLUSION

In this regard, Cyprus has made certain important steps forward in implementing GPP, which is underpinned by a sound institutional framework and capacity-building measures. However, further efforts are needed in order to:

- Increase uptake of environmental certification and LCC tools.
- Provide more focused support to smaller contracting authorities.
- Improve public awareness of the economic and environmental benefits of GPP.

Future actions should consolidate partnerships with private stakeholders, nurture innovation, and ensure continuous training in order to embed GPP practices across all levels of public administration.

8.8 SLOVENIA

8.8.1 NATIONAL CONTEXT

Green Public Procurement (GPP) in Slovenia is a strategic approach where public authorities prioritize purchasing goods, services, and works with reduced environmental impacts throughout their life cycle. This practice aligns with the European Union's goals of fostering a resource-efficient and sustainable economy.

Policy Framework and Implementation: Slovenia has demonstrated a strong commitment to GPP by making it mandatory for specific product and service categories. The country's National Action Plan on GPP, which covered the period from 2009 to 2012, set an ambitious target: by 2012, 50% of all procurement by central government authorities in eight product groups should include GPP criteria. These categories encompassed paper, electricity, office equipment, furniture, transport, food and catering, construction, and cleaning products and services.

To further strengthen GPP practices, Slovenia introduced the Decree on Green Public Procurement in 2014. This decree established conditions for green procurement and provided examples of environmental requirements and criteria for various procurement categories. These guidelines are updated at least every two years to reflect technological advancements, market conditions, and legislative changes within the European Union and Slovenia.

In 2018, Slovenia renewed its Green Public Procurement Regulation to enhance flexibility and provide contracting authorities with greater discretion in achieving environmental objectives. This update aimed to simplify procedures and encourage broader adoption of GPP practices across various sectors.

Scope and Categories

GPP is mandatory for 20 categories of public contracts in Slovenia, including:

1. Electricity
2. Food and catering services
3. Textile products
4. Office paper and hygienic paper products
5. Electronic office equipment
6. Televisions

7. Household appliances (e.g., refrigerators, washing machines)
8. Furniture
9. Water heaters and space heaters
10. Sanitary fittings
11. Toiletry and urinal equipment
12. Wall panels
13. Design or construction of buildings
14. Design or construction of roads
15. Road vehicles
16. Tyres
17. Electric bulbs and lamps, indoor lighting systems
18. Road lighting and traffic signalization
19. Cleaning products and services
20. Gardening services and equipment

For each category, environmental requirements and criteria have been developed to guide contracting authorities in implementing GPP effectively.

Challenges and Progress

Despite the robust policy framework, Slovenia has faced challenges in achieving its GPP targets. For instance, in 2013, contracting authorities applied GPP requirements to only 11.7% of contracts by number and 8% by value, falling short of the 50% target set for 2012.

Recent data on the exact percentage of contracts incorporating GPP criteria is limited. However, related procurement indicators provide some insights:

- Single Bidder Rate: In 2023, 44% of procurement procedures in Slovenia had only one bidder, higher than the EU average of 38%.
- Award Criteria: Approximately 68% of procedures were awarded based on the lowest price, compared to the EU average of 56%.

These figures suggest that while Slovenia has established a framework for GPP, challenges persist in promoting competition and integrating environmental considerations into procurement processes. To address these issues, Slovenia has undertaken measures such as simplifying procurement procedures and enhancing the capacities of procurement professionals.

8.8.2 PROCEDURE

Green Public Procurement (GPP) in Slovenia is a structured process that integrates environmental considerations into public purchasing decisions to promote sustainability. The GPP process involves several key stages:

1. Identification of Needs: Contracting authorities assess their requirements and determine if they fall within the 20 product and service categories mandated for GPP, such as electricity, food and catering services, textile products, office paper, electronic office equipment, furniture, and cleaning products and services.
2. Definition of Environmental Criteria: For applicable categories, authorities establish environmental requirements and criteria. These can be incorporated into various aspects of the procurement process, including:
    - Technical Specifications: Setting minimum environmental standards that products or services must meet.

    - Award Criteria: Evaluating bids based on environmental performance in addition to cost and quality.
    - Contractual Terms: Including specific environmental obligations within contract clauses.
3. Publication of Tender: The procurement notice, detailing the environmental criteria and other requirements, is published to invite bids from potential suppliers or service providers.
4. Evaluation of Bids: Submitted bids are assessed against the predefined environmental criteria alongside traditional factors like price and technical capability.
5. Contract Award and Implementation: The contract is awarded to the bidder that best meets the environmental and other specified criteria. During execution, compliance with environmental obligations is monitored to ensure adherence.

This structured approach ensures that environmental considerations are systematically integrated into public procurement, aligning with Slovenia's commitment to sustainable development.

