

Design Options Paper



GREEN IN

Peer learning for a desired scenario on
Green Public Procurement for Innovation



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Executive Summary

Each year over 250000 public authorities in the European Union spend around 14% of GDP almost with the value of EUR 2000 billion on the purchase of goods and services. The intelligent use of public procurement can be a strategic tool to achieve the European Union's "Europe 2020 Strategy" goals of smart, sustainable and inclusive growth, accelerating the transition towards more sustainable supply chains and business models.

In recent years, the interest in demand-side policies has grown and several approaches have emerged, such as Green Public Procurement (GPP), Sustainable Public Procurement (SPP) and Public Procurement of Innovation (PPI), representing strategic goals to be achieved through public procurement (Amann and Essig, 2015).

The existing literature concludes that GPP, SPP and PPI support innovative activities. However, the public procurement of innovation challenges currently institutionalized practices and skills, requiring a different approach from that used in the procurement of regular off-the-shelf goods (Rolfstam, 2012, 2009). In other words, different types of coordination may be required, in order to enhance the effectiveness of public procurement as an innovation policy tool (Rolfstam, 2009).

The GREENIN project aim is to set up a desired scenario in green public procurement for innovation (GPPI) aligned with smart specialisation strategies through peer learning activities, in order to increase knowledge exchange with policy makers and interested stakeholders, favouring SMEs participation using pilot actions.

To design this desired GPPI scenario, it has been necessary to review and identify the state of the art of policies, methodologies, experiences and good practices on GPPI, implemented by project partners and by other European public agencies. In particular, this document aims to combine the objectives of GPP and PPI, - GPPI - by placing particular emphasis on the direction of innovation: not only focusing on economic potential but also addressing environmental consequences. On the other hand, as PPI can foster business innovation in regional, national and international markets, this document aims to link to the regional R&D strategies to achieve the goals related to GPPI set by the Smart Specialisation Strategies (RIS3).

As a result of the peer learning process between the 3 partners of GREENIN (FUNDECYT-PCTEX, LNEG and IFKA), this Design Options Paper (DOP) provides other Regional Agencies with recommendations on possible policy schemes, methodologies and initiatives for the deployment of GPPI in European territories, aligned with smart specialisation strategies, to favour the participation of SMEs in public procurement processes and improve their competitiveness.

1. Green Public Procurement for Innovation (GPPI)

1.1 Introduction

The intelligent use of public procurement can be a strategic tool to achieve the European Union's "Europe 2020 Strategy" goals of smart, sustainable and inclusive growth, accelerating the transition towards more sustainable supply chains and business models.

Each year over 250000 public authorities in the European Union spend around 14% of GDP almost with the value of EUR 2000 billion on the purchase of goods and services. On OECD level 6.4 trillion Euro was spent in 2015 through public procurement¹. That is why a properly developed and sustainable public procurement system could have a real effect on the market². If it is further taken into consideration that taxpayers' money is spent through these processes, it is evident that the most responsible and efficient ways of spending should be applied. In addition to that, since the European Union is committed to the United Nations Sustainable Development Goals, based on SDG12 sustainable consumption and production patterns should be promoted.

The relevant directives introduced new rules in 2014 offering opportunities to the Member States to modernise public buying processes, to digitally transform public procurement, and to move from simply regulating public procurement to implementing strategies. Although, in practice, there is still a lot to do in this respect. According to Commission communication COM(2017)0572, 55% of public procurement procedures still use the lowest price as the only award criterion, instead of the most economically advantageous tenders and life-cycle costing approach applying also strategic social and environmental criteria. The digitalization of all stages in the procurement process should be also promoted fostering transparency and National Public Procurement Strategies should be adopted and strictly monitored. The use of the pre-procurement phase and the new innovation partnership procedure for innovative buys could be also key tools to progress³.

Even amongst the strategic policy priorities of European Commission (EC)'s public procurement strategy - set out in the 2017 communication '[Making public procurement work in and for Europe](#)'⁴ - there is the priority to "ensure wider uptake of innovative, green and social procurement".

¹ OECD National Accounts Statistics. (2015)

² European Parliament (EP) resolution on the public procurement strategy package (2017/2278(INI))

³ http://www.europarl.europa.eu/doceo/document/A-8-2018-0229_EN.pdf?redirect

⁴ https://ec.europa.eu/growth/single-market/public-procurement_en

1.2 From Green Public Procurement (GPP) and Sustainable Public Procurement (SPP) to GPPI

The aforementioned ambitious goals could be reached with **Green Public Procurement (GPP) or green purchasing**. The importance of these processes have been emphasised since 2001, first mentioned in the adopted Interpretative Communication on the “Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement” (COM(2001) 274).

According to the European Commission, GPP - as defined in the Communication COM (2008) 400⁵ - *“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”*.

The GPP’s benefits however, are not limited to environmental impact, but can include several other - such as political, social/health and economic - advantages. These benefits have been illustrated with Figure 1.

