



**Establishing future-oriented training and qualification quality standards for fostering a broad uptake of sustainable energy skills in the European construction sector**

## **D4.1 Analysis of public sector obstacles and needs**



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# 1 Executive summary

This document focuses on the sustainability skills of professionals and craftsmen as an important requirement to be included in public tenders concerning buildings. It aims to objectively analyse the state of art concerning professional skills requirements in the different European countries involved in the survey and provide a baseline for the development of policy recommendations and guidelines for Task 4.3. in TRAIN4SUSTAIN.

The deliverable describes in depth the actual usage of requirements concerning sustainable skills for professionals and workers in public tenders for buildings and how they are formulated. As a result of the surveys, carried out by PPs among decision makers dealing with Green Public Procurement, several obstacles and barriers of changing the current legislative framework concerning requirements on sustainability skills were brought to light.

The final part of the document focuses on what type of changes are necessary to overcome the identified limits of the current legislative framework concerning the requirements of sustainability skills in public tenders. Recommendations have been written based on the suggestions and contributions received from each country involved in the activity.

## ABBREVIATIONS AND KEY WORDS

GPP	Green Public Procurement
CAM	Minimum Environmental Criteria
GPP NAP	National Action Plan on Green Public Procurement
PA	Public Authorities
AHC	Housing Agency of Catalonia
INCASOL	Institut Català del Sòl - Catalan Soil Institute
CCP	Public Procurement Code
BTP	Building and Public Works
ICAEN	Institute of Energy of Catalonia
CCTP	Cahier des Clauses Techniques Particulières - Special Technical Clauses
RGE	Reconnu Grenelle Environnement - Recognized Grenelle Environment
BMI	Federal Ministry of the Interior, Building and Community
LCA	Life-Cycle Assessment
BNB	Nachhaltiges Bauen – Sustainable Building Certification system

## 2 Introduction

The official definition of Green Public Procurement (GPP) used by the European Commission is as follows:

*“Green Public Procurement is the approach by which Public Bodies integrate environmental criteria and/or requirements into all stages of their procurement process, this encouraging the development of environmental technologies and the spread of environmentally sound products, by seeking and choosing outcomes and solutions that have the least possible impact on the environment throughout their whole life-cycle.”*

In general, GPP is a major instrument not only for environmental policies, as the above definition states, but also for the promotion of technological innovation, contributing to the achievement of the objectives of the European Union policies on competitiveness. GPP aims to integrate environmental considerations into the procurement process of Public Authorities, guiding their choices (services, goods, works, etc.) towards a more environmentally conscious market with the lowest environmental impact. Furthermore, the GPP can be seen as a potential instrument for containing public spending, offering at the same time a cultural model for containing consumption and preserving the environment.

Over the past few years, much has been said and written about the GPP, concerning environmental criteria requirements, technologies and products to prefer for sustainable reasons, solutions and approaches to be adopted having the least impact on the environment throughout their whole life-cycle and also about the importance to have an overall vision of the whole life cycle. However, **not much has been made explicit with regard to the professionals and workers sustainable skills requirements in GPP**, key theme of the TRAIN4SUSTAIN project.

Consequently, this deliverable aims at objectively analysing the state of art concerning professional skills requirements in the different European countries involved in the survey, providing a baseline for the development of policy recommendations and guidelines for Task 4.3.

The key aspects that have been deepened by partners, guiding the activity, were as follows:

- The actual usage of requirements concerning sustainable skills for professionals and workers in public tenders for buildings.
- How requirements concerning sustainable skills for professionals and workers are formulated.
- Current obstacles and barriers in requesting sustainable energy skills in Green Public Procurement for buildings.

- Needs to change or improve the current legislative framework.
- Barriers and issues for changing the legislative framework.

To be more effective, **several interviews were carried out** among decision makers dealing with Green Public Procurement at municipal, regional and national level. They have been carried out **using a questionnaire** provided by iiSBE Italia R&D, translated into local languages to be more efficacious. When possible, interviews were carried out in person (using a web platform) otherwise, the interviewees have filled out the provided questionnaire.



## 3 Green Procurement in EU

Green Public Procurement (GPP) is “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured” (Communication "Public procurement for a better environment" – COM (2008) 400). GPP is a voluntary instrument, Member States and public authorities are free to decide the extent to which they implement it. In Europe, public authorities spend approximately 1.8 trillion euro per year, representing around 14 % of the EU's GDP <sup>1</sup> (gross domestic product). Adopting GPP principles, would contribute to promoting sustainable consumption and production, providing industry with real incentives for developing sustainable solutions and products and to accelerating the demand for sustainable skills.

### 3.1 EU Legal Framework for GPP

Public procurement in the European Union is subject to several sources of EU Community law:

- The Procurement Directives (2014/24/EU and 2014/25/EU)
- The Treaties (Treaty on the Functioning of the EU and its predecessors)
- Case law of the Court of Justice of the European Communities

The Treaty on the Functioning of the European Union) and the EU Procurement Directives (2014/24/EU and 2014/25/EU) establish the rules and principles which must be observed in the award of public contracts. Public procurement must comply with several guiding principles, such as: free movement of goods and services and freedom of establishment, non-discrimination and equal treatment, transparency, proportionality, and mutual recognition.

The EU Procurement Directives (2014/24/EU and 2014/25/EU) were adopted on 26 February 2014 by the Council of the European Union and the European Parliament. The main objective of the 2 Directives is to simplify public procurement procedures and to make them more flexible. The new rules seek to ensure greater inclusion of common societal goals in the procurement process and the inclusion of environmental protection, social responsibility, innovation, combating climate change, employment, public health and other

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<sup>1</sup> Source : European Commission –<https://ec.europa.eu/environment>

social and environmental considerations in GPP. EU countries had until April 2016 to transpose the new rules into national law.

## 3.2 EU Policy and GPP Targets

The Communication “Public procurement for a better environment”, part of the package of sustainability measures in the Sustainable Production and Consumption and Sustainable Industrial Policy (SCP/SIP) Action Plan, is the main policy document issued by the European Commission on GPP. Its general objective is to provide guidance on how to reduce the environmental impact caused by public sector consumption and how to use Green Public Procurement (GPP) to stimulate innovation in environmental technologies, products and services.

In 2006 the study “Green public procurement in Europe” on GPP performance across EU Member States indicated the current levels of GPP in the seven best performing Member States (Austria, Denmark, Finland, Germany, the Netherlands, Sweden, and United Kingdom). In the same year, EU leaders adopted a voluntary target for GPP under the renewed Sustainable Development Strategy: “by 2010, the average level of GPP should be the same as the level of the best performing Member States at the time (2006)”.

In 2008, in the Communication “Public procurement for a better environment”, the European Commission specified the target level of GPP proposed by 2010: 50% of all public tendering procedures should be “green” (procedures compliant with common core GPP criteria). The 2006 study was used as baseline to quantify the GPP target.

In 2009 a study was carried out to evaluate the extent of GPP uptake by EU contracting authorities in the 7 countries with the highest rates of GPP implementation: Austria, Denmark, Finland, Germany, the Netherlands, Sweden, and the United Kingdom. The analysis founded an average of 55% of contracts concluded in those Member States for ten product and service groups could be defined as green. The use of green public procurement was more consolidated in the 7 countries above due to the higher level of maturity and awareness of the GPP-related instruments, such as:

- Strong political push through national guidelines or action plans.
- Public means of information and national eco-labels.
- Use of innovative tools in procurement procedures such as life cycle thinking and green contract variants.

In 2011, the Commission commissioned a study with the aim of measuring if the GPP set in 2008 (COM (2008) 400 – “by 2010, 50% of all public tendering

procedures should be green") has been met. Since there are no systematic statistics on GPP in the Member States, the Centre for European Policy Studies and the College of Europe conducted a survey in which over 850 public authorities from 26 Member States participated providing feedback concerning the use of GPP criteria in contracts. The survey study collected information on more than 230,000 contracts signed by public authorities in 2009-2010, for a value of approx. 117.5 billion Euros. The main finding of the report was that although the uptake of Green Procurement in the EU is significant, it appears that the 50% target has not been met. Only the 26% of the contracts signed in the 2009-2010 period by public authorities in the EU included all surveyed EU core GPP criteria. In the same time, the 55% of contracts included at least one EU core GPP criterion, showing that some form of green procurement is being done at a large scale. A positive result was that the greenness of contracts seems to be higher when looking at the value of contracts compared to the number of contracts. 38% of the total value of the contracts included green criteria. The study highlighted that the uptake of EU GPP criteria varies significantly across Europe. There are four top performing countries (Belgium, Denmark, Netherlands and Sweden), in which all EU core GPP criteria were applied in 40%-60% of the cases. On the other hand, there are as many as twelve countries where this occurred in less than 20% of the last contracts. The study shows that purchasing costs are still the predominant criterion for awarding contracts.

In 2012, the European Resource Efficiency Platform was established to provide high-level guidance to the European Commission, Member States and private actors on the transition to a more resource-efficient economy. In 2014 the European Resource Efficiency Platform published its Manifesto and Policy Recommendations, a high-level guidance document for the European Commission, Members States on the transition to a more resource-efficient economy. On the topic of Green Public Procurement (GPP) the Manifesto calls for a stronger and more coherent implementation of GPP recommending the establishment of a European network to exchange good practice in this field.

### **3.3 GPP National Action Plans**

In 2003, the European Commission in its Communication on Integrated Product Policy (IPP) encouraged Member States to prepare National Action Plans (NAPs) for greening their public procurement. The NAPs contain an assessment of the existing situation and specify the targets for the next years, indicating what measures will be taken to achieve them. The NAPs are not legally-binding but support the process of implementing and raising awareness of greener public procurement. They allow Member States to choose the options that best suit their political framework and the level they have reached. At March 2021, 22 Member States have adopted a National Action Plan: Austria, Belgium,

Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, and Sweden. In 5 Member States NAPs are not existing: Estonia, Greece, Hungary, Luxembourg, and Romania. According to the “National GPP Action Plans (policies and guidelines)” published by the European Commission (March 2021), specific GPP criteria concerning buildings (design, construction, management) been developed in several countries.

<b>Country</b>	<b>Product groups</b>
Austria	Buildings
Belgium	Construction works, technical installations, building materials
Bulgaria	Air conditioning and ventilation, office lightening
Czech Republic	Operation of buildings (water, energy, waste management), lightening
Finland	Construction, energy services
France	Energy efficient services, wood as a building material, environmental quality public buildings
Germany	Buildings
Ireland	Construction
Italy	Construction, renovation and maintenance of buildings, energy services for buildings
Lithuania	Building design, indoor lighting, construction and maintenance; office building design, construction and management.
Luxembourg	Sustainable construction works and use of construction products.
Malta	Thermal insulation and wall panels, indoor lighting, office building design, construction and management.
The Netherlands	Buildings, office management and maintenance.
Slovenia	Construction of buildings, indoor lighting.
Spain	Construction and maintenance.
Sweden	Building and property.

Table 1 – Countries that developed GPP criteria for the building sector.

### 3.4 GPP Criteria: sustainability skills requirements

EU Green Public Procurement criteria have been developed as part of the voluntary approach to GPP endorsed in the communication Public procurement for a better environment (COM (2008) 400). This communication indicated several measures to be taken by the European Commission to support the implementation of GPP by Member States and individual contracting authorities. Since 2008, the Commission has developed more than 20 common GPP criteria.

The environmental impacts of several products and services have been identified and clear, verifiable criteria and requirements have been defined to be used in procurement processes. They are not legally binding and encompass two separate levels – core and comprehensive. Member States are invited to include the criteria into their national GPP policies and individual contracting authorities to use them when procuring.

The criteria used by Member States should be as much as possible similar in the way to avoid a distortion of the single market and a reduction of EU-wide competition. Having common criteria considerably reduces the administrative burden of economic operators and public administrations implementing GPP. Common GPP criteria are a particular benefit to companies operating in more than one Member State as well as SMEs and professionals. Variations in the criteria adopted may reflect national differences in the market availability of products/services, approach to procurement and other priorities.

The EU GPP criteria are developed through consultations with stakeholders and reflect the scientific and market knowledge available and they contribute to the alignment of procurement practices in the absence of mandatory common criteria.

GPP criteria must be verifiable, and should be formulated either as selection criteria, technical specifications, award criteria or contract performance clauses. Selection criteria may relate to:

- Suitability to pursue the professional activity.
- Economic and financial standing.
- Technical and professional ability.

Regarding technical and professional ability for workers and professionals, the EU approach gives a central role to their adequate specification and assessment in green procurement processes. The capacity of operators to provide the service or to execute the installation or the work may be evaluated with regard to their skills, efficiency, experience and reliability.

Contracting authorities may impose requirements ensuring that operators own the necessary technical resources and experience to perform the contract to an appropriate quality standard. Contracting authorities shall indicate the required conditions of participation which may be expressed as minimum levels of ability, together with the appropriate means of proof.

Concerning buildings, GPP criteria have been developed only **(2016)** for “Office Building Design, Construction and Management”.

Regarding the selection criteria and professional ability, the guidance document for office buildings states that: “When assessing ability to perform a contract, contracting authorities may take into account specific experience and competence related to environmental aspects which are relevant to the subject matter of the contract”.

The guidance document suggests that the core design team will require experience and expertise in several key areas, which are identified in more detail in the GPP Selection Criteria:

- **Architect:** Knowledge and experience of designing and specifying environmentally improved buildings, ideally supported by evidence from post-occupancy evaluations.
- **Service engineers:** Knowledge and experience of designing and specifying low energy heating, cooling, ventilation and lighting systems, ideally supported by evidence from post-occupancy evaluations, as well as carrying out specialist analysis such as energy modelling.
- **Structural engineers:** Knowledge and experience of designing and specifying innovative structures and materials that can deliver improved resource efficiency and life cycle performance.
- **Specialist environmental consultants:** Knowledge and experience in providing advice on innovation in areas such as materials sourcing, waste management and certification schemes, as well as the capacity to carry out specialist analysis such as LCA.
- **Cost consultant:** Knowledge and experience of environmentally improved specifications and construction systems, as well the capacity to carry out specialist analysis such as LCC.

The table below describes in more detail the GPP Selection Criteria related to the competencies of the tenderers.

GPP criterion	Brief Description
<b>Criteria related to the ability of the tenderer</b>	
Competencies of the project manager	Experience and expertise in the management of: <ul style="list-style-type: none"> <li>- Contracts with environmental performance requirements</li> <li>- Implementation of environmental technologies and design innovations</li> <li>- Financial appraisal of environmental technologies and design innovations</li> </ul>
Competencies of the design team	Experience and expertise in: <ul style="list-style-type: none"> <li>- Energy efficient building fabric and services design and commissioning</li> <li>- Specification of resource efficient construction materials.</li> <li>- Use of multi-criteria building assessment and certification schemes,</li> </ul>
Competencies of the lead construction contractor and specialist contractors	Experience and expertise in: <ul style="list-style-type: none"> <li>- Energy efficient building fabric and services design and commissioning</li> <li>- Procurement of resource efficient construction materials.</li> <li>- Implementation of demolition site waste management plans</li> </ul>
Competencies of design, build and operate (DBO) contractors and property developers	Experience and expertise in the selection and management of: <ul style="list-style-type: none"> <li>- Design teams to achieve environmental performance requirements</li> <li>- Main contractors who have delivered buildings with environmentally improved performance</li> <li>- Ongoing facilities management in order to optimize the performance of office buildings</li> </ul>

Table 2 – GPP criteria on the ability of the tenderers<sup>2</sup>

The guidance document for offices also points out that it is important for the contractor to verify the real experience and expertise by references from clients and/or recognised certifications and qualifications.

<sup>2</sup> Source: Green Public Procurement Criteria for Office Building Design, Construction and Management. Technical background report and final criteria. Dodd, N. Garbarino, E. and Gama Caldas, M., 2016.; EUR 27916 EN; doi:10.2791/28566).



This “competence verification” is a crucial point that can represent an actual necessity during the implementation of specific criterion in the procurement process by the public administration. Evidently, among other things, the verification and validation of workers' skills by the contracting authority depends on the legislative framework of the country and its national system of skills recognition and certification.

The evidence gathered from the responses to the survey questionnaire and interviews<sup>3</sup> confirms that sustainability skills for professionals and workers are considered an important requirement to be included in public tenders concerning buildings.

In Vorarlberg region, technical and vocational qualifications for workers and professionals, including also sustainable skills, are requested in public tenders. To be more effective, tenders should include request for a specific person in charge of the sustainable performance of the building throughout the entire design and construction process.

In Croatia, all skills requirements in public tenders are in accordance with the current legislation in the field of construction. A more detailed indication of requirements for sustainability skills of workers and professionals is envisaged. This would also give an impulse to the definition, training and recognition of new professional profiles and qualification schemes.

Regarding ICLEI, the recommendations that emerged from the interviews are particularly significant because they reflect a vast and differentiated set of experiences. ICLEI is a global network of more than 2500 local and regional governments committed to sustainable urban development, active in more than 125 countries and working on procurement since 1996, assisting hundreds of cities, regions and public authorities to embed sustainable, circular and innovation criteria into public tenders. ICLEI confirmed that there is a gap in the current requirements concerning the sustainability skills of workers and professional in GPP: the training offer, especially for blue collar workers, is scarce and fragmented. Mutual recognition of qualifications is still missing. Action should be taken on national vocational training systems and on the training of trainers and educators.

Further recommendations are included in the final chapter of this document. ICLEI also reported some best practices that will be included in deliverable D4.2.

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<sup>3</sup> The following stakeholders participated in the survey:

- i. Mr. Dietmar Lenz, Head of sustainable procurement of Vorarlberger Gemeindeverband, Association representing the interests of the 96 municipalities in Vorarlberg Region.
- ii. Mrs. Augusta Makovec, Head of the European Funds Department, City of Solin.
- iii. Mrs. Kaitlyn Dietz, Sustainable Economy & Procurement Team Officer, ICLEI.



## 4 Green Public Procurement legislative framework in national contexts

This chapter is devoted to the analysis of the GPP legislative framework for buildings within the Italian, German, French and Spanish context.

The objective of this overview is to understand the actual usage of requirements concerning sustainable skills for professionals and workers in public tenders for buildings and how requirements concerning sustainable skills for professionals and workers are formulated.

## 4.1 Italy

### 4.1.1 Legal Framework

The European Commission, in Communication 2003/302 on “Integrated Product Policy Building on Environmental Life-Cycle Thinking”, set the target of encouraging the Member States to draw up publicly available action plans for greening their public procurement.