8.8.3 GPP CASE in SLOVENIA

Slovenia has made significant strides in implementing Green Public Procurement (GPP) across its regions, aiming to reduce environmental impacts through sustainable public purchasing practices. Key initiatives and practices include:

- Mandatory GPP Categories: Slovenia mandates GPP for 20 specific categories of public contracts, including electricity, food and catering services, textile products, office paper, electronic office equipment, furniture, and cleaning products and services. This nationwide mandate ensures that all regions adhere to standardized environmental criteria in these procurement areas.
- Integration of Life Cycle Costing (LCC): In the cohesion region of Western Slovenia, the National Institute of Chemistry collaborated with the Ministry of Environment, Climate, and Energy to incorporate an LCC calculator into the Slovenian legislation. This tool aids contracting authorities in assessing the total environmental and economic impacts of products and services over their entire life cycles, facilitating more sustainable procurement decisions.
- Centralized Procurement Initiatives: To streamline GPP processes, Slovenia's Public Procurement Directorate centralized the procurement of certain products, such as office paper. This approach simplifies the procurement process for contracting authorities across various regions, ensuring compliance with environmental standards and achieving economies of scale.
- Implementation of Electronic GPP Tools: Slovenia has developed electronic tools to support GPP processes, enhancing efficiency and accessibility for contracting authorities. These digital solutions facilitate the integration of environmental criteria into procurement procedures, promoting consistent application of GPP practices across all regions.
- Public Procurement for Green Infrastructure: Regional development centers, such as the Soča Valley Development Centre, have initiated public procurement processes to implement green infrastructure projects. These initiatives demonstrate a regional commitment to integrating environmental considerations into public procurement, contributing to sustainable regional development.

Through these initiatives, Slovenia's regions collectively contribute to the nation's overarching goal of promoting environmental sustainability in public procurement.

8.8.4 CONCLUSION

Green Public Procurement (GPP) in Slovenia has made significant progress, but several challenges and opportunities remain. Here are the key conclusions:

- Strong Legislative Framework – Slovenia has implemented mandatory GPP for 20 product and service categories, ensuring environmental considerations in procurement processes. However, further refinements in regulations and clearer guidelines could improve implementation.
- Integration of Life Cycle Costing (LCC) – The adoption of LCC in public procurement has been a positive step toward sustainable purchasing decisions, helping authorities consider long-term environmental and economic impacts. Expanding this practice across more sectors could enhance sustainability outcomes.
- Challenges in Implementation – Issues such as the complexity of procurement regulations, lack of professional expertise, and excessive focus on price over environmental benefits hinder the full potential of GPP. Increased training and capacity-building programs could address these gaps.
- Challenges in digital Infrastructure: Slovenia's limited adoption of e-procurement is partly due to underdeveloped digital infrastructure. This shortfall needs to be solved leading to good efficiency and transparency of procurement processes, especially GPP.
- Overemphasis on Price: A predominant focus on the lowest price in awarding contracts often sidelines environmental considerations. This emphasis undermines the objectives of GPP by not accounting for the long-term environmental and economic benefits of sustainable procurement.

- Regional and Local Best Practices – Some local communities and regions have successfully implemented centralized green procurement initiatives and promoted shorter supply chains (e.g., for food procurement). These practices should be scaled up and shared across the country.
- Need for Better Monitoring and Data Collection – There is still a lack of comprehensive data on the impact of GPP in Slovenia. Improved tracking and reporting mechanisms could provide insights into GPP's effectiveness and areas for improvement
- Future Opportunities – Slovenia has the potential to strengthen its GPP strategy by increasing the use of digital tools, enhancing cooperation between public and private sectors, and incorporating circular economy principles into procurement policies.

These challenges highlight the need for continuous efforts to promote GPP practices and ensure that environmental criteria are effectively integrated into public procurement processes. Further on the further ephasis should be put into: simplifying legal frameworks, enhancing professional training, investing in digital infrastructure, balancing cost with environmental benefits, combating corruption, and improving monitoring mechanisms.

9. CONCLUSION

The analysis of green public procurement (GPP) across Euro-Mediterranean countries highlights both the diversity of national regulatory frameworks and the common challenges faced by public authorities in integrating sustainability into procurement processes. Each country has developed its own strategies, legal frameworks, and online tools to facilitate green purchasing, reflecting different policy priorities, administrative structures, and levels of market readiness. While some nations have advanced digital platforms and mandatory GPP requirements, others are still in the process of strengthening their regulatory and institutional capacities. However, all efforts are guided by the broader European framework, particularly the EU Green Public Procurement Criteria, the European Green Deal, and directives such as the 2014 Public Procurement Directives, which encourage sustainable purchasing across member states and influence policies in non-EU countries aiming for alignment with European standards.

Despite these differences, common challenges emerge across the region. Many countries face difficulties in ensuring effective implementation, monitoring, and enforcement of green criteria due to capacity constraints, lack of awareness among procurers, and market limitations in providing sustainable products and services. Additionally, aligning GPP with broader climate and environmental goals requires continuous policy updates and cross-border cooperation. Strengthening knowledge-sharing mechanisms, harmonizing criteria where possible, and fostering collaboration between public and private sectors could help overcome these barriers and accelerate the transition toward more sustainable procurement practices in the region, in line with European sustainability objectives.