In Italy, accepting the indication contained in the communication from the Commission to the Council and the European parliament (COM (2003) 302) and in compliance with paragraph 1126, Article 1, of Law 296/2006 (Finance Law 2007), the Ministry of the Environment and the Protection of the Territory and the Sea has elaborated, through a broad consultation process with local authorities and interested parties and with the collaboration of the other competent Ministries (Economy and Finance and Economic Development) and technical bodies and structures support (CONSIP, ENEA, ISPRA, ARPA), the “Action Plan for the Environmental Sustainability of Consumption in the Public Administration Sector”, also called the “National Action Plan on Green Public Procurement – GPP NAP”. The Plan, adopted with the Interministerial Decree of 11 April 2008 (GU n.107 of 8 May 2008), aims to maximize the diffusion of GPP among public bodies in order to make it fully exploit its potential in terms of environmental, economic and industrial improvement. This Plan was updated by Decree of 10 April 2013 (Official Gazette N. 102 of 3 May 2013) and is currently undergoing further revision.

The National Action Plan refers to specific decrees issued by the Ministry of the Environment and the Protection of Natural Resources identifying a set of “minimum” environmental criteria for each type of purchase within the sphere of the commodity categories identified.

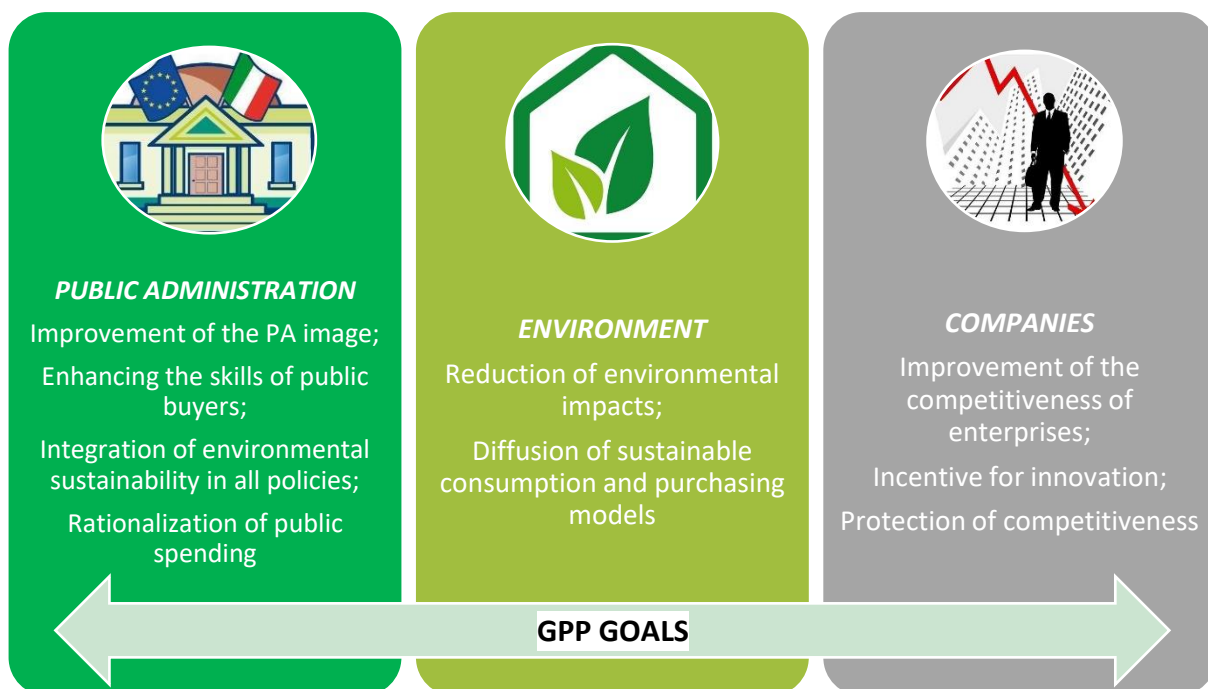
Minimum Environmental Criteria (CAM) are the environmental requirements defined for the different phases of the purchasing process. It aims to identify the best design solutions, products, or services from an environmental point of view throughout the life cycle. While also taking into account market availability and the reduction of environmental impacts, their systematic application allows the diffusion of preferable environmental technologies and products, producing a leverage effect on the market encouraging economic operators to adapt



to the new demands of the public administration.

In Italy, the effectiveness of the CAM has been ensured thanks to art. 18 of Law 221/2015 and, subsequently, to art. 34 containing "Criteria for energy and environmental sustainability" of Legislative Decree 50/2016 "Procurement Code" (amended by Legislative Decree 56/2017), which made it mandatory for all contracting authorities to apply it.

This obligation guarantees that the national policy on green public procurement becomes incisive not only in reducing environmental impacts, but also in promoting more sustainable, "circular" production and consumption models as well as spreading "green" employment. In addition to the enhancement of environmental quality and compliance with social criteria, the application of the Minimum Environmental Criteria also responds to the need of the Public Administration to rationalize its consumption, reducing expenditure where possible.



The Environmental Criteria are defined as "Minimum" in that they are the "base elements" of the qualification of environmentally preferable companies and, at the same time, the sum of the technical elements that can guarantee an appropriate response on the market tenders.

CAM are the technical indications associated with the various phases of the tendering procedures (for example the scope of the contract, the conditions of performance of the contract, the award criteria in the procedures for the awarding of contracts to the economically most advantageous tender, etc.)

which will be useful in classifying a purchase or the assignment of a contract as “sustainable”.

CONSIP (purchasing centre of the Italian public administration) will arrange to share the results of its upcoming market analysis with the Ministry of the Environment. The analysis will be carried out to define the environmental characteristics of the commodity categories covered by the Conventions specified under the Schedule of Activities established on an annual basis.

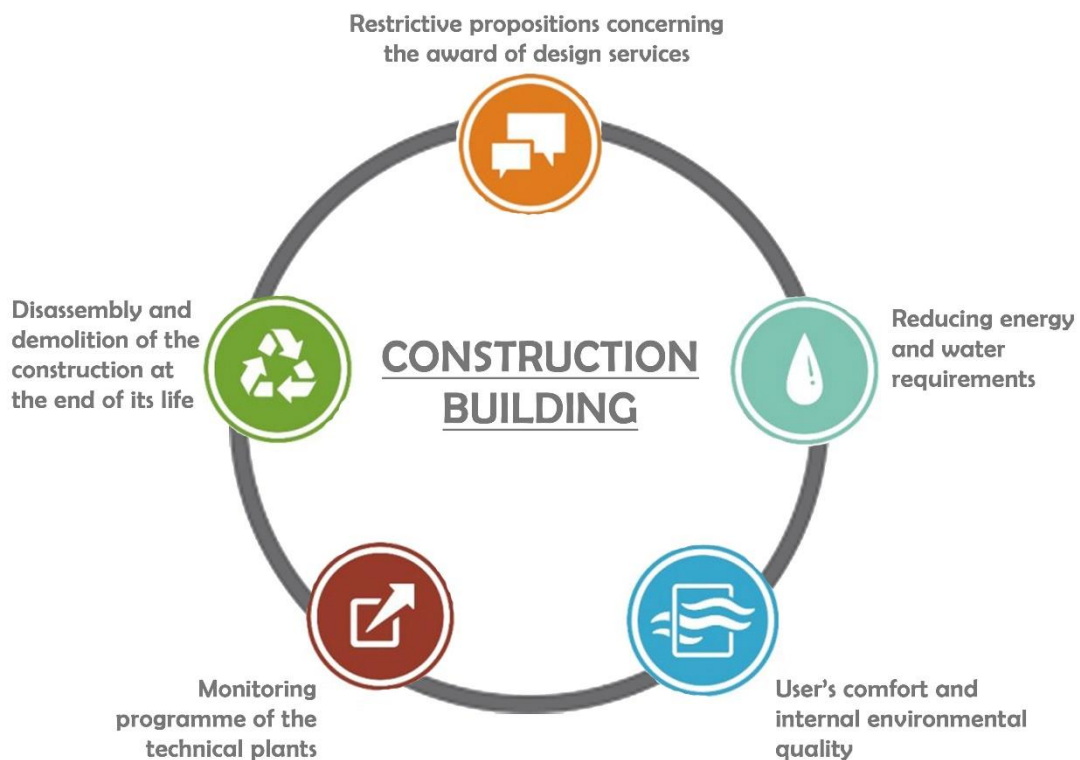
The environmental criteria to be used in calls for tender must be scientifically valid, verifiable by the awarding body and achievable by the tendering companies. As suggested by the European Commission, if possible, criteria will refer to the technical standards of the eco-labels and they will be geared to ensure compliance with the principles of non-distortion of competition. A key objective is the stimulation of sectors concerned with environmental innovation, anticipating trends in public demand of the community, which is increasingly inclined to choose eco-friendly products, services and works.

The National Action Plan on Green Public Procurement provides the development of Minimum Environmental Criteria for the following categories:

- furniture (office furniture, school and reading room furniture);
- construction building (construction and renovation of buildings paying particular attention to construction building material, road construction and maintenance);
- management of municipal waste and related
- urban and territorial services (management of public green areas, urban furniture);
- energy services (lighting, heating and cooling of buildings, public lighting and light signalling);
- electronics (electrical and electronic office equipment and related supplies, telecommunications equipment);
- textile products and footwear;
- writing supplies (paper and consumables);
- catering (canteen and food service);
- building management services (cleaning services and hygiene materials);
- transport (transport services, sustainable mobility systems).

## 4.1.2 GPP requirements for building construction, renovation and maintenance

The introduction of Minimum Environmental Criteria allows the contracting authority to reduce the environmental impacts of new constructions, renovations and the maintenance of buildings, considered from a life cycle perspective. The identified Minimum Environmental Criteria will not avoid the introduction of more advanced criteria by bodies already operating under the GPP system. To facilitate the implementation of further criteria, specific information for each sector of intervention will be drawn up. A three-yearly



review of the National Action Plan is expected, as required by the European Commission.

From TRAIN4SUSTAIN perspective, the category to be considered is the one related to “Construction Building”; in this section the Italian Ministry of the Environment gives restrictive propositions concerning the award of design services and works for the new construction buildings, as well as imposing a series of actions aimed at reducing energy and water requirements for the building. While ensuring user’s comfort and internal environmental quality, providing for a monitoring programme of the technical plants of the building in use, and a maintenance and management plan of the building and also providing instructions concerning the selective disassembly and demolition of the construction at the end of its life.

The Minimum Environmental Criteria specified in the CAM for the construction, retrofit and maintenance of buildings refer explicitly, where there is a direct correlation, to the buildings energy and environmental sustainability certification systems at national and international level. CAM mention some examples of these rating systems to which it is possible to refer to: BREEAM, CasaClima, Protocollo ITACA, LEED, WELL.

CAM indicates, as a useful element for the contracting entity, the selection of projects providing for the application of one of these energy and environmental sustainability certification systems related to the buildings. However, in order to clarify the role of these rating systems, it is clearly stated that none of them is to be considered as being completely exhaustive. For each criterion specified by CAM, which is matched in a similar rating indicator of a given rating systems, the professional is required to verify that quality and performance levels of the rating system applied are equal or higher to those indicated by the CAM. Only in this case the professional will be able to use, in compliance with the CAM criterion, the same documentation produced for the rating system. It should be specified that, for all the CAM criteria, the indicated performance thresholds are a mandatory minimum value. The contracting authority may then reward an award score for offers with higher performance, for some or for all the basic criteria described, indicating the percentage increase and the associated reward score.

In CAM, to this approach, which promotes the use of building sustainability certification systems, doesn't not correspond the presence of GPP requirements valorising and awarding sustainability skills and knowledge of professionals.

**The technical ability of the professionals is not a mandatory requirement**, but is indicated, in Article 2.6.1 as a rewarding criterion that the contracting authority can request optionally, assigning the score it deems appropriate. According to this Article, the contracting authority assigns a rewarding score if the professional or, in the event that the offer is formulated by a design studio, at least one of the designers of the team is in possession of a certification of competence (according to the international standard ISO/IEC 17024 or equivalent) for the application of one of the rating systems for building sustainability certification.

However, the evaluation of this requirement **does not enter into the merits of the actual skills possessed by the professional**: what specific thematic areas they concern, what level of knowledge and competence actually reached by the professional, with what type of training path they have been acquired. The assessment of the possession of skills is made on the basis of rather generic elements (CV, valid certificate of certification, professional training credits in order).



The contracting authority must always ensure in advance that the planning of the interventions is entrusted to qualified professionals registered in the relevant professional registers. The obligation to use professionals, in possession of specific and proven technical skills, is provided in CAM for activities related to the energy audit of buildings which must be entrusted to professionals certified by third parties pursuant to UNI 11339 or UNI 11352, or UNI EN ISO 16247-5, who have proven experience that can be assessed on the basis of the requirements of professional suitability and technical-organizational capacity specified from each time by the contracting authority.

With regards to this important aspect, inside the Minimum Environmental Criteria Decree there is a reference to the activation of specific professional figures in relation to the “energy diagnosis” criterion:

- Expert in Energy Management (EGE) – with reference to the Uni CEI 11339 standard, for which certification through accredited bodies according to the international standard 17024 (Conformity Assessment - General requirements for bodies performing certification of persons) is required.
- Energy Auditor (AE) – with reference standard UNI CEI 16247 part 5, pending activation by the Ministry of the Environment.

Furthermore, the Minimum Environmental Criteria Decree enhances the figure of the Technician competent in Acoustics, who from 19.04.2018 will no longer be registered in the regional lists but will become part of the national list of technicians competent in acoustics.

#### 4.1.3 Building assessment systems in GPP

In addition to the requirements specified by CAM at the national level, the individual Italian Regions may give specific requirements in relation to the building interventions carried out in their own territory. Two regions that are operating in an exemplary and significant way in this regard, are the Piedmont Region and the Calabria Region, where any financing for public buildings (first or second level interventions for new construction or renovation) is compulsorily subject to the application of the Protocollo ITACA.



With regard to private building interventions, in the Piedmont Region, the mandatory application of the Protocollo ITACA is envisaged only in the event of granting volumetric bonuses (demolition and reconstruction, LR 16/2018), the

issue of commercial authorizations (with surface sales area > 4500 sqm) and in some agreed executive plans (numerous implementations to this effect are underway by the City of Turin).

In Calabria Region, for private buildings, the mandatory application of the Protocollo ITACA is expected only in the event of granting of volumetric bonuses (expansion and demolition and reconstruction) provided by the Housing Plan. In tenders for the most economically advantageous bid, both in Piedmont and Calabria, many contracting stations bind the bid evaluation to the bidder's increase of the minimum environmental and energy performance score established at the basis of the tender.

In the Piedmont Region, calls do not require professionals to have followed training courses and to be included in the list of Protocollo ITACA Expert. In Calabria Region, on the other hand, it is mandatory that the designer has successfully participated in a training course for Protocollo ITACA Expert and is therefore included in the relative official List.



## 4.2 Spain

The following section will detail the main points of Spanish law in relation to the Public Procurements and in particular the aspects linked to public buildings contracts. The Analysis has been divided in 3 big sections:

- A. Public Procurement Legislation. National and regional general aspects.
- B. The demand of energy skills in the Public Sector. Where and how public organism ask for this demand in the Public Contracting Processes.
- C. GPP: Organism involved and case studies

A. PUBLIC PROCUREMETN LEGISLATION	B. GREEN PUBLIC CONTRACTING PROCESSES	C. GPP CASE STUDIES. PUBLIC SECTOR:
<p><b>1. Regulation levels</b></p> <p><b>LEGISLATIVE FRAMEWORK</b></p> <ul style="list-style-type: none"> <li>• EUROPEAN</li> <li>• NATIONAL COUNTRY</li> <li>• REGIONAL</li> </ul> <p><b>2. Necessary changes in the legislative framework to improve the demand for sustainability skills in PCVs</b></p>	<p><b>1. Demand of Energy Skills in the Public Sector</b></p> <p>Law 9/2017</p> <p><b>2. Recognition, homologation of skills</b></p> <p><b>3. Training Processes</b></p>	<p><b>1. state of art of green contracting processes (GPP) on buildings in Catalonia</b></p> <p><b>2. Case of Study. GPP</b></p> <p><b>ORGANISMS AREES INVOLUCRADES:</b></p> <ul style="list-style-type: none"> <li>• DEPARTMENTS: DTES</li> <li>• PUBLIC ENTITIES: <ul style="list-style-type: none"> <li>• Agency of Housing</li> <li>• Catalan Soil Institute</li> </ul> </li> <li>• Others</li> </ul> <p><b>INVOLVED AREAS</b></p> <ul style="list-style-type: none"> <li>• CONTRACTING AREAS</li> <li>• TECHNICAL AREAS, URBANIZATION, MANAGEMENT, MAINTENANCE, ETC</li> </ul>

Finally, some aspects of National and regional strategies are summarized.

### 4.2.1 Basic Concepts

The Spanish legislation law regarding public procurement in relation to GPP is organized in different levels.

- 1st Level main regulation, the Spanish Law 9/2017
- 2nd Level regulations to deploy the main Law (Decreets)
- 3rd Level regional regulations and legislation
- 4th Level Plans, Strategies etc.

A. PUBLIC PROCUREMETN LEGISLATION
<p><b>1. Regulation levels</b></p> <p><b>LEGISLATIVE FRAMEWORK</b></p> <ul style="list-style-type: none"> <li>• EUROPEAN</li> <li>• NATIONAL COUNTRY</li> <li>• REGIONAL</li> </ul> <p><b>2. Necessary changes in the legislative framework to improve the demand for sustainability skills in PCVs</b></p>

1. First: The European Directives (2014/23/UE and 2014/24/UE) were transposed to the Spanish National Law 9/2017 of 8th November 2017,

regarding the Public Sector Procurement. This law takes into account all aspects regarding the GPP established by directives, like the Solvency or Award criteria. It is a basic law that collects the general aspects in public procurement and defines the framework for action.

2. Second: this basic Law 9/2017 is developed in another level of regulations (Decreets), which consider more detailed procedures and specify how the main and basic law has to be applied and deployed according to different sectors or topics. In particular, the last regulation in force in Spain is the Royal Decree 1098/2001. Although this regulation is still valid, it is based on the previous and oldest laws (approved before 2017), and some of the articles have not been updated to the National law and European Directives yet and the rest are out of date. In that sense, a new regulation and legislation to deploy the current National Law is needed.

3. Third: on the other hand, each Regional Governments, such as Catalan Government, can develop more detailed regulation, but always under the umbrella of the Spanish law, since the Central Government has the exclusive competences on Public Sector Contracting Issues and has to define the basic and compulsory guidelines and regulation to be followed by the whole country. The regional regulations can only create new regulation just a complementary regulation of the main law (9/2017). Hence, each regional government can adopt specific procurements depending on each case or each contract, but always within the national framework.

4. Finally: apart from the normative and legislation framework, the governments could formalize different plans, programs or strategies which contents the way to follow up. They are the roadmap to follow up. That's because, the basic legislation is too general, and it does not go in depth the matter of green contracting for buildings. It could be done both levels Regional or National. And it could include different topics or focus on specific subjects.

## 4.2.2 Demand of Energy Skills

The entities and organism, that are in charge of the drafting and writing both technical and administrative contract specifications, can ask for specific Skills and knowledge regarding the construction, refurbishment or maintenance matters in 3 moments of the contracting Process.

Law 9/2017 on Public Sector Contracts	<p><b>B. GREEN CONTRACTING PROCESSES IN PUBLIC ADMINISTRATION:</b></p> <p>0. European frame</p> <p><b>1. Demand for Energy Skills in the public Sector</b></p> <p><b>a. SPECIFICATIONS OF TECHNICAL PRESCRIPTIONS (LCSP 19-2017)</b></p> <ul style="list-style-type: none"> <li>• Solvency criteria</li> <li>• Rules</li> <li>• Environmental and social labels</li> <li>• Test reports, certification and other means of proof</li> </ul> <p><b>b. CONTRACT AWARD CRITERIA (LCSP 19-2017)</b></p> <ul style="list-style-type: none"> <li>• Requirements and classes of contract award criteria</li> <li>• Application of award criteria</li> </ul> <p><b>c. CONDITIONS OF EXECUTION OF CONTRACT (LCSP 19-2017)</b></p> <ul style="list-style-type: none"> <li>• Difficulties in meeting the requirements</li> </ul>
	<p><b>2. Recognition, homologation of skills</b></p> <p><b>3. Training processes</b></p>

### Specifications of technical prescription: solvency criteria

To enter into contracts with the public sector, employers and professionals must prove that they meet the minimum requirements of economic and financial, technical and professional solvency determined by the contracting body. These minimum solvency requirements are specified in the Contract Specification.

Based on an economic amount, there is a classification that specifies the specific solvency accreditation for companies. The economic and financial and technical or professional solvency is accredited by providing the documents required by regulation.

Regarding the concretion of the conditions of solvency, so much in the agreements of works as in the ones of services can demand to the juridical people that specify, in the offer or in the application of participation, the names and the qualification professional staff responsible for executing the service.

In this sense, the technical solvency in works and service contracts must be accredited by one or more of the following means, at the choice of the contracting body:

- List of works executed in the course of the last years / services or works carried out of the same or similar nature as those that constitute the object of the contract

<p><b>B. GREEN PUBLIC CONTRACTING PROCESSES</b></p> <p><b>1. Demand of Energy Skills in the Public Sector</b></p> <p><b>Law 9/2017</b></p> <ul style="list-style-type: none"> <li>• SPECIFICATIONS OF TECHNICAL PRESCRIPTIONS</li> <li>• SOLVENCY CRITERIA</li> <li>• RULES FOR AWARD OF CONTRATS</li> <li>• CONDITIONS OF EXECUTION OF CONTRACT</li> </ul>	<p><b>2. Recognition, homologation of skills</b></p> <p><b>3. Training Processes</b></p>
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- Declaration indicating the technical staff or technical bodies available to it for the execution of the works, accompanied by the corresponding supporting documents
- Academic and professional qualifications of the employer and the directors of the company and, in particular, of the person or persons responsible for the works, as well as of the technicians who are directly in charge of them, provided that they are not evaluated as a criterion of adjudication.

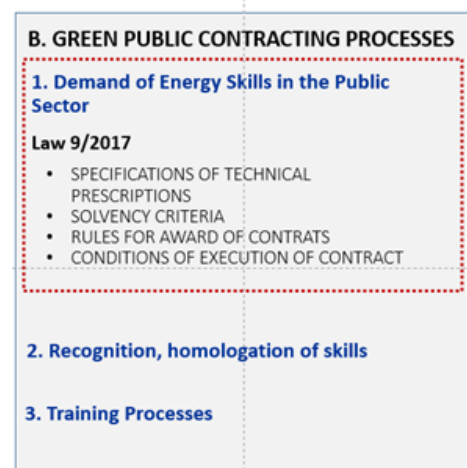
### Contract award criteria: requirements and classes of contract

The award criteria are designed to punctuate the different candidates that participate on the public bids.

#### Requirements:

Contracts must be awarded using several criteria and on the basis of the best value for money. The best value for money is evaluated according to economic and qualitative criteria.

The qualitative criteria established by the contracting body to evaluate the best relationship between quality and price may include environmental or social aspects, link to the object of the contract, which may be between others, the following:



The organization, qualification and experience of the personnel assigned to the contract that must be carried out, provided that the quality of the said staff may be significantly affected by its best execution.

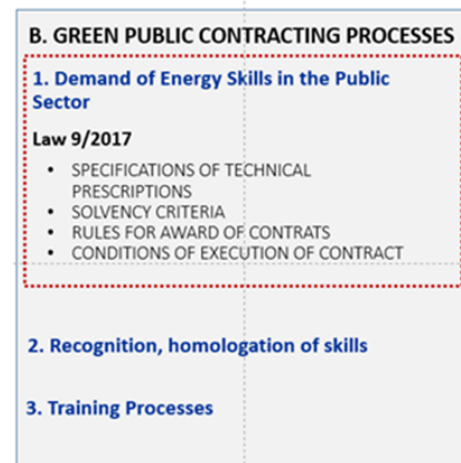
However, the requirements should not be too restrictive in order to not restrict the concurrence. The technicians who write the bid specifications have to clearly define what they are asking for.

### The conditions of contract executions

These conditions are compulsory. For example, in maintenance contracts this point is very important, because in this type of contracts Plans of Energy Efficiency are required and it implies a certain level of annual Energy Efficiency outcomes. Other interesting examples related to the new buildings is the compulsory registration to the CO2 Platform Enterprises. Where the companies take on the commitment to reduce CO<sub>2</sub> emissions.

However, even there are compulsory clauses there is no room to ask for specific requirements.

Furthermore, sometimes it is difficult to assess compliance with the conditions and also a balance must be found not to establish conditions of difficult compliance.



### 4.2.3 Organisms and Institutional Entities in Charge

There are different public organisms or entities who are in charge of the good application of the Green Public Procurement Law.

#### National Organisms in relation to GPP

In 2018, the “Inter-ministerial Commission was created for the incorporation of ecological criteria in public procurement” (by the Royal Decree R.D 6/2018.), which have the following functions in relation to the GPP:

- Make an Ecological Public Procurement Plan of the General State Administration. It has to take into account environmental parameters as well as the ecological criteria to consider in the different phases of contracting the same.  
The criteria set is based on current public procurement criteria, the ecological status of the European Union and may be incorporated into the procurement documents such as criteria for the award or selection of the contractor, technical specifications of the contract or special performance conditions.
- Carry out the Management and Monitoring of the Ecological Plan
- The design of information and training actions for the personnel in charge of the implementation of the plan.

#### Regional Organisms in relation to GPP

Each Regional Government can create its own organism regarding GPP. Through which the different sustainability criteria will be processed, evaluated and applied in the contracting processes.

In Catalonia there are many organisms linked to Public Procurement for Buildings, as showed in the images below.

**C. GPP CASE STUDIES. PUBLIC SECTOR:**

**1. state of art of green contracting processes (GPP) on buildings in Catalonia**

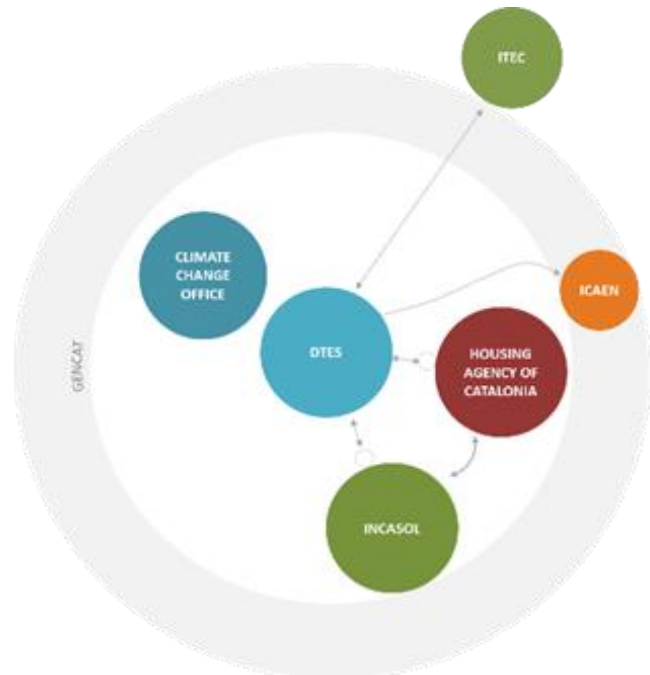
**2. Case of Study. GPP**

**ORGANISMS AREES INVOLUCRADES:**

- DEPARTMENTS: DTES
- PUBLIC ENTITIES:
  - Agency of Housing
  - Catalan Soil Institute
- Others

**INVOLVED AREAS**

- **CONTRACTING AREAS**
- TECHNICAL AREAS, URBANIZATION, MANAGEMENT, MAINTENANCE, ETC



In the table below there are some examples regarding the typology of buildings by beneficiary and responsible:

Beneficiary	Internal GENCAT	Third beneficiary- individuals
Who/responsible: Building Manager/ decision Maker	Departments Technical team.	AHC / INCASOL
Type of Contracts	New Construction – Refurbishments - maintenance	
Type of building	<ul style="list-style-type: none"> <li>- Office - citizen service offices</li> <li>- Museums</li> <li>- Courts</li> <li>- Penitentiary centres</li> <li>- primary care centres and hospitals</li> <li>- Schools</li> </ul>	<ul style="list-style-type: none"> <li>- Residential</li> </ul>

Table 3 – Beneficiaries and responsible per building type

Those buildings that are offering public services, such as citizen service offices, museums, buildings to develop the day-to-day lives of public workers such as hospitals or courts, the decisions regarding the GPP depends on the contracting responsible of each department. On the other hand, Housing Agency of Catalonia (AHC) and Catalan Soil Institute (INCASOL) deal mainly with the management of residential buildings or new construction etc. where the beneficiaries are mainly individuals.



### Housing Agency of Catalonia (AHC):

The main services of Housing Agency of Catalonia are: services to facilitate access to housing, services to improve and guarantee the construction quality, regulates the housing market, gives support and information to the citizens. It carries out rehabilitation works.

### Catalan Soil Institute (INCASOL):

this public entity in charge of public industrial, logistic residential and tertiary Soil managements. It also develops task on Urban renovation, new construction and Historical heritage. INCASOL also manages all rental deposits.

## 4.2.4 National and regional Plans and Strategies

### NATIONAL: ECOLOGICAL PLAN IN PUBLIC CONTRACTING (ORDER PCI/86/2019).

The Plan establishes objectives, such as:

- Promote the acquisition by the public administration of goods, works and services with the least environmental impact.
- Serve as an instrument to promote the Spanish Circular Economy Strategy.
- Guarantee a more rational and economical use of public funds.
- Promote environmental clauses in public procurement.
- Make publicity of the possibilities offered by the legal framework for green public procurement.

It also includes around 20 Groups of priority goods, works and services. Among them there are some directly linked to the Public Procurement for Building construction and management requirements:

- Interior lighting of buildings: Based on the minimum energy efficiency requirements established in the Basic Documents of the Technical Code of the Building: Basic Requirement HE3: Energy Efficiency of lighting installations.
- Water based heaters.
- Design, construction and management of office buildings: The new buildings that are going to be occupied and are publicly owned, will be buildings with almost zero energy consumption after December 31, 2018, in accordance with Royal Decree 564/2017, of June 2, by which it is modified Royal Decree 235/2013, of April 5, which regulates the basic procedure for certifying the energy efficiency of buildings.

Contracts for the reform or rehabilitation of buildings will be adapted to achieve almost zero energy consumption levels, adopting the specifications or criteria described in this section:

- Combined heat and power systems. Air conditioning systems.

The selection criteria may take into account the accreditation of relevant skills and experience in the execution of construction contracts that have demonstrated improved environmental performance. However, the specific training courses or skills regarding Sustainable Energy competences are not detailed.

### REGIONAL: STRATEGIC PUBLIC PROCUREMENT IN CATALONIA

There are 2 main Government Agreements in relation to the Public Procurement for Building;

- Government Agreement, dated 14/02/2017, authorizing the extension of the term for energy efficiency service contracts in the form of energy efficiency contracts (EPC) with guaranteed savings and energy service contracts renewables.
- Government Agreement, dated 04/12/2018, approving the Energy Saving and Efficiency Plan for buildings and facilities of the Generalitat de Catalunya, within the framework of the energy transition in Catalonia, for the period 2018- 2022.

Main Goals:

- Annual energy renewal of 3% of the surface of the public buildings of the GENCAT.
- Realization of energy audits to public buildings.
- Design of the new construction buildings or NZEB from January 1, 2018.
- Energy Efficiency Management for existing buildings.
- Approval of renewable energies to the buildings and equipment's of the GENCAT.
- Installation minimum of 20 MW of photovoltaic solar energy (Self-production).
- Energy training plan for professionals of the Generalitat de Catalunya
- Information, training and Good Practice Tools for all Gencat Staff.
- Coordination measures for other actions of the Generalitat de Catalunya.



Apart from the strategic or sectorial plans, in Catalonia, there is a list of published guides for Social, Innovative and Environment topics. These guides help the technical public employees to write the technical specifications and how they have to take into account the environmental aspects during the writing process. Most of these guides are based on the European GGP recommendations and Toolkit models.

## 4.3 France

### 4.3.1 General Framework

Green public procurement is public purchase that enables the procurement of environmentally friendly goods and services. They allow public bodies to assume their environmental, social and economic responsibility, while bringing benefits to their structure. These are a major lever for orienting the markets towards the better consideration of sustainable development. In France, the national action plan for sustainable public procurement 2015-2020 provides for a public contract to include an environmental provision if:

- The subject of the contract includes an environmental dimension, such as the provision of catering services with products from organic farming. This object gives rise to the registration of at least one contractual clause in the contract.
- Or the environmental dimension is taken into account in the technical specifications. This can be done by defining requirements equivalent to those of eco-labels, performance requirements or production methods and processes.
- Or the environmental dimension is taken into account in the conditions of execution of the contract.
- Or one or more award criteria linked to sustainable development are taken into account, together with at least one contractual clause associated with the criteria. It may be performance in terms of environmental protection, the overall cost of use, costs throughout the life cycle.
- The environmental criteria that may be used to judge and rank the offers are only considered insofar as their use results in the inclusion of at least one clause in the contract. A public contract includes a social provision if:
  - The subject of the contract includes a social dimension, such as, for example, the provision of services reserved for structures employing people with disabilities. This object gives rise to the registration of at least one contractual clause in the contract.
  - Or the social dimension is taken into account in the technical specifications. For example, the material must be suitable for use by a person with a disability.
  - Or the social dimension is taken into account in the conditions of execution of the contract which include at least one social clause for integration through economic activity or for recourse to structures employing a majority of disabled workers.
  - Or one or more social award criteria are taken into account, along with at least one contractual clause associated with the criteria. Social

criteria that may be used to judge and rank offers are only considered to the extent that their use results in the inclusion of at least one clause in the contract.

### 4.3.2 Legal Framework

The scope of public procurement covers contracts through which public and private persons subject to the public procurement code (CCP) - called public contracting authority request and initiate the performance of a service, works or the supply of a good to meet their own needs, in return for a price or any equivalent.

Since April 1, 2019, the CCP has regrouped and organized the rules relating to the various public procurement contracts within a single text.

Public project management must respect three fundamental principles:

- Freedom of access to public procurement (guaranteed by advertising);
- Equal treatment of candidates (prohibits all forms of discrimination);
- Transparency of procedures (informing candidates of the selection criteria for applications and offers).

These principles make it possible to ensure the effectiveness of public procurement. When concluding contracts, the public project management must also, in accordance with article L2111-1 of the CCP, take into account "the objectives of sustainable development in their economic, social and environmental dimensions", that is, meeting the needs of the present without compromising the ability of future generations to meet theirs.

The construction of certain building or infrastructure works, within the framework of a contract, is governed by the provisions of Law No. 85-704 of July 12, 1985 relating to public project management and its relations with private project management (MOP law), now incorporated into articles L.2410-1 et seq. of CCP 11 (MOP law). This very broad field concerns most of the works of a real estate nature carried out by public contracting authorities, such as new constructions, rehabilitation works (more or 10 works. Article L. 1111-1 of the CCP. 11). An important aspect of the rules of the MOP law is the principle of separation of roles between the various construction actors, in particular between the project management and the construction companies. In this configuration, the project manager and his team have a real advisory role to the buyer.

### 4.3.3 Public Building Contracts

In the building sector, the public authorities must, on the one hand, better renovate buildings to save energy, lower bills and create jobs and, on the other hand, fight against waste and promote circular economy.

As part of the law of August 17, 2015 on energy transition for green growth, all new constructions under the contracting authority of the State, its public establishments or local authorities must demonstrate exemplary energy performance and should meet whenever possible, positive energy and high environmental performance. At the same time, actions to raise awareness about controlling energy consumption must be put in place among users of these new constructions.

The law of August 17, 2015 on energy transition for green growth also indicates that the level of energy performance must, for all energy renovation work, reach a threshold compatible with national objectives, taking into account the specific features of the building and in as close as possible to the requirements applicable to new buildings.

The decree of April 7, 2016 relating to the taking into account of energy performance in certain contracts and public contracts indicates that buyers of the State and its public establishments are required to acquire or lease buildings already constructed attesting to high energy performance.

The decree of December 21, 2016 relating to positive energy and high environmental performance buildings under the contracting authority of the State, its public establishments or local authorities specifies the characteristics of a positive energy building with high environmental performance.

The decree of December 21, 2016 relating to positive energy and high environmental performance constructions under the contracting authority of the State, its public establishments or local authorities.

The decree of April 7, 2016 relating to the inclusion of energy performance in certain contracts and public contracts.

The law of August 17, 2015 on energy transition for green growth.

### 4.3.4 The Law for Green Growth

Law No. 2015-992 of August 17, 2015 on the energy transition for green growth provides for the mobilization of the public sector in the area of eco-responsibility. The law sets new obligations for the State and its establishments and operators in terms of purchasing or internal operations or imposes national objectives on everyone, in particular and inevitably on public persons: exemplary public persons.

The “green growth” law sets several ambitious objectives for the building sector. By 2050, it aims for all the buildings in the French building stock to reach the low energy consumption level. To do this, it plans to achieve a rate of 500,000 energy renovations per year from 2017.