To enhance the effectiveness of GPP, countries should invest in capacity-building programs for procurement officials to improve knowledge of sustainable purchasing principles and available tools. The development of standardized and sector-specific green criteria could facilitate implementation and ensure consistency across borders. Additionally, creating incentives for businesses to develop and supply sustainable products—such as tax benefits or preferential treatment in public contracts—could help strengthen green markets. Expanding regional cooperation and participation in EU initiatives, such as the LIFE Programme or Horizon Europe, would also provide valuable financial and technical support. Finally, improving monitoring and reporting mechanisms would enable better evaluation of GPP's impact, ensuring continuous improvement and alignment with long-term environmental and climate goals.

ANNEX IV: DNSH - Do No Significant Harm" principle

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Innovative and Green Procurement towards sustainable economy in MED area Euro-MED0200775

D.1.1.1 Strategic Procurement Unified Platform

WP1 - Strategic Procurement to accelerate technology transfer of green innovations
Activity 1.1 - Integration and development of Strategic Procurement Unified Platform

" DNSH - Do No Significant Harm" principle

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The principle of 'do no significant harm' to the environment (also known as the DNSH principle, i.e. 'Do No Significant Harm') was created to combine economic growth and protection of the ecosystem, ensuring that investments are made without damaging environmental resources.
Regulation (EU) 2021/2411, which establishes the Recovery and Resilience Facility, stipulates that all measures in the National Recovery and Resilience Plans (NRPs) must comply with the principle of 'no significant harm to environmental objectives'. This constraint translates into an assessment of the compliance of interventions with the principle of 'Do No Significant Harm' (DNSH), with reference to the taxonomy system of environmentally sustainable activities indicated in Article 17 of Regulation (EU) 2020/8522.
The DNSH principle, declined on the **six environmental objectives** defined within the taxonomy system of eco-sustainable activities, aims at assessing whether or not a measure may cause harm to the six environmental objectives identified in the Paris Agreement (European Green Deal). In particular, an economic activity causes significant harm:

- ✓ to climate change mitigation, if it leads to significant greenhouse gas (GHG) emissions;
- ✓ to adaptation to climate change, if it leads to increased negative impacts of current and future climate, either on the activity itself or on people, nature or property;
- ✓ to the sustainable use or protection of water and marine resources, if it is detrimental to the good status of water bodies (surface, groundwater or marine) by causing their quality to deteriorate or reducing their ecological potential;
- ✓ to the circular economy, including waste prevention, re-use and recycling, if it leads to significant inefficiencies in the use of recovered or recycled materials, to increases in the direct or indirect use of natural resources, to the significant increase of waste, to its incineration or disposal, causing significant long-term environmental damage;
- ✓ to the prevention and reduction of pollution, if it leads to increased emissions of pollutants into the air, water or soil;
- ✓ to the protection and restoration of biodiversity and ecosystems, if it is detrimental to the good condition and resilience of ecosystems or to the conservation status of habitats and species, including those of EU interest.

Regulation (EU) 2020/852 and Delegated Regulation 2021/21394 describe the general criteria for each individual economic activity not to cause 'significant harm', thus contributing to the objectives of mitigation, adaptation and reduction of environmental impacts and risks; i.e. for each economic activity the so-called DNSH criteria have been compiled.

According to these provisions, NRP investments and reforms must not, for example:

- ✓ produce significant greenhouse gas emissions, such that the temperature rise of 1.5 C° cannot be contained until 2030. Therefore, initiatives related to the use of fossil fuels are excluded;
- ✓ be exposed to the possible risks induced by climate change, e.g. rising seas, droughts, flooding of rivers, abnormal snowfall;

- ✓ compromise the qualitative status of water resources through undue pressure on the resource;
- ✓ inefficient use of materials and natural resources and producing hazardous waste for which recovery is not possible;
- ✓ introduce hazardous substances, such as those listed in the so-called Authorisation List of the EU REACH Regulation5;
- ✓ endanger sites in the Natura 2000 network.

Compliance with the DNSH principle is **verified ex ante** for each individual measure by means of standardised self-assessment sheets, which condition the design of investments and reforms and/or qualify their characteristics with specific indications aimed at limiting their potential impact on environmental objectives to a sustainable level.
The technical criteria contained in the DNSH self-assessments, suitably reinforced by a precise application of the taxonomic criteria of investment sustainability, constitute guiding elements along the entire path of implementation of the NRP measures, including those of the REPowerEU chapter. **The authorities are called upon to ensure in a concrete way that each measure does not cause significant damage to environmental objectives** by adopting specific requirements to this effect in the main planning and implementation acts. In particular, in the implementation phase, it is necessary to demonstrate that measures have actually been implemented without causing significant damage to environmental objectives, both when monitoring and reporting on the results of interventions, and when verifying and controlling expenditure and related upstream procedures.
Each stage of the intervention (project selection, contracting procedures, project reporting) corresponds to a control instrument for demonstrating compliance with the DNSH principle.

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