The obligations related to public procurement cover areas such as:

- Article 76, relating to the scheme for promoting socially and environmentally responsible public procurement, provides for the consideration of ecological issues in the law on the social and solidarity economy. This scheme also contributes to the promotion of a circular economy.
- Decree No. 2016-1821 of December 21, 2016 relating to positive energy and high environmental performance constructions under public project management specifies the notion of exemplary nature of public project management. All new constructions under public project management - State, public establishments or communities - will have to demonstrate exemplary energy (sobriety, renewable energy) and environmental (low carbon footprint).

In addition, Decree No. 2016-856 of June 28, 2016 sets the conditions to be fulfilled to benefit from exceeding the constructability rules. Thus, the authority responsible for town planning can authorize up to a 30% constructability bonus for positive energy constructions or demonstrating energy or environmental exemplarity.

Article 8 of the 2015 law on energy transition for green growth also provides that the public contracting authority may define localized sectors in which it requires constructions, works, installations and developments to comply with reinforced energy and environmental performance, that it defines.

All new constructions under the contracting authority of the State, its public establishments or local authorities demonstrate energy and environmental exemplarity and are, whenever possible, positive energy and high environmental performance. Actions to raise awareness of energy consumption control have been implemented among users of these new constructions. Local authorities can increase their financial aid or give priority to this aid to buildings with positive energy or which demonstrate exemplary energy and environmental standards.

A national decree defines the requirements that must be met by a positive energy building, on the one hand, and a high environmental performance building, on the other hand.

As such, the public project management may impose a minimum production of renewable energy, if necessary, depending on the characteristics of the

project and the consumption of the sites concerned. This production can be located in the building, in the same sector or near it.

#### 4.3.5 The Law for Green Growth in Different Codes

The State, local authorities and public establishments which establish a territorial climate-air-energy plan provided for in Article L. 229-26 of the Environment Code may enter into a partnership with the establishments mentioned in Article L 711-2 of the Education Code, in order to implement experiments and innovations in terms of energy savings.

In addition, the requirements concerning constructions demonstrating energy or environmental exemplarity or which are positive energy are also included in the town planning code.

Buildings with a low carbon footprint, built while minimizing their contribution to greenhouse gas emissions over their entire life cycle, from construction to deconstruction, help achieve the reduction objective greenhouse gas emissions set out in Article L. 100-4 of the Energy Code.

Finally, in the building and housing code, the concept of emissions, is extended over the entire life cycle of the building.

#### 4.3.6 The law for green growth and renovation

Law n ° 2015-992 of August 17, 2015 relating to the energy transition for green growth recalls in article L. 111-10 that all the energy renovation works carried out make it possible to achieve, in one or more stages, each building or part of a building, an energy performance level compatible with the objectives of the national energy policy defined in Article L. 100-4 of the Energy Code, taking into account the specific energy and architectural features of the existing building and by coming as close as possible to the requirements applicable to new buildings.

A decree determines:

- the energy and environmental characteristics and the energy and environmental performance;
- the categories of buildings or parts of existing buildings which are the subject, before the start of work, of a technical and economic feasibility study;
- the categories of existing buildings which, during major renovation work, are subject to insulation work;
- the categories of existing buildings which are subject, during major roof repair work, to insulation of this roof;

- the categories of buildings or parts of existing buildings which are subject, during major renovation work, to the installation of active energy management and control equipment;
- the categories of existing residential buildings which are subject, during work to fit out rooms or annexed building parts with a view to making them habitable, work to improve the energy performance of these rooms or parts of annex buildings;
- the energy characteristics that new equipment, structures or installations installed in existing buildings must comply with, depending on the categories of buildings considered.

Specifically, by decree n ° 2016-711 of May 30, 2016 relating to the nature of the work triggering the obligation of energy efficiency work, it is specified that: during heavy rehabilitation work - facade refurbishment, roof repair, improvements to make a room habitable -, owners will have to integrate an energy efficiency requirement. This work will not be compulsory in the event of technical impossibility, significant additional costs or obvious disproportion on the architectural level. This decree entered into force on January 1, 2017 (date of the signed quotes being proof).

In order to accompany the previous measure, authorizations to exceed the siting and maximum height rules imposed by local town planning regulations are introduced by law in certain cases: projecting insulation work on facades, installation of devices protection against solar radiation, insulation by raised roofs. Decree n ° 2016-802 of June 15, 2016 relating to the possibilities of exemption. Entry into force: June 18, 2016.

Public aid intended for work to improve energy performance in existing buildings is maintained when there is an obligation to carry out work.

In addition, we find in the building and housing code, articles L. 111-9 et seq., Elements likely to contribute to a level of energy performance compatible with the objectives of the national energy policy defined in Article L. 100-4 of the Energy Code, in particular:

- the acoustic characteristics of new equipment, structures or installations;
- in the case of condominiums in built buildings, energy efficiency improvement operations during work affecting the common areas.

### 4.3.7 Public Works

In article 79 of the law on green growth, the provisions for public works provide that all calls for tenders that the State or local authorities publish for road construction or maintenance include a priority requirement. the use of materials resulting from the reuse, reuse or recycling of waste. The State and the local authorities justify each year, and for the State on a regional scale:

From 2017:

- That at least 50% by mass of all the materials used during the year in their road construction sites come from the reuse, reuse or recycling of waste;
- And that, for the materials used during the year in road construction and maintenance sites among these materials, at least 10% by mass of the materials used in the surface layers and at least 20% by mass of the materials used in the base layers come from the reuse, reuse or recycling of waste.

Then, from 2020:

- That at least 60% by mass of all the materials used during the year in their road construction sites come from the reuse, reuse or recycling of waste;
- And that, for the materials used during the year in road construction and maintenance sites among these materials, at least 20% by mass of the materials used in the surface layers and at least 30% by mass of the materials used in the base layers come from the reuse, reuse or recycling of waste.

### 4.3.8 Recovery and Recycling of Inert Waste from Buildings and Public Works

In 2012, building and public works (BTP) activities generated 246 million tonnes of waste, or nearly  $\frac{3}{4}$  of waste produced in France.

Aware of these challenges, Europe has set in the framework directive on waste the objective of 70% recovery of construction waste by 2020. This objective also appears in the law on energy transition for green growth from August 17, 2015. Today, around half of French construction waste is recovered. It's not enough. France must therefore continue in its momentum in order to be exemplary and anchor practices in lasting change.

The State is raising awareness among its operators, encouraging the drafting of special technical clauses (CCTP) for buildings and roads, guarantees relating to their deconstruction, as well as the presence of lots dedicated to cleaning



glass. It is committed to improving the waste diagnosis and to promoting the source sorting of site waste. It develops guides and ensures, through studies and organization of events, the promotion and transversal animation of activities related to the recycling and recovery of alternative materials. Specialized training actions will be put in place to help public buyers integrate recycling into their calls for tenders.

#### 4.3.9 Biobased

In accordance with article L2111-1 of the CCP, the public project management must take into account "the objectives of sustainable development in their economic, social and environmental dimensions". The integration of bio-based materials, which are beneficial for the environment, in their markets allows buyers to meet this obligation.

As written in the construction and housing code, articles L. 111-9 and following: the use of bio-based materials contributes significantly to the storage of atmospheric carbon and the preservation of natural resources. It is encouraged by the public authorities during the construction or renovation of buildings.

#### 4.3.10 Biobased Sources in The Consultation File

The public contracting authority has several legal tools to, in the consultation documents and when awarding its contract, stipulate requirements in terms of biobased materials. The object of the contract is the first and perhaps the most important of these elements.

The determination of the subject of the contract is of particular importance because all the characteristics of the contract (provided for in the technical specifications, the conditions of execution, the requirement of labels or opened by means of the variants) must be related to the subject of the contract: it must, therefore, be sufficiently precise and integrate sustainable development concerns.

In formulating the subject of the contract, the public contracting authority must be particularly attentive to respect for the principles of equality and non-discrimination when defining the subject of the contract.

For example, the following two scenarios can thus be encountered:

- In the case of a strong competitive intensity (in the case of an easily identifiable product or of a family of products presenting a wide offer), the buyer can directly mention in the object of the contract the material (s) biobased desired;

- On the contrary, in the case of lower competitive intensity (when few products are available or only a limited number of economic operators offer them), more general terms are preferable.

#### 4.3.11 Innovative Public Procurement

To promote innovation in public procurement, Decree No. 2018-1225 of 24 December 2018 on various measures relating to public procurement is testing, over a period of three years, a new framework for innovative public procurement. Thus, the public contracting authority is authorized to award contracts without advertising or prior competition for innovative purchases of an amount less than 100,000 euros. The services concerned are defined in Article R. 2124-3, 2° of the CCP.

It is also specified that the innovative character "can consist in the implementation of new production or construction processes, of a new marketing method or of a new organizational method in the practices, the organization of the workplace. or the company's external relations".

In certain cases, and under certain conditions, the purchase of biobased materials can thus be considered as an innovative purchase and the exemption from the advertising and competition obligations can apply in this case, since the amount of the need of the buyer is less than 100,000 euros excluding tax.

#### 4.3.12 Label E + C- and Experiments

The state and construction stakeholders are committed to producing positive energy and low carbon buildings. By 2018, the energy transition law for green growth will allow the establishment of an ambitious new environmental standard and by 2020, positive energy buildings will become widespread.

As of today, the State, economic players and associations have chosen to jointly prepare to meet this ambition in new construction by generalizing positive energy buildings and promoting the deployment of buildings with a low carbon footprint. throughout their life cycle, from design to demolition. One of the pillars of this policy is the launch of the Positive Energy and Carbon Reduction label (E + C-).

The E + C- label was created to support the process of experimenting with future regulations with industry players and responds to specific performance levels. This label is issued by accredited certifiers (COFRAC or European counterparts) who have signed an agreement with the State for this purpose.

The E + C- label allows those who obtain it to use the name and associated visuals for their own communication.

Participation in the experiment is not conditional on adherence to a labelling process. A voluntary client, having followed the standard can participate in the experiment.

### 4.3.13 Building and Biodiversity

Like the political and collective awareness that has taken place on climate change, we are now at a new turning point for the construction / renovation sector, which is that of taking biodiversity into account.

The building sector contributes to the artificialisation of soils, consumes natural resources and emits a large amount of greenhouse gases. But it can also allow its preservation and restoration through the integration of nature in the city, links with the ecosystem and ecological continuities, the use of solutions based on nature (revegetation of the envelopes), reasoned use land (renovation rather than new constructions), the reception of species via lodges, nesting boxes, insect hotels. In addition, the building benefits from being inspired by living things for improved design and operation. Demonstrators exist under the name of organic architecture and also through research on biomimetic architecture. Finally, there is a strong link between the well-being of building users and the integration of biodiversity within it.

The law for the reconquest of biodiversity, nature and the landscape and the climate energy law, the anti-waste law for a circular economy and the law on combating climate change and strengthening resilience in the face of its effects mark the path to follow to meet this challenge.

Discussions will be carried out on the development of a sustainable building label linked to RE2020. This will be more ambitious than the existing regulations and may propose indicators related to biodiversity. These reflections are currently inspired by the work of the Sustainable Building Plan. Private labels already offer interesting indicators.

Finally, to complete the work implemented in 2020, it will be necessary to address more generally the integration of biodiversity issues across all stages of the building's life cycle from the design stage. The work is substantial and the progress to come is very important. This will therefore probably require working on the subject step by step: design, construction, management, renovation and deconstruction.

#### 4.3.14 Sustainable skills requirements

While it is possible to impose qualifications corresponding to the skills or the body of state of the company recruited in a public tender, there is no coordinated qualification scheme to identify the level of mastery of a company or a person in "sustainability".

However, certain mechanisms put in place (in particular RGE-type eco-conditionality mechanisms) take into account skills in sustainable development on the renovation markets in order to obtain aid to finance works. The RGE system concerns both public and private contracts.

Specifically on public procurement: specific qualifications or certifications and references to companies may be required as a guarantee of quality, but there is no legislative framework on this subject.

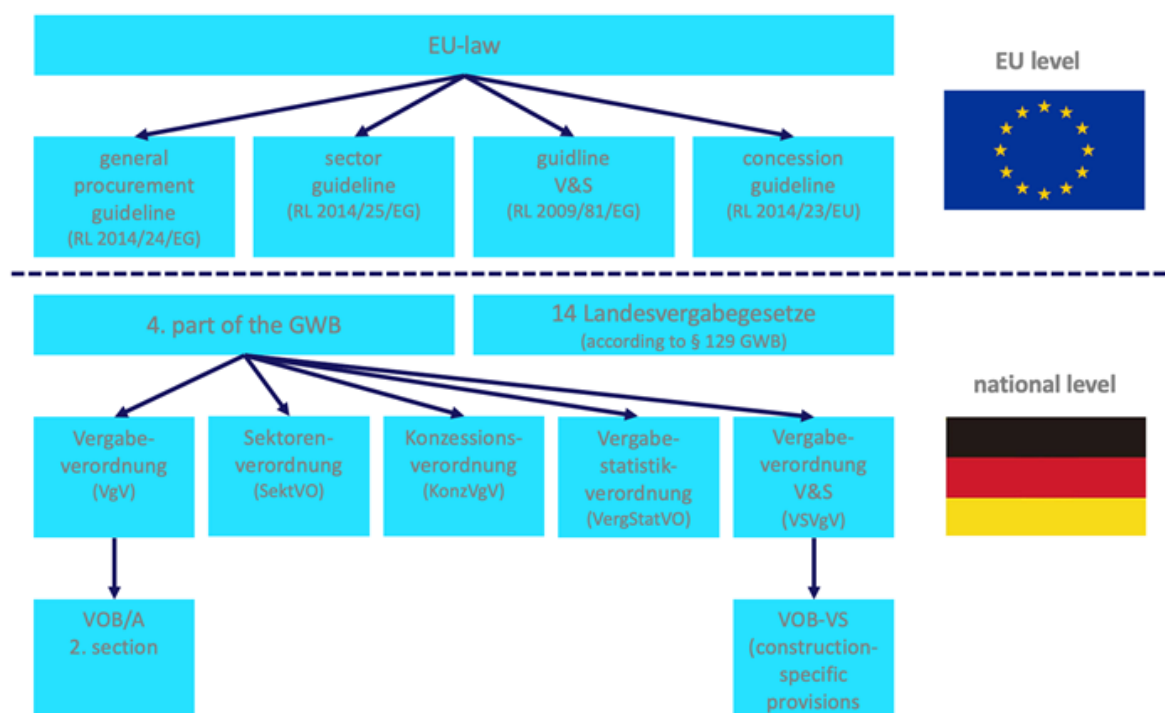
## 4.4 Germany

### 4.4.1 General Framework

Public procurement law in Germany is not uniformly regulated in a single law. It is made up of different regulations in different places and at different levels. The first level is the national level. This level defines general procedures and basic requirements and does not go into detail. The second level is the federal level. Germany is subdivided into 16 different federal states, each holding the power and responsibility to describe the detailed requirements of public procurement in their scope of validity. The last level is the level of cities and communities. These must follow the previous laws and regulations but can even add more regulations. Public procurement must follow principles such as transparency, principle of competition, principle of equality, consideration of the interests of small and medium-sized enterprises (which is special in the German public procurement) and the criterion of the most economical offer.

### 4.4.2 Legal Framework

The procurement regulations are divided into two sections: The first section regulates national procurement procedures for contracts whose value is below the EU threshold. The second section regulates EU-wide procurement procedures for public contracts whose value is higher than the relevant threshold. The structure of this award system is shown with the appropriate regulations in figure below.

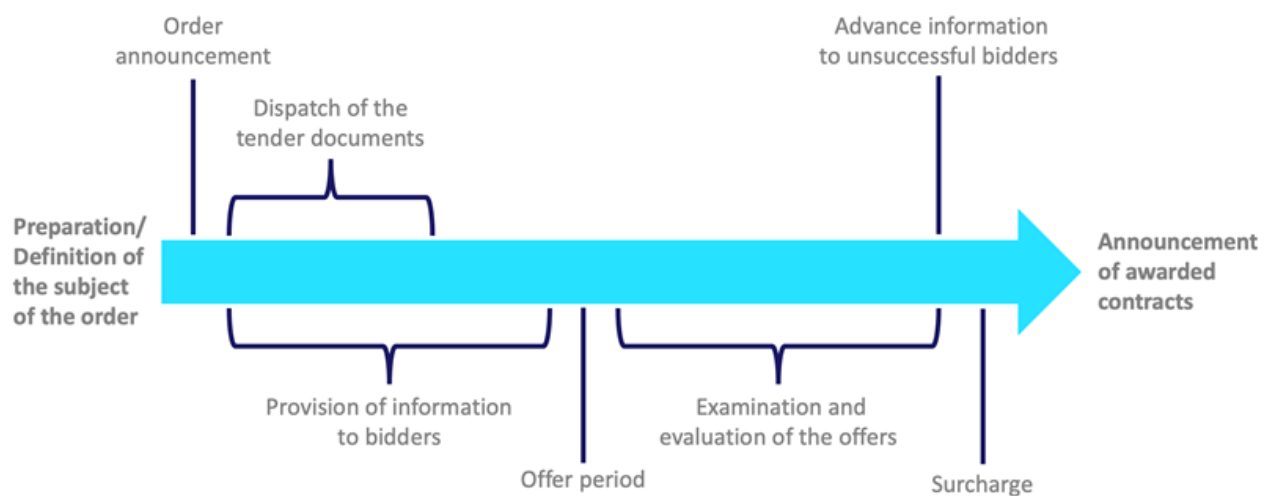


The appropriate terminologies for the different types of procedures at EU level and national (German) level are shown in table below.

EU terminology	Traditional terminology in Germany
Open procedure	Public tender
Non-open procedure	Restricted tender
Negotiated procedure	Free awarding
Competitive dialogue	

Table 4 – Terminology of tendering procedures

Contracts awarded by open procedure pursuant to § 101 (7) of the GWB. In justified exceptional cases, another procedure is permitted, but only if otherwise permitted by law. The open procedure is characterized by the fact that all interested companies have the opportunity to submit an offer. The client cannot limit the number of bidders. Below the structure of German public procurement.



### 1. Preparation / Definition of the subject of the order

- Determination of needs
- Determination of the procurement targets
- Examination of financing and the legal framework
- Preparation of procurement documents
- Determination of the type of award

2. Announcement of the call for tenders
  - via print or online media
  - Tender documents can be requested.
3. Dispatch of procurement documents/ providing of information.
  - Check whether potential participants can meet all requirements.
4. Submission of the offer
  - Submission of all required documents, proofs, references, and declarations by the interested parties
5. Examination and evaluation of the offers
  - Formal bid review, whether the bids are properly sealed, marked and signed.
  - Check whether necessary infrastructural, economic, and human resources are available.
  - Examination of the economic efficiency of the offer.
6. Surcharge
  - The bidder with the best and most economical offer is awarded the contract.
7. Information of unsuccessful bidders
  - Information of the participants who have not received the award of contract.
  - At EU-level, the participants are informed without justification and without the name of the successful bidder.
  - At national (German) level, the participants are informed about the reasons.
8. Announcement of awarded contracts

#### 4.4.3 National Guidelines to Sustainable Construction

The Federal Ministry of the Interior, Building and Community (BMI) released the Guidelines to Sustainable Construction – Sustainable planning, construction and operation of buildings for public authorities. The Guidelines to Sustainable Construction describes procedures, formulates targets and provides recommendations for federal construction in order to align the planning and realisation of new construction projects and extensions, including the design of outdoor facilities, the planning and realisation of modernisation, conversion and change of use projects for existing buildings, as well as the use and operation and building maintenance of buildings and properties in accordance with sustainability requirements in the construction sector.

The methods and procedures specified in the guidelines are based on the chronological sequence of the planning phases according to the Guidelines for the Implementation of Federal Construction Tasks (RBBau) or the Ordinance on Fees for Architectural and Engineering Services (HOAI).

In the sense of DIN EN 15643-2 "Sustainability of buildings - Assessment of the sustainability of buildings: framework for the assessment of environmental quality", the guidelines consider the entire life cycle of a building. For the concrete life cycle considerations, the first 50 years of a building are used in the calculations.

In 2001, the first version of the Guidelines to Sustainable Building has been published. The latest version was released in December 2019. The goal of the guidelines is to integrate sustainable aspects of many fields, not just sustainable and efficient usage of energy, but also to consider material-based sustainability as well as social and economic sustainability. This way, public based sustainable buildings should also be energy saving and resource friendly. The focus is put on LCA, environmental aspects and user-friendliness during both planning, construction and operation. However, the guidelines do not include any recommendations in selection of enterprises but only name aspects to be considered and monitored for public building projects. The guidelines are strongly connected with the federal certification system "Nachhaltiges Bauen" – Sustainable Building (BNB). The BNB is an instrument for planning and assessing sustainable and usually public building projects. Following graph shows the fields which are deeply considered within the certification methodology:





The guidelines describe procedures and recommendations of construction actions for both new and existing buildings for different levels of actions, namely demand planning, energy concept, handling grey and black water, design planning, approval planning and implementation planning.

One of the many aims, is to reduce the heat demand for the room conditioning of buildings - while at the same time ensuring a high level of thermal comfort and preventing structural damage.

The choice of supporting structure should be as resource-conserving as possible, durable and capable of being repurposed through economically justifiable load-bearing reserves (BNB 2.2.2).

The addition, conversion or removal of non-load-bearing, spatially separating elements, for example, should be able to be carried out with little effort so that, in the event of any conversion measures, the building's operation can continue without restriction as far as possible.

The consideration of sustainability aspects in the aspects in the execution of the building must be sustainability aspects in the tendering and awarding of building of construction work (NBB 5.1.4).

In the tendering phase, appropriate specifications in the specifications in the service description, special that the installation of materials or products that have an ecological or products that have an eco- or human-toxicological risk potential are or human toxicological risk potential can be avoided as far as possible. possible. The potential pollutants to be considered are pollutants to be considered are:

- hazardous substances (CLP-VO22) and substances of very high concern (REACH-VO23).
- hazardous substances that may leach out.
- heavy metals
- volatile organic compounds (VOCs) including organic solvents
- halogenated refrigerants and blowing agents
- biocides (European Biocide Regulation<sup>24</sup>).

#### 4.4.4 Requirements for Companies

Public tender may only be awarded to competent, efficient and reliable companies.

A company is:

- competent if it has the necessary expertise and experience for the order.
- efficient if it has the human, technical, financial and commercial resources to carry out the order in a professional and timely manner.

- reliable if previous orders have been properly fulfilled and the legal obligations have been met.

To be able to check the suitability of the companies bidding for a public tender, the contracting authority requires declarations and/or evidence from the candidates or bidders to prove their expertise, capability, and reliability. The declarations and/or evidence that the contracting authority would like to receive from the bidders for the suitability test must already be listed in the announcement. In this way, interested companies can already see from the notice whether they meet the suitability requirements and whether it is therefore worth their while to request the award documents. The declarations of suitability/evidence of suitability which the contracting authority would like to receive must also be stated in the notice so that the bidders have sufficient time to obtain the required official certificates or evidence in time.

A prerequisite for proper and thus high-quality construction work is the award of construction contracts exclusively to companies that have proven their suitability in terms of reliability, expertise and performance in accordance with Section 6 of the German Construction Contract Procedures, Part A (VOB/A). The suitability of the construction companies shall be examined by the contracting authorities on a case-by-case basis. In addition, the case-by-case examination may be omitted in the case of prequalified companies, as this is carried out as part of the prequalification procedure (PQ VOB/ PQ list).

Construction planning and execution must meet the requirements of the Recycling Management Act (KrWG). The aim is to conserve natural resources, avoid waste, recycle unavoidable waste as far as possible and to the highest possible quality in a proper and harmless manner, and to dispose of non-recyclable waste in a way that does not harm the environment. The requirements stated by the Guidelines focus on the sustainable competences of enterprises instead of individual workers or experts.

### **Prequalification**

To simplify the verification process for public tenders, companies have been given the opportunity to be prequalified. Prequalification is the prior, contract-independent testing and certification of proof of suitability. Depending on the economic orientation of the companies, a distinction is made between prequalification for companies in the supply and services sector and prequalification for companies in the construction sector. Sustainability is not considered in the prequalification.

#### 4.4.5 Sustainable Assessment System BNB

For the implementation and quantification of the requirements in sustainable construction, the evaluation system sustainable building (BNB) was developed for the holistic assessment of federal buildings. The BNB<sup>4</sup> is a practical instrument for the optimization of the requirements in the planning of building projects. With the systematic assessment of sustainability qualities, which are oriented towards the protection goals of sustainable construction, an overall assessment and comparability of buildings with regard to their sustainability quality is achieved. As a second-generation assessment system, the BNB offers a holistic assessment approach. In contrast to other certification systems of the first generation, an extended assessment of the building over its life cycle, taking into account all dimensions of sustainability. The base for the BNB is the national catalogue of criteria, which was developed in cooperation with building industry associations at the Round Table on Sustainable Building" of the Federal Ministry of was developed.

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<sup>4</sup> Source: *Leitfaden Nachhaltiges Bauen – BMI, publication date 16.12.2019*

## **5 Analysis of obstacles and needs concerning the request of sustainable skills in GPP**

The core of the deliverable is structured around the concrete results obtained interviewing key people working in Green Public Procurement sectors.

As mentioned at the beginning of the report, to be more effective, many interviews were carried out among decision makers dealing with GPP at municipal, regional and national level. Interviews have been carried out using a questionnaire provided by iiSBE Italia, that were translated into local languages to be more efficacious. When possible, interviews were carried out in person (using web platform) otherwise, the involved stakeholders have filled out the provided questionnaire, described in Annex 1.

## 5.1 Italy: overview of the survey's results and recommendations

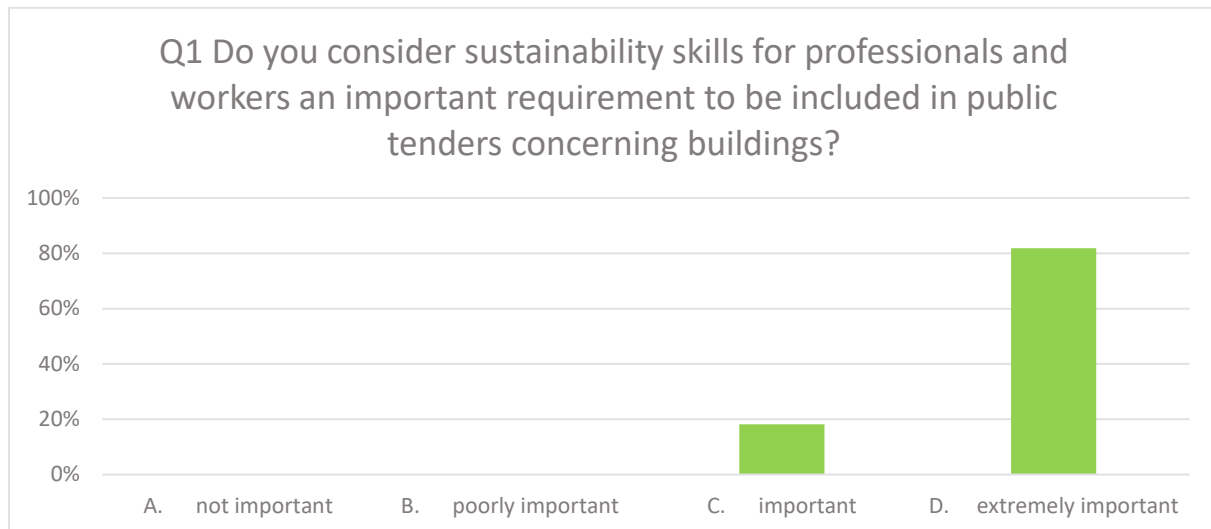
The following table contains the names of the stakeholders that have been interviewed by iiSBE Italia.

<b>id</b>	<b>Name interviewed</b>	<b>Department</b>	<b>Type interview</b>
1	Giorgio Pelassa	Piedmont Region	On-line meeting
2	Marco Glisoni	ARPA Piedmont	On-line meeting
3	Luana Scaccianoce	ARPA Piedmont	On-line meeting
4	Flavio Aquilano	Municipality of Turin	On-line meeting
5	Eva Zane	Veneto Region	On-line meeting
6	Claudia Mazzoli	Emilia Romagna Region	On-line meeting
7	Lucia Reda	Municipality of Turin	On-line meeting
8	Maria Annunziata Longo	Calabria Region	Questionnaire reply
9	Silvia Bonapersona	Piedmont Region	Questionnaire reply
10	Massimiliano Bagagli	ITACA	Questionnaire reply
11	Paolo Lucattini	Toscana Region	Questionnaire reply

Table 5 – List of interviewees

In the following paragraph are summarised the opinions expressed by the respondents to the survey.

Q1 - Do you consider sustainability skills for professionals and workers an important requirement to be included in public tenders concerning buildings?



The interviews conducted in the Italian context highlighted, that skills requirements of professionals and craftsmen in green public procurement in regard to buildings are very important elements, even essential for many of the interviewees to be included in a tender but, to date, it was expressed as a deficit. For most of the interviewees, the possibility of the contracting authority to objectively verify the skills of the tenderers, that will be involved in the design and implementation of the project, was considered crucial. However, all the interviewees expressed the difficulty related to "how" it is possible to objectively demonstrate such abilities, knowledge and skills.

Q2 - In your region (country), what are the requirements concerning the sustainable skills of professionals and workers currently used in Green Public Procurement for buildings?

The requirements of sustainability construction in public procurement in Italy are certainly represented by CAM for the construction, retrofit and maintenance of buildings which, however, compared to how they are expressed to date, should be simplified in certain respects and more detailed in some others, as well as calibrated according to the type of intervention which they are applied to.

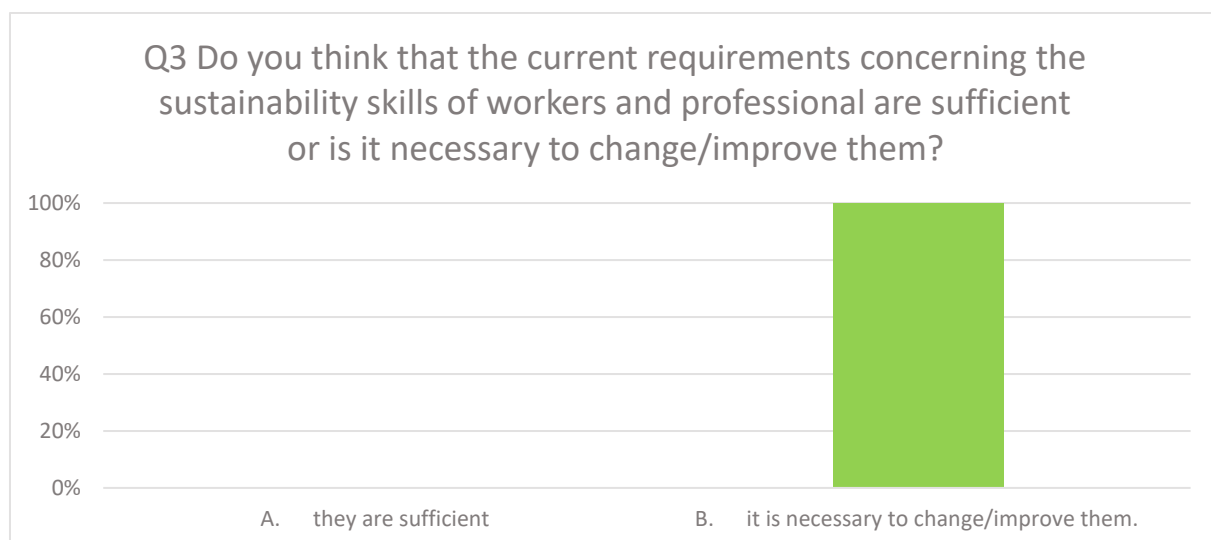
It is important to underline that, in the Italian context, the requirement on the competence of professionals and craftsmen is voluntary, meaning that it is not mandatory, an aspect criticized by some of the interviewees. This requirement is too general because it does not go into the specifics of which competences the different sustainability certification assessment systems give to the

professional, it is limited to simply verifying that the professional has followed a course concerning a building sustainability certification system that certifies them according to the UNI CEI EN ISO 17024 standard, not entering the merits of the typology and duration of the course.

The requirement of competence should therefore be integrated in the request for a curriculum vitae that describes the real skills of the professional based on learning activities, professional courses and certificates obtained that demonstrate the real abilities of the professional. It is also essential to verify the continuous updating of the professional, especially with reference to the technical regulations. This aspect is essential for the success of the project to put out to tender.

During the interview with an official of the Piedmont Region on skills requirements for professionals and craftsmen, he highlighted the fact that within the CAM - Public Green, in Piedmont Region there is also the figure of the "green maintenance", which is governed by a regional standard, which asks the professional to continuously update in order to be able to maintain this qualification. Of course, the area is not the construction building but it still remains an important example to cite as a good practice on a requirement of competence.

Q3 - Do you think that the current requirements concerning the sustainability skills of workers and professional are sufficient or is it necessary to change/improve them?



All respondents have stated that the current requirements concerning the sustainability skills of workers and professional are not sufficient and it is necessary to improve them.

Furthermore, in public contracts, the weight represented by the parameter of the skills requirements of professionals and craftsmen is underestimated; many of the interviewees expressed a favourable opinion on the assignment of greater importance to it.

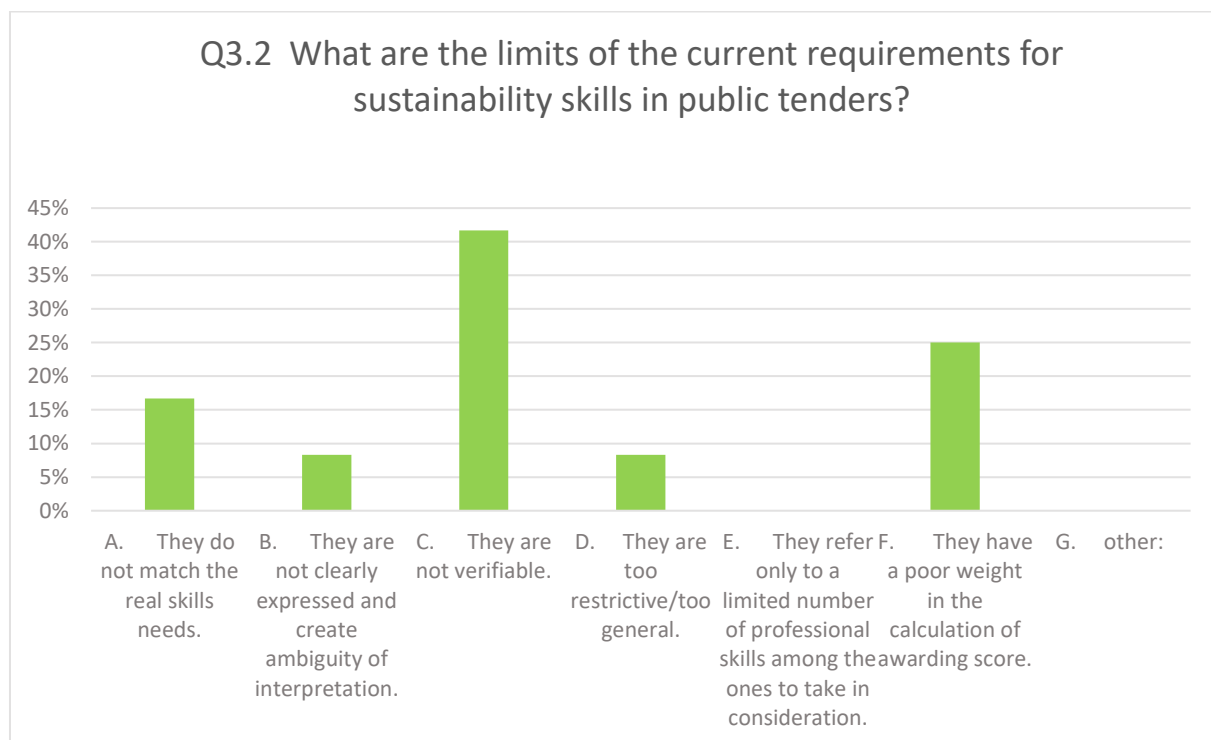
Q3.1 - What are the limits of the current requirements for sustainability skills in public tenders?

Considering how skills requirements for professionals, craftsmen and companies are articulated in public tenders, these are currently expressed in a very superficial, generic and sometimes unclear way, running the risk of becoming interpretable in a subjective rather than an objective way.

Many of the interviewees have stated that the section dedicated to the selection of candidates is poorly articulated and does not have strong requirements that allow them to be sure of having selected qualified and competent personnel.

Therefore, all respondents agreed that the ways in which the requirements were expressed did not reflect the needs of the contracting authority.

Q3.2 - What kind of changes are necessary? How requirements for sustainability skills should be formulated in public tenders? Are there specific needs?



In the opinion of the interviewees, sustainability requirements for verifying the competence of a professional should ideally be expressed taking into account the following aspects:



- Always in a clear and intuitive way, without unnecessarily complexing the request and, for many interviewees, made them mandatory and restrictive.
- They should be broader in terms of the topics covered, focusing a lot on the skills acquired over time by the professional related to professional activity in the specific field, especially with regard to the panorama of workers in the construction sector.
- They should request a detailed curriculum that contains the detailed specifications of the courses taken and the academic subjects that have been studied in depth; in this regard, some of the interviewees showed a propensity towards the choice of candidates who have a multidisciplinary approach which would avoid having gaps in certain fields. This could also be done by ensuring the selection of a team of qualified personnel in different fields that would guarantee, in a more certain way, the success of the project announced.
- The weight represented by the parameter of the professional skills requirements should have much relevance as it would guarantee the selection of qualified and competent professionals.
- Verification of continuous professional updating on specific issues and sustainability in construction should be ensured, based on the assignment to be entrusted.
- Specialization in the specific area of reference (residential, school, listed historic buildings) should be required, guaranteed by participation in practical courses, in order to subsequently avoid incurring incapacity or lack of competence in the specific field from the professional.

#### Q4 - What are the barriers/obstacles to change the current legislative framework concerning the requirements on sustainability skills for workers and professionals in GPP?

The responses relating to the presence of obstacles and barriers to change the current regulatory framework concerning the requirements on sustainability skills for workers and professionals in GPP were very convergent, in order to achieve change in terms of the expression of professional requirements. The interviewees hoped for:

- Cultural change in the approach to environmental sustainability by professionals, who too often underestimate the fundamental importance of these requirements.
- Possibility in objectively proving the actual abilities of professionals and workers both practical and theoretical.
- Guarantee a more stringent continuous professional training inherent to the aspects of sustainability in the building sector, also making it mandatory.

- Express, in public tenders, skills requirements for professionals and craftsmen that can be measured and verifiable through a uniform and unambiguous system.
- Involvement of Professional Orders and trade Associations at a national level, to verify the support for the idea of categorizing professional skills based on specifications related to the specializations acquired by the professional.
- Increase professional's knowledge of the broad panorama represented by the building regulatory context in Italy. Training related to technical regulations should also be implemented for the reference stakeholders, avoiding further action on the implementation of coordination declarations, manuals, guidelines and similar, which investigate these issues in depth but without directly involving the interested parties;
- Greater attention to the economic investment to be addressed so that a professional or worker can achieve the skill requirements that make them suitable for selection in tenders;
- Take into account the lack of continuous dialogue between the national level and the regional/municipal context which can sometimes determine inconsistencies between what is recommended by the highest level and what is instead established at the municipal level, within the competitions of contract written by regional officials. This disconnect can have roots in purely economic reasons.

Q5 - What are your recommendations for changing the legislative framework concerning the requirements related to the sustainability skills of professionals and workers in public tenders?

Many of the recommendations received during the interviews are based on the aspects listed above and they are also addressed to those stakeholders involved in the policies which are at the basis of the drafting of documents concerning the assessment of the skills of professionals:

- Clarity in expressing skills requirements of professionals and craftsmen in tenders, so that, the contracting authority can be given the opportunity to make an objective assessment, which is currently not guaranteed, by measuring and verifying them through a uniform and unambiguous system;
- Encourage the calibration of the professional's skills based on the type of intervention that he will have to perform, so that, a suitably qualified professional figure is chosen for that specific type of activity;
- Release Public Administration from verifying the actual skills of the candidates, as it does not have the possibility of objectively verifying them. For this to happen, a unified tool should be conceived that allows to have a tangible and objective demonstration of the skills of professionals and craftsmen, also having a third-party verification that

guarantees the transparency of the result. In this way the contractors of the contracting station will be able to more easily qualify the skills of their workers who will have to deal with the implementation of the project;

- Make the regulatory aspects related to the public tenders specifications more uniform because some aspects are detailed in too much feature while other aspects are rather ignored, such as, what concerns the verification of the skills of craftsmen on construction sites, delegating then the verification of the proven skills of the workers on the construction site to the Works Management;
- Encourage continuous professional development, especially in relation to the technological aspects concerning energy efficiency, so that real professional skills can more easily be guaranteed. It might be useful to provide update sessions also to those who write the calls, often represented by regional officials, so that they can have greater knowledge about what they will include in the tenders, making them aware of the issue;
- Draw up clear and objective guidelines that help public administrations, which prepare calls for tenders, to correctly compile the tender texts, thus having a valid aid and the right preparation to be able to draft them exhaustively;
- Provide for the involvement of Professional Associations in order to be able to work in a synergistic and in-depth manner to the clarification concerning how to unquestionably demonstrate the skills of professionals;
- Provide standardization of this type of innovative approach to the topic so that it can become effective and operational, only in this way will its application and consequently its effectiveness be guaranteed, avoiding remaining only a "good practice on paper" and not in the real life;
- Focus on having a team of professionals who can cover all the requests of the call in a multidisciplinary way rather than looking for all the skills in a single figure;
- Reasoning from the perspective of the life cycle of the building having knowledge of the facts not only of a specific stage but of the entire building process, from the project to the maintenance in operation of the same.

At the end of the interviews, all the interviewees expressed interest in the project and willingness to participate in the next Local Project Committees that will be organized by the project.

They considered TRAIN4SUSTAIN an ambitious and very useful project, which it would make the comparison of skills objective and impartial. All considered this work very useful because it would allow certification systems to have a unique language in expressing the level of competence of trained professionals.

## Spain: overview of the survey's results and recommendations

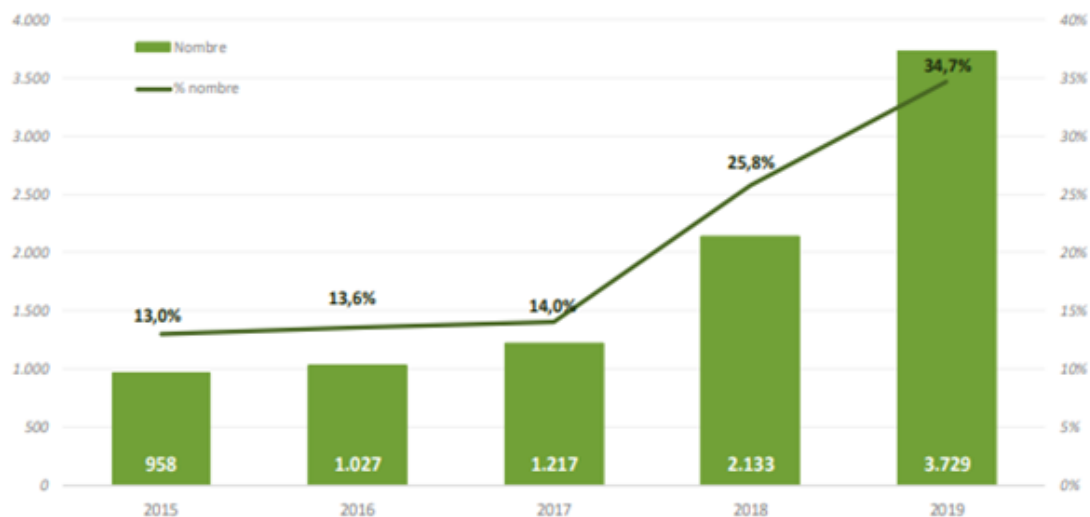
In order to analyse the Catalan Situation regarding the Green Public Procurement and in particular those related to construction and building renovation, different professionals of the contracting areas have been interviewed. The main areas interviewed have been:

- Department of Territory, Housing and Sustainability. Building and facilities managers were interviewed. They are focused on maintenance and work contracts and shared us their experiences with the current public procurements.
- INCASOL. Members of INCASOL institution have been interviewed from a technical and regulatory perspective. INCASOL is currently overseeing the construction of new buildings.
- The institution of Agency of Housing of Catalonia (AHC) is responsible for the refurbishments of different buildings. Its perspective gave us a global overview regarding the environmental requirements in renovation projects and tenders.
- Ministry of Agriculture, Livestock, Fisheries and Food: Facility Managers have been invited to participate to the survey and interviews. They provide us with important feedback about the needs and limitations they are facing.
- The Institute of Energy of Catalonia (ICAEN). This institution is in charge of all guidelines regarding refurbishments and building renovations as well as the implementation of renewable energy.. They have established the strategy and requirements to implement the energy efficiency in the public buildings of Catalan Government. They promote the Energy Services and Maintenance contracts based on EPC models.

<p>Law 9/2017 on Public Sector Contracts</p>	<p><b>B. GREEN CONTRACTING PROCESSES IN PUBLIC ADMINISTRATION:</b></p> <p>0. European frame</p> <p><b>1. Demand for Energy Skills in the public Sector</b></p> <p><b>a. SPECIFICATIONS OF TECHNICAL PRESCRIPTIONS (LCSP 19-2017)</b></p> <ul style="list-style-type: none"> <li>• Solvency criteria</li> <li>• Rules</li> <li>• Environmental and social labels</li> <li>• Test reports, certification and other means of proof</li> </ul> <p><b>b. CONTRACT AWARD CRITERIA (LCSP 19-2017)</b></p> <ul style="list-style-type: none"> <li>• Requirements and classes of contract award criteria</li> <li>• Application of award criteria</li> </ul> <p><b>c. CONDITIONS OF EXECUTION OF CONTRACT (LCSP 19-2017)</b></p> <ul style="list-style-type: none"> <li>• Difficulties in meeting the requirements</li> </ul>
	<p><b>2. Recognition, homologation of skills</b></p> <ul style="list-style-type: none"> <li>• Diagnosis of the current state</li> <li>• Successful methods, approaches and initiatives to stimulate demand for experts</li> </ul>
	<ul style="list-style-type: none"> <li>• Development of the frame of reference</li> </ul> <p><b>3. Training processes</b></p>

## AN IMAGE OF THE CURRENT STATE OF GREEN PROCUREMENT PROCESSES (GPP) ON BUILDINGS IN CATALONIA

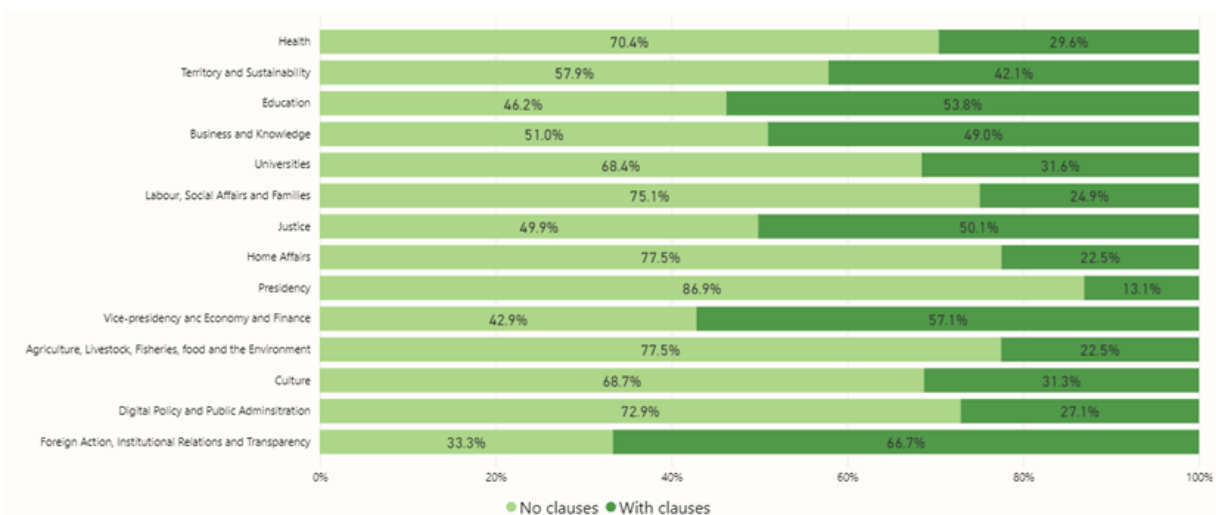
In Catalonia, the last five years has brought positive changes in the environment clauses. The following graphic shows that there has been an increase from 13% to 34,7% from 2015 to 2019. Largely thanks to the publication of the new regulations in 2017. The change has been significant in 2019 as well.



In particular, in 2019, the results according to the type of the contracts including green clauses is significant for Public Works (that includes all building refurbishment, new construction).



Making a general overview and comparing the implementation of environmental measures by the different departments stands out.



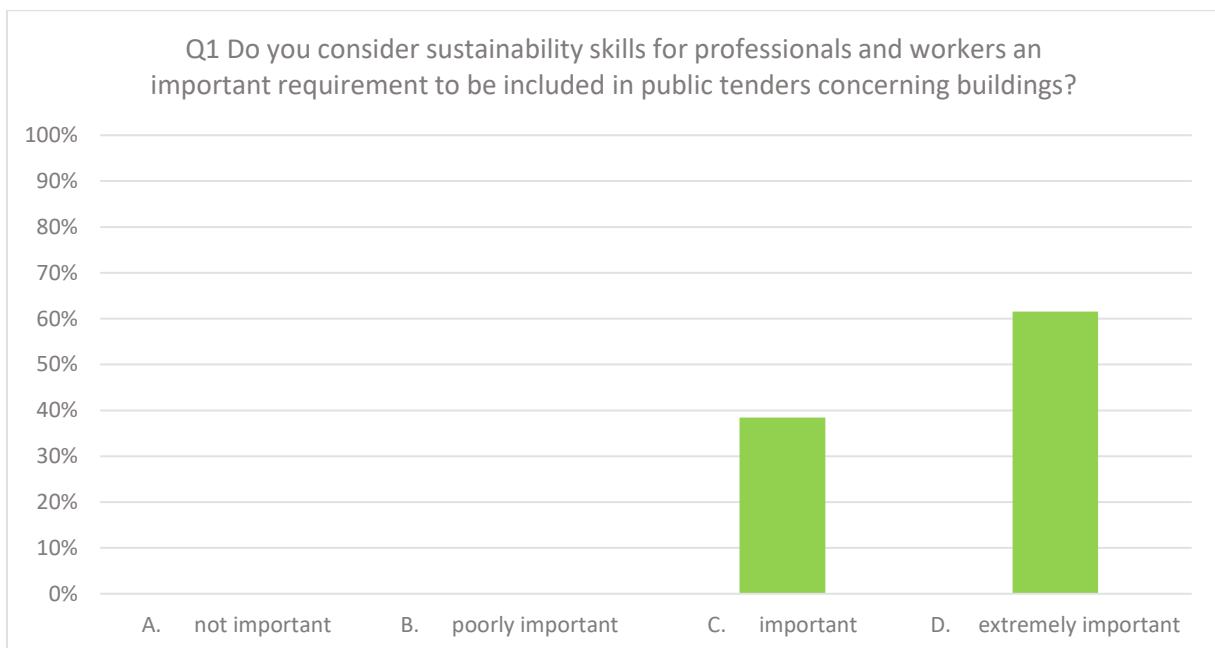
The main purpose of the questioners have been to gain a general view from the different institutions directly linked with the building renovation and construction sectors. 13 interviews have been carried out, 9 have been done through TEAMS platform, the rest have been answered by e-mail. The following table contains the names of the stakeholders that have been interviewed by CAT.

<b>id</b>	<b>Name interviewed</b>	<b>Department</b>	<b>Type interview</b>
1	Jordi Vergé Heredia	DTES	On-line meeting
2	Lluís Albiol	DTES	On-line meeting
3	Josep Maria Granolers	ICAEN	On-line meeting
4	Marta	ICAEN	On-line meeting
5	Antonia	ICAEN	On-line meeting
6	Oscar Sanchez	ICAEN	On-line meeting
7	Isabel Valverde	INCASOL	On-line meeting
8	Fernando Aranda	INCASOL	On-line meeting
9	Iris Moyes Polo	AGRICULTURA	On-line meeting
10	Dolors Cervantes	AGRICULTURA	On-line meeting
11	Eva Paris	AHC	Questionnaire reply
12	Marta Arrufi	AHC	Questionnaire reply
13	Noemi Casaponsa	AHC	Questionnaire reply

Table 6 – List of interviewees

Q1 - Do you consider sustainability skills for professionals and workers an important requirement to be included in public tenders concerning buildings?

The majority of interviewees consider that sustainability skills for professionals and workers should be an important and extremely important requirement to be included in public tenders concerning buildings. The answers were 40% important and 70% for Extremely important.



The reasons that polarize these two responses are directly linked to the positions held by each of the interviewees. For example, those who works daily on the definition of energy efficiency guidelines or strategies such as ICAEN, INCASOL or AHC answered that the sustainability skills are an extremely important requirement.

Whereas those that are responsible of facilities and maintenances in different departments and write and prepare the public tenders have a more diversified opinion. Even though they consider these two options, they highlight that in practice it depends on the typology of the contract and the professional profile.

Regarding the typology of the contract, interviewees said that to be more or less demanding about knowledge in energy efficiency depends on wheatear it is a contract for a new building or engineering project, work or maintenance.

On the other hand, in relation to the job profile, they commented that for an engineer or an architect it is undoubtedly an extremely important requirement,

but for an operator their experience weighs more and the answer "important" would be sufficient and meet their expectations.

They commented the following.

- Contract type: Works
  - facultative direction of the work, technical director, foreman, manager → extremely important
  - operator → important
- Contract type: Maintenance:
  - engineer → extremely important
  - operator → important.

In contrast, the point of view of the legal advisers or jurist professionals commented the importance to understand in advance what is actually needed or what are the technicians looking to achieve. As it depends on this, the phase where the requirements will be taken into account have a relevant role. For example, it is not the same if the requirements are considered during the Technical and professional Solvency, during the award criteria or for special execution clauses. It is important, because if it is not well defined it could imply the invalidation of the tender due to the appeals from the bidders.

Among the answers it has been highlighted that in the following years more sustainable ways of working will be an essential element along with the adoption of environmental criteria linked to the life cycle of the contracts. For that reason, it is extremely important to consider this kind of abilities. Especially in order to meet targets by 2050 set by the EU (Green Deal, Renovation Wave, etc.). Green growth projects should be promoted since the current building stock is too old.

Concepts such as Urban Renovation, building refurbishment, boost green head recovery and ecological transition are really important. Then, it is important include the energy and sustainability skills in public tenders for all professional and workers involved in the process, and more and now with more reason for a post Covid-19 reconstruction.

[Q2 - In your region \(country\), what are the requirements concerning the sustainable skills of professionals and workers currently used in Green Public Procurement for buildings?](#)

In Catalonia the requirements concerning the sustainable skills of professionals and workers are too generalists, since very specific qualifications that limit concurrence cannot be requested.



According to the answers obtained about the public tenders highlight that they try to look for the best professionals and workers, but the majority of times they only use their C.V and experiences to evaluate them.

Among the requirements that they use during the public tenders in relation to the buildings are:

1. The compulsory creation of a multidisciplinary team, where at least one person with energy efficiency or environmental skills takes part in. However, this is also tied with the type of project, strategical and main projects with a high contract budget.

The recent example has been the new Administrative District, where the office building has been designed with high sustainable requirements that include passive and active energy efficiency measures and introducing a new concept of work much more sustainable by the organisation of common spaces, work areas using specific and furniture.



2. On the other hand, for those projects or contracts based on Energy Savings on EPC contracts, the Certification on M&V protocol must be submitted. The certificate required in Catalonia so far it has been International Performance Measurement & Verification Protocol (IPMVP) issued by EVO Efficiency Valuation Organization (<https://evo-world.org/en/> ). However, it is a condition sine qua non to participate it cannot always be verified that the person who submitted the certificate then participates in the execution of the work. There are not enough guarantees. Eventually Breeam, Leed or similar have been required, but considering to not restrict the concurrence.

The answers received also differentiate between professional and workers. While big companies or experts or professionals such as for engineers or architects could be easy to get this kind of certificates, the interviews noted that the market is not ready enough and they commented that the maintenance companies or craftsmen aren't aware of the existence of these kind of certifications. Hence, when they launch a new tender, only a few sign up. In order to solve this, they enhance experience more than knowledge itself.

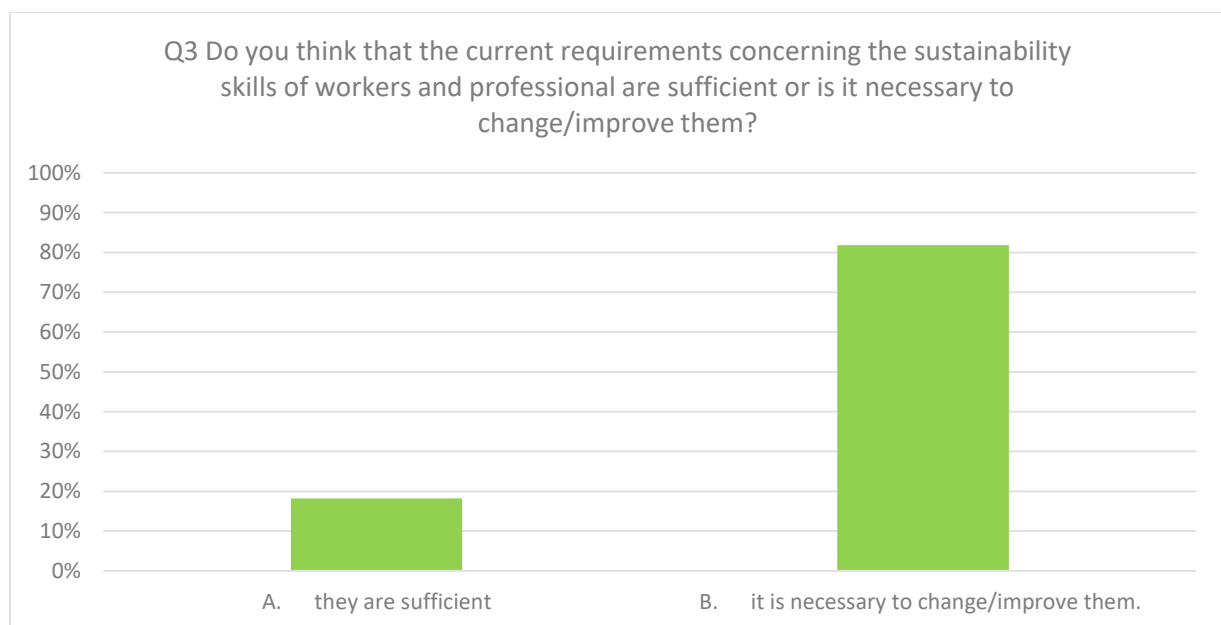
On the other hand, interviewees also commented, that the public technicians are not informed regarding the different kind of training,

certifications or courses that they could consider to define the technical clauses.

Q3 - Do you think that the current requirements concerning the sustainability skills of workers and professional are sufficient or is it necessary to change/improve them?

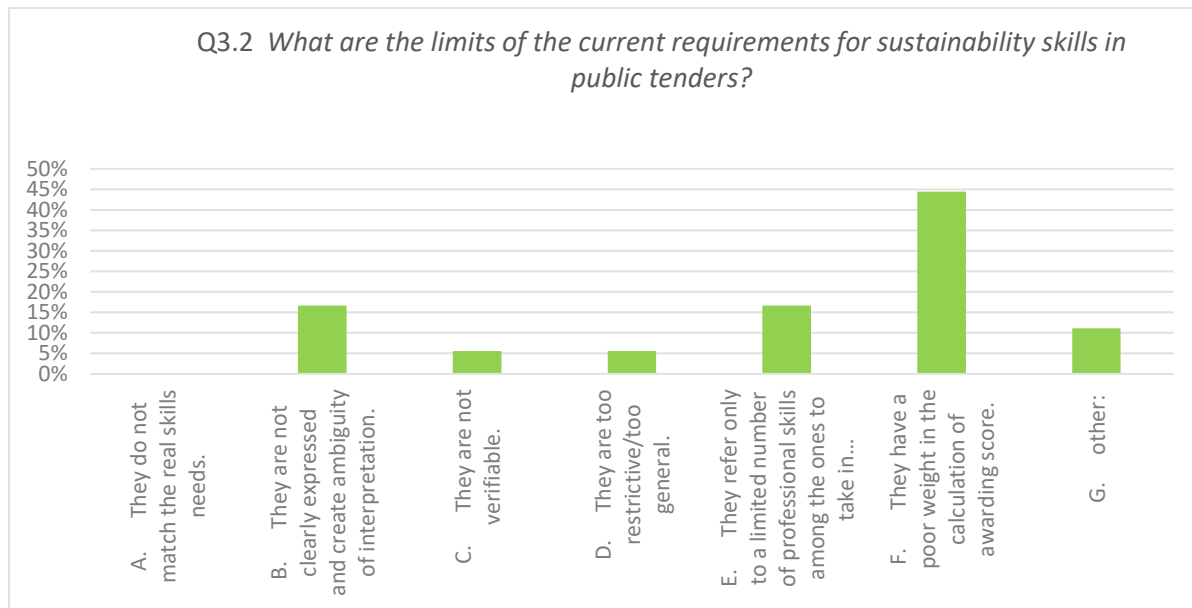
In relation to this question 80% voted that it is necessary to change or to improve the current requirements.

People who differ from the majority response and marked response A, are those who emphasise that the procurement specifications documents must be detailed and well defined to attract the appropriate professional and worker's profiles.



Q3.1 - What are the limits of the current requirements for sustainability skills in public tenders?

Among the different possible answers regarding the current limits for sustainability skills in public tenders, there is a vast majority who agree that the most common limitation that they tend to face is the poor weight in the calculation of awarding score in relation to the sustainability skills answer F. Following this idea, the interviewees also consider that there is a need for continuous improvement and to move forward as the market does.



The rest of possible answers are evenly distributed. For example, in relation to answer “B. They are not clearly expressed and create ambiguity of interpretation” two problems converge. The first one is the lack of knowledge on the part of technical and legal conditions writers on the different types of training, careers and courses about sustainability in building. This limits how a certain level of knowledge and / or experience can be required. The second problem is how to express this kind of demanding skills, since if those skills are not well expressed could cause confusion for the those that would like to participate. Otherwise, the technical team knows what they want to ask for but they don't know how to make it clear in the tender and not lead to misinterpretations by the bidder.

There is also difficulty in applying for accreditation. They know what they want to apply for, but do not how to apply for accreditation objectively. The second problem comes after, because if any of participants' appeals that the skills required are not clearly expressed, and they submit something similar, the public administration is forced to accept it as valid.

In relation to Answer C “C. They are not verifiable”, the interviewees commented that due to the limitations that they have to ask for specific training or courses in order to not restraint free concurrence, they just ask for the curriculum vitae, and that this does not always guarantee that participants are ready enough. They also have the feeling that they have to assume some of it, and then they don't have any tool to check the validity of the CV information. For them there are several difficulties between approved and non-approved certificates

In relation to Answer “D. They are too restrictive/too general”, both situations are possible. For example, respondents commented that for the contracts to

certify the buildings according the European and Spanish law the only qualification they ask for is the degree on Engineering or Architecture.

However, it is too general, because certifying the buildings energetically would have to prove to have done some specific course. The idea is not to close the doors to small and medium enterprises, so the requirements should not be too restrictive either. In addition, when incorporating requirements on skills and environmental criteria, it is necessary to verify whether the market is prepared in order not to leave tenders empty. In general, the people think that the GPP and the skills required should be in line with the reality of the sector and the market.

### Q3.2 - What kind of changes are necessary? How requirements for sustainability skills should be formulated in public tenders? Are there specific needs?

In that sense there are two perspectives. The first one, the point of view from the public employees who has to prepare the tenders. The second one, it is viewed from the participants of the tenders. In the first case, people commented that there is a lack of training courses.

The training courses related to the sustainability is too poor, at the same time, if there are not training courses offered on the market where the participants can attend, there are not the possibility to ask for more specific knowledge. Furthermore, they feel that an independent regulatory body (similar to AENOR, Applus, ...) should exist in order to allow the participants to be certified for different training categories. This requirement should not be exclusive, but it is allowed to score extra punctuation not to limit participation. That at the same time can be tracked and renewed, etc. as it would give quality guarantees.

Other needs should be the specialized internal regulations or protocols to help the writers to know what they can ask for and what they cannot depending on each case or type of contract. For example, they commented a tool that give information between the offered training and how it is certified.

Undoubtedly, the main change that needs to be carried out is to update the current regulation.

### Q4 - What are the barriers/obstacles to change the current legislative framework concerning the requirements on sustainability skills for workers and professionals in GPP?

There are different answers in relation to the barriers and obstacles, it depends on the different contracting areas interviewed point of view. For example, the departments commented that the main barriers are the possibilities to ask for

specific skills. For that reason, the experience is more frequently asked rather than a wide and deep knowledge, the need to look forward a balance.

Other barriers they commented is the Inflexibility and inertia of the current system, which doesn't look for alternative solutions.

Other obstacle they put on the desk, is the consideration that specific accreditation implies an economic expenditure by participants. The majority of these certifications or accreditation cost a lot, and little companies or single professionals cannot afford it.

Finally, interviewees answered that there is a very strong positioning on the part of the EU to open the market to all professionals this makes it impossible to detail or specify specific requirements in tenders.

The EU should allow bodies to objectively delimit the collective on the basis of their specific training. General courses / master's degrees accrediting and certifying difficulty in identifying which competencies are being achieved.

It is difficult to Link courses with qualified and homogenized knowledge.

#### Q5 - What are your recommendations for changing the legislative framework concerning the requirements related to the sustainability skills of professionals and workers in public tenders?

In relation to the recommendations made by the different respondents regarding the changes needed to improve the demand for sustainability skills in GPP, two areas of action are clearly outlined.

The first refers to the need for governments -specifically that of the Generalitat de Catalunya and its Departments involved in procurement processes- to set short and long-term objectives in relation to improving the sustainability and efficiency of procurement processes.

In this sense, the need for governments to begin to be really aware of the importance of improving the energy skills of the agents involved in the procurement processes is valued, introducing new mandatory documents to achieve buildings at the end of the process much more sustainable.

Only in the specific case of energy contracts have been improvement processes that include energy skills, as the European regulations requires it. In this sense we would like to specify that the Public Body that develops this process, ICAEN, supports and guides other Departments.

The second area of action needing improvements refers to current legislation, since although Spain has updated laws in relation to public sector

procurement, the specific regulations -that could pick up specific specifications in relation to energy skills- have not yet been renewed.

In this sense, some of the respondents specify specific examples of improvement:

- Regarding the Solvency criteria, it would be advisable for the new regulation to include the classification scales of contractors considering aspects related to sustainable skills.
- The importance of having information, lists ... of recognized training that ensures the technicians of the administrations that develop the processes of contracting the good preparation of companies and professionals in subjects of energetics and of sustainability.
- The regulation and updating of energy and sustainable skills certification processes.

## **MAJOR FINDINGS**

1.The requirements for sustainable skills and competences depend on first of all the type of the contract or the main object as well as the professional who will be in charge to carry out it.

2.It should be a balance between what the bidders can ask for and to not restrict the free concurrence.

3.The external or private market defines the line to follow up. The public administration needs to investigate what is required in the private mark to be able to ask for it.

4.There is still a lack of knowledge on energy efficiency in certain professional sectors.

5.One of the biggest challenges to achieve are the difficulty to verify the professional skills. Independent institution and defined protocols should be created to homologate and standardize the different skills.

6.Guarantees and legal security is needed, by updating or re-writing the legislation or by defining internal protocols to help and unify the different procurements.

## 5.2 France: overview of the survey's results and recommendations

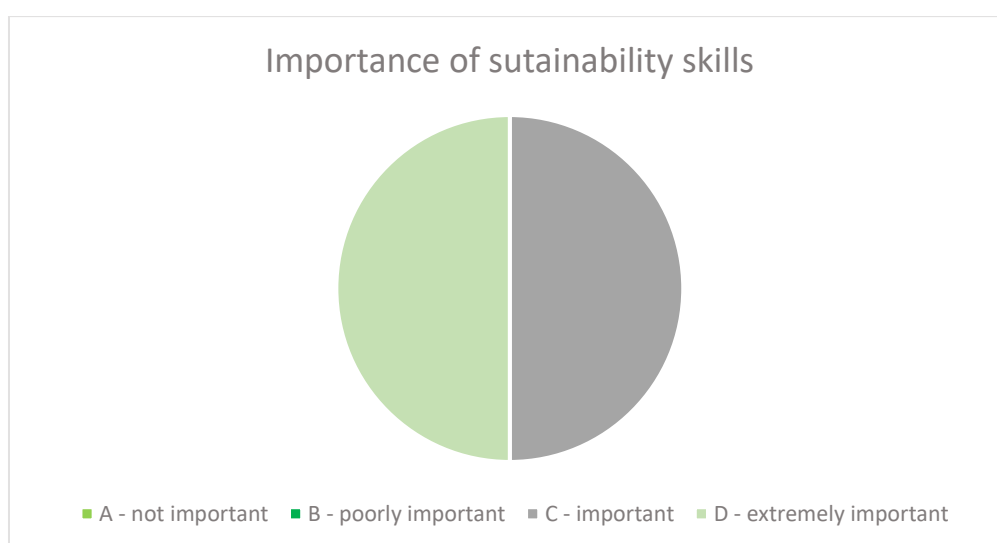
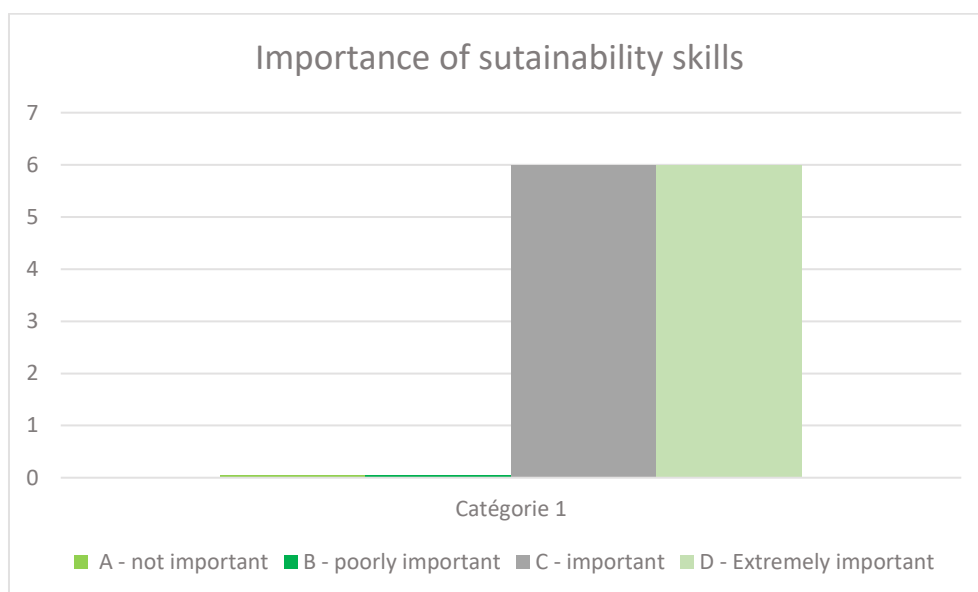
The following table contains the names of the stakeholders that have been interviewed by AQC.

<b>id</b>	<b>Name interviewed</b>	<b>Department</b>	<b>Type interview</b>
1	Bruno Chapouan	Qualibat	Phone
2	Pierre Rajezakowski	DDT 69	Phone + survey sent in advance
3	Sophiane Bouchetob	FFB Auvergne Rhône Alpes	Meeting
4	Marie-Soriya Ao	Cluster Eco-Bâtiments	Phone + survey sent in advance
5	Mickaël Odent	FFB Auvergne Rhône Alpes	Phone + survey sent in advance
6	Guillaume Desbiyes	Saint Médard en Jalles	Phone + survey sent in advance
7	Yacine Benzerari	Envirobot Grand Est	Phone + survey sent in advance
8	Mélanie Trommenschlager	Campus des métiers et qualifications écoconstruction / efficacité énergétique	Phone + survey sent in advance
9	Hakim Hamadou	ADEME Auvergne Rhône Alpes	Phone + survey sent in advance
10	Julien Herbert	AQC	On-line meeting + survey sent in advance
11	Thibaud Surini	Fibois Grand Est	Phone + survey sent in advance
12	Mikael Laurent	BRUDED	Meeting

Table 7 – List of interviewees

Q1 - Do you consider sustainability skills for professionals and workers an important requirement to be included in public tenders concerning buildings?

<b>A not important</b>	<b>B poorly important</b>	<b>C important</b>	<b>D Extremely important</b>	<b>Total</b>
0	0	6	6	12
0 %	0 %	50 %	50 %	100 %





Without any surprise, the answer at this question is 100% "important" or "extremely important". The distribution between these two answers is half-half.

In details sustainability skills have been considered as extremely important for each steps of the building construction. Of course, extremely important for architects and the design teams, but important or extremely important for companies and workers too, but with some variation depending on fields and levels. For example, sustainable skills are not the same level for a paint work than for a photovoltaic installation.

Everybody is aware that companies and workers are an essential link for the final performance of a building, but everybody mention that, especially for small and medium enterprises, it is difficult to reach qualification due to the cost, lack of time and administrative complexity. SMEs cannot stand competition with big enterprises on this subject.

Increase in the demand of sustainable skills in Green Public Procurement for buildings could be a good way to improve skills level and could also prepare companies for the regulations of tomorrow, in particular the RE2020. But be careful not to forbid access to SME due to administrative demands or complex and expensive justifications.

### Q2 - In your region (country), what are the requirements concerning the sustainable skills of professionals and workers currently used in Green Public Procurement for buildings?

It's possible to add requirements concerning the sustainable skills of professionals and workers in Green Public Procurement for buildings, but it's not mandatory, it's only optional even if it's appreciated. Requirements are often on the level of performance of the final result, the building, not on skills of the building team. One exception is the waste management, which are always required. A CO2 emission criterion is more and more analysed (RE2020) and so skills linked to reach this criterion can be required. Global view of the objectives is appreciated, competences to work altogether, as well as taking into account sustainable development.

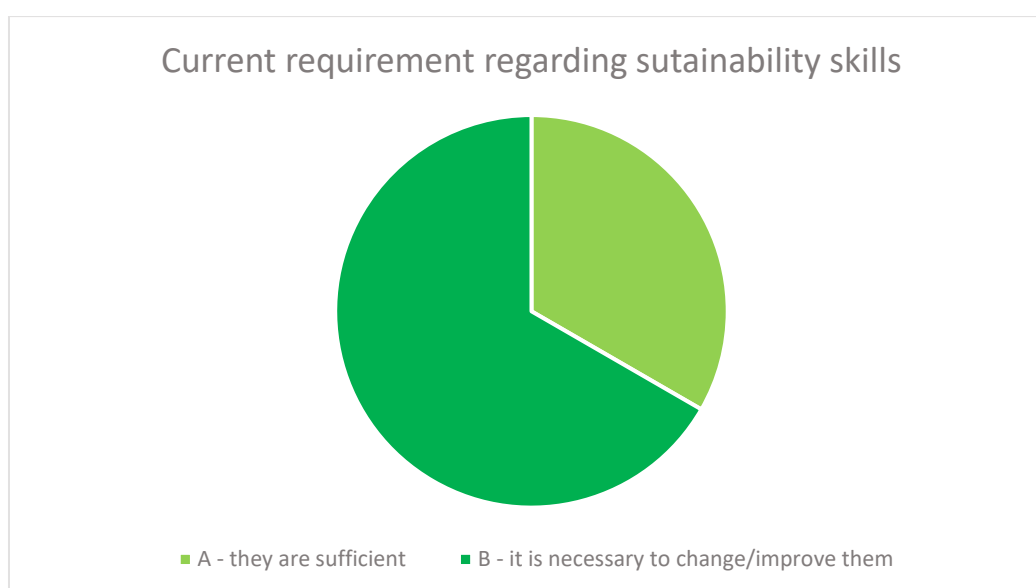
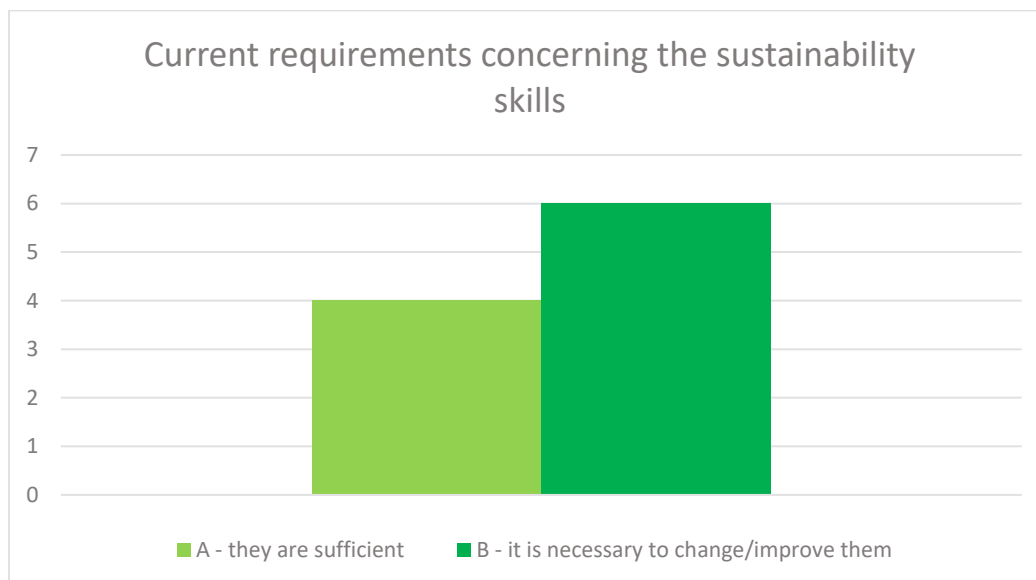
Proof of skills may be required from the representative, often the architect, and from the entities with which he responds (technical design office, economist, acoustician): qualifications or certification (OPQIBI, diplomas, etc.). They are not always easy to appreciate, compare and verify. RGE qualification is often a minimum requirement, and concerns only energy performance, not environmental. Project references achieved is a good way to verify expertise and is often used.

It should not be forgotten that qualifications are expensive and sometimes difficult and time consuming (follow-up audit): not all SMEs are qualified in all

the areas in which they are competent. Sometimes the references are clearer than the skills.

Q3 - Do you think that the current requirements concerning the sustainability skills of workers and professional are sufficient or is it necessary to change/improve them?

<b>A</b> They are sufficient	<b>B</b> It is necessary to change/improve them	<b>Total</b>
4	8	12
33 %	67 %	100 %

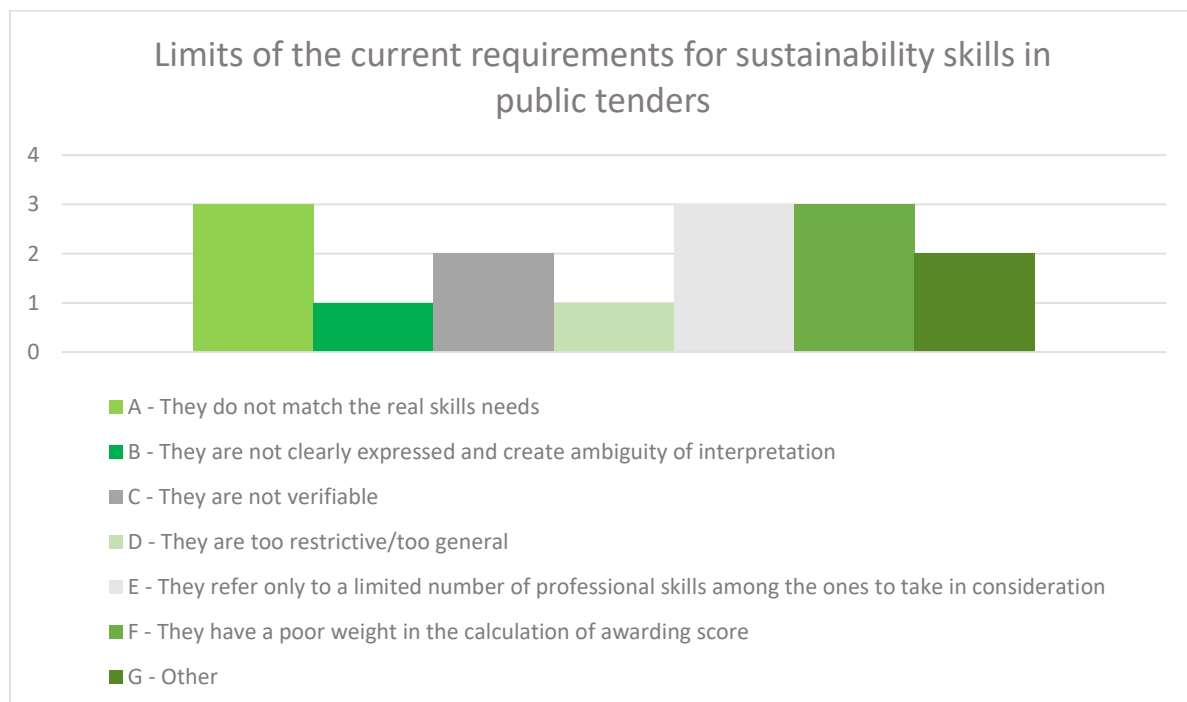


It's interesting to see that in details, a lot of professionals day to day involved in building procurement have answer „A – they are sufficient”. They might be scarred of new constraints.

Other building professional, like qualification bodies and public or private association promoting green buildings, answered more easily „B – it's necessary to change/improve them”.

Q3.1 - What are the limits of the current requirements for sustainability skills in public tenders?

	Number	%
<b>A - They do not match the real skills needs</b>	3	20
<b>B - They are not clearly expressed and create ambiguity of interpretation</b>	1	7
<b>C - They are not verifiable</b>	2	13
<b>D - They are too restrictive/too general</b>	1	7
<b>E - They refer only to a limited number of professional skills among the ones to take in consideration</b>	3	20
<b>F – They have a poor weight in the calculation of awarding score</b>	3	20
<b>G – Other</b>	2	13
<b>Total</b>	15	100 %



## Limits of the current requirements for sustainability skills in public tenders



- A - They do not match the real skills needs
- B - They are not clearly expressed and create ambiguity of interpretation
- C - They are not verifiable
- D - They are too restrictive/too general
- E - They refer only to a limited number of professional skills among the ones to take in consideration
- F - They have a poor weight in the calculation of awarding score
- G - Other

Answers are quite various. The 3 first answers with 20% each are :

"A - They do not match the real skills needs"

„E - They refer only to a limited number of professional skills among the ones to take in consideration"

„F – They have a poor weight in the calculation of awarding score".

Question of how to verify the sustainability skills arrive just after : „C - They are not verifiable" with 13% of answer.

And after comes „B - They are not clearly expressed and create ambiguity of interpretation" and „D - They are too restrictive/too general".

Two other limits pop up :

- There is not enough qualification on environmental performance (CO2 criteria);
- Needs of qualification are different depending on fields, public tenders have to adapt (close of answer D).

### Q3.2 - What kind of changes are necessary? How requirements for sustainability skills should be formulated in public tenders? Are there specific needs?

- Increase weight of the environmental skill / experience in the calculation of awarding score.

In the contract award criteria, we can indicate different distributions between the price, the intervention methodology of the agent and his skills and references.

- Be more specific.

If it is a photovoltaic installation company, the need to justify expertise in sustainable development and renewable energy is important.

If it is a paint company that would like to have sustainable development practices, simply using the right product and applying it without too much waste is enough to adopt a responsible approach. Sustainable development requirements must be adapted according to the profession and the body of state and integrated with skill requirements in the contract award criteria. Replace the generic requirements with details of the skills required and the objective to be achieved specific to the operation,

- Upgrade skills of communities and public buyers.

How to write environmental requirement, how to compare and verify, how to appreciate different "equivalence technical solution", how to formalize feedbacks and references in order to take it properly in account.

Reachable demands will create appropriate supply!

- SMEs should be help and more considered in the public tenders.

A support is need. Institutional actors at the regional or local level could manage the recognition of the skills of local artisans and businesses to facilitate their access to public tenders.

- An obligation of initial and continue qualifications have been mentioned two times too.

For example, innovative or rarely used materials for which companies do not always master the conditions of implementation. However, an implementation problem can lose all the interest in having used a material with a low environmental footprint.

### Q4 - What are the barriers/obstacles to change the current legislative framework concerning the requirements on sustainability skills for workers and professionals in GPP?

Barrier and obstacles mentioned:

- Access to public contracts by SMEs (which is already very difficult).

Regulations should apply to everyone without penalizing small businesses in accessing public markets with expensive and cumbersome skills to manage. Many building professionals are very small and medium-sized businesses. They are not sufficiently aware of or trained in environmental issues. It is possible to promote local employment and companies aware of environmental issues, but public procurement cannot be limited to it because these skills are not present everywhere.

- The heavy administrative and central functioning.
- The gap between the production of texts and the reality of companies in the field.
- Public buyers can be afraid to have no answer to his tender in case of too high requirements on sustainability skills for workers and professionals in GPP.
- Lack of time for the enterprise
- The budgets allocated to companies can be restricted and do not allow deadlines that can guarantee the desired quality. The deadlines are also shortened by the companies to obtain the contracts. The cost of environmental requirements should be tested first and accompanied if need
- Economic recovery is actually more important than the skills level!
- Lobbying of some actors, especially of material manufacturers, can be an obstacle.
- Company commitments are less verifiable for subcontractors (loss of information, monitoring, reporting, etc.).
- Insurance of new skills and innovative techniques could be an additional barrier.
- Qualifications for craftsmen are not always update.

Q5 - What are your recommendations for changing the legislative framework concerning the requirements related to the sustainability skills of professionals and workers in public tenders?

- Propose a binding, but realistic legislative framework. Any changes should only be considered after consultation with the Building sector. Changes should be accompanied. It's very important to not oppose the different sectors of construction and to support if needed. Raise awareness without discriminating, especially for SMEs. It's important to simplify or accompany procedures for SMEs. Regional institutional actors could help recognition of SMEs skills. They can help to improve SMEs skills too.

- Create a specific label (and test it before to generalize it).
- Train public buyers on the possibilities of introducing requirements in public procurement in order to be demanding.
- Create a CO2 balance indicator in public tenders in order to improve skills.
- Propose training annual time requirements for craftsmen as it is the case for other players (architects, BET).
- Rethink work deadlines to try to give more time to sensitive batches and their verification before reception.
- Think to prefabrication work and off-site preparation to improve quality and reduce costs for companies (in order to improve their schedules and their margins).
- Allotment is an important tool of public procurement. The public order code in France provides for separate lots as the rule of reference, except in a few exceptional cases and in the event of the technical complexity of the work. It is possible to favour macro-lots: 5 - 6 lots instead of 20, which allows SMEs to respond to public tenders by large family that can create business associations of different sizes. Site management is made easier. This method does not exclude the response of general contractors on some of the lots (structural work for example). Training an entire sector in new practices takes time.

The public procurement code, in its articles on allotment, makes it possible to keep public contracts accessible to SMEs. Using the technical complexity exemption of the work to justify a non-allotted call for tenders because of strong environmental objectives for an operation is not consistent. The future of construction will be based on strong environmental objectives. SMEs need to be trained today or risk seeing large companies take such a lead in this area that they would be the only ones able to respond in the future.

## 6 Summary of key results

Based on GPP reconnaissance done at national and transnational level, and on the basis of the results of the interviews conducted at European level, **four key aspects** have arisen on which it will be necessary to put strong attention:

- I. **Competence verification of professionals and blue collars:** As pointed out within the survey's results and also in different EU Reports, the objective verification of the skills of professionals and blue collars is a key aspect which represents a crucial criticality in public tenders, due to its implementation in procurement process by the public administration. *Competences have to be measured and become verifiable through a uniform and unambiguous system*, in order to give to the contracting authority, the possibility to make an objective assessment, which is currently not guaranteed, by measuring professional's skills through an *impartial, easy to use and harmonised competence quality standard system*. To make sure that the transparency of the results is guaranteed, it will be important to have a *third-party verification*. In this way, it will be possible to release Public Administration from verifying the actual skills of the candidates, as it does not have the possibility of objectively verifying them.
- II. **Transnational Harmonisation of GPP Criteria:** At the European level, the number of available sustainability qualification schemes is exceptionally large. Many of them are provided by buildings energy and sustainability certification systems. The competences, knowledge and skills provided by the various qualification schemes are quite different, depending on the topics addressed and the level of specialisation. These differences are not easily understood by public authorities that often are confused about the real competences owned by a professional or a blue collar. Hence, the actual GPP criteria based only on recognised certifications and qualifications are not sufficient to guarantee a public authority to select service providers owning the expected and necessary skills for the specific public tender. The survey made clear the need for a competence qualification standard useful to report in a common format the sustainability skills owned by professionals and blue collar. In this way, it will be possible to easily specify and verify during the tendering process the needed sustainability competences and their level of specialization. A transnational competence standard would facilitate the harmonisation of GPP criteria on knowledge and skills in the building sector in EU.
- III. **Multidisciplinary Team and life cycle approach:** It would be better to have a team of professionals who can cover all the requests of the call in a multidisciplinary way rather than looking for all the skills in a single



figure. It will be crucial to involve *all professionals in the entire life cycle of the building*. In fact, it's fundamental to reason from the perspective of the entire life cycle of the building having knowledge of the facts not only of a specific stage but of the entire building process, from the project to the maintenance in operation of it. Of course, it is fundamental to *encourage continuous professional development*, especially in relation to the technological aspects concerning energy efficiency, so that the real professional skills can be more easily guaranteed.

- IV. **Involvement of Professional Orders and Trade Association:** In order to be able to work in a synergistic and in-depth manner to the clarification concerning how to unquestionably demonstrate the skills of professionals, also verifying the support for the idea of categorizing professional skills based on specifications related to the specializations acquired by the professional. By this way, potential inconsistencies will certainly be avoided.

The results obtained consequently confirmed the validity of the work that TRAIN4SUSTAIN is carrying out about the **European Skills Registry** and the **Skills Passport**, in facilitating transnational recognition of learning outcomes and skill levels of existing qualifications, that is in line with the needs of public administrations and contracting authorities.

# Annex 1

Template of the questionnaire used for the identification of the necessary changes of the legislative framework concerning GPP requirements on sustainability skills.

Interviewee data

Name\_\_\_\_\_

Surname\_\_\_\_\_

Organisation\_\_\_\_\_

Role/function in the organisation\_\_\_\_\_

Country\_\_\_\_\_

## **Q1**

**Do you consider sustainability skills for professionals and workers an important requirement to be included in public tenders concerning buildings? Please select the option that best fits your opinion:**

- A. not important
- B. poorly important
- C. important
- D. extremely important

Comment your choice: .....

## **Q2**

**In your region (country), what are the requirements concerning the sustainable skills of professionals and workers currently used in Green Public Procurement for buildings?**

Free text: .....

**Q3**

**Do you think that the current requirements concerning the sustainability skills of workers and professional are sufficient or is it necessary to change/improve them?**

- A. they are sufficient
- B. it is necessary to change/improve them.

**Q3.1 (If in Q3 has been selected option “B”)**

**What are the limits of the current requirements for sustainability skills in public tenders? Select one or more of the following options:**

- A. They do not match the real skills needs.
- B. They are not clearly expressed and create ambiguity of interpretation.
- C. They are not verifiable.
- D. They are too restrictive/too general.
- E. They refer only to a limited number of professional skills among the ones to take in consideration.
- F. They have a poor weight in the calculation of awarding score.
- G. other: .....

Comment your choice/choices:  
.....

**Q3.2 (If in Q3 has been selected option “B”)**

**What kind of changes are necessary? How requirements for sustainability skills should be formulated in public tenders? Are there specific needs?**

Free text: .....

**Q4**

**What are the barriers/obstacles to change the current legislative framework concerning the requirements on sustainability skills for workers and professionals in GPP?**

Free text: .....

**Q5**

**What are your recommendations for changing the legislative framework concerning the requirements related to the sustainability skills of professionals and workers in public tenders?**

Free text: .....