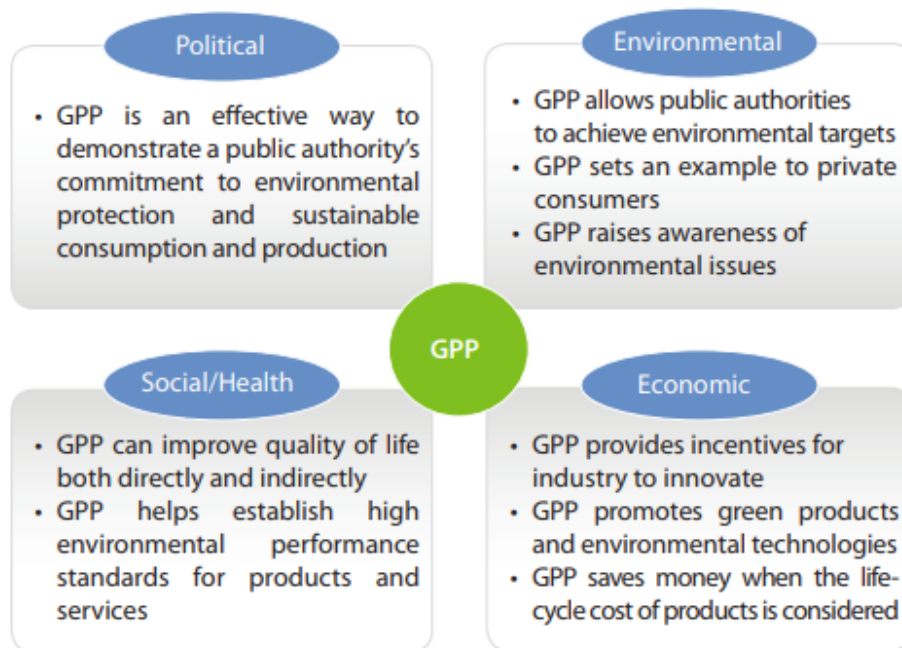


Figure 1. Benefits of GPP
Source: European Union, 2010⁶

⁵ <http://ec.europa.eu/environment/gpp/pdf/brochure.pdf>

⁶ <http://ec.europa.eu/environment/gpp/pdf/brochure.pdf>

Other - kind of more sophisticated - type of procurement is **Sustainable Public Procurement (SPP)**, which “is the process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves “value for money on a whole life basis” in terms of generating benefits not only to the organization, but also to society and the economy, whilst limiting damage to the environment”.

The impacts and opportunities are going far beyond the green issues, and it could be also the motor of social and economic innovation as summarised in Figure 2.



Figure 2. Impacts and opportunities of SPP
Source: [FARID YAKER, UN ENVIRONMENT 2019.](#)

These initiatives have been strengthened several times through EC Directives, other tools like the [Buying Green!](#) Handbook, GPP Helpdesk, Common EU GPP criteria, “Public Procurement for a Better Environment” Communication (2008) in which a target was determined - “50% of tendering procedures to be green” - and with the adopted Circular Economy Package green and sustainable public procurement that put it again to the political agenda.

To start realizing the ambitious EC objectives in this respect, even in 2003, the EC in its Communication on Integrated Product Policy encouraged Member States to draw up publicly available **National Action Plans (NAPs)** for greening their public procurement (related to the GPP and SPP) systems. The NAPs should contain an assessment of the existing situation and ambitious targets for the next three years, specifying what measures will be taken to achieve them. The NAPs are not legally-binding documents but they provide political intention to raise awareness and to move forward a greener public procurement.

In 2018 a survey was made in the EU countries to give a comprehensive overview of the 28 EU Member States in this respect. Table 1 summarises the status of the NAPs as of June 2018 based on that report entitled '[National GPP Action Plans \(policies and guidelines\)](#)'⁷.

National Strategy or Action Plan adopted	22: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Slovakia, Spain, Sweden, UK
No existing Strategy or Action Strategy	6: Estonia, Greece, Hungary, Luxembourg, Romania + Slovenia (document not valid any more)

Table 1. Status of GPP National Action Plans - status on June 2018
Source: European Commission 2018

In these plans generally each country specified more or less the policy framework (responsible authorities, GPP targets), the mandatory rules in connection with the use of GPP, the implementation process (criteria, tools, initiatives, capacity building such as training, cooperation at different levels) and the monitoring⁸. Many NAPs reflect high levels of stakeholder engagement, including procurers, government representatives, suppliers and trade associations. In many cases these contain ambitious targets and specific measures to promote and implement GPP and give an overview of the above mentioned activities (training, communication, monitoring and others).

Currently, there are lots of ongoing tenders in topic of green and sustainable procurement. The most essential sectors are building, catering, data centres, eco-innovation, energy using products, energy efficiency, gardening, GPP capacity building, health sector, lighting, road construction, timber, transport, waste sector and water sector⁹. However, there are many **barriers** hindering the spread of GPP/SPP practices and implementation process:

- it is “just” a voluntary option;
- lack of political support - lack of long-term focus;
- green products are perceived to cost more and the lack of awareness of their benefits;
- lack of legal expertise in applying environmental criteria;
- lack of practical tools and information - the good practices should be more detailed;
- the need for systemic implementation and integration into management systems;
- lack of training;
- lack of cooperation between authorities and the demand and supply side;
- limited established environmental criteria for product/services¹⁰.

⁷ http://ec.europa.eu/environment/gpp/action_plan_en.htm

⁸ http://ec.europa.eu/environment/gpp/pdf/GPP_NAPs_June_2018.pdf

⁹ http://ec.europa.eu/environment/gpp/projects_en.htm

¹⁰ http://ec.europa.eu/environment/gpp/barriers_en.htm

GPP and SPP both require the development, scale and purchase of new products with a lower environmental impact than existing ones. So (eco)innovation is a crucial element. This was perceived also by the EC and the Member States, so a more complex approach and definition was introduced to answer the global challenge in a strategic way: Public Procurement for Innovation (PPI).

Directive 2014/24/EU¹¹ defines **Public Procurement for Innovation (PPI)** as *“the implementation of a new or significantly improved product, service or process, including but not limited to production, building or construction processes, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations inter alia with the purpose of helping to solve societal challenges or to support the Europe 2020 strategy for smart, sustainable and inclusive growth”*.

From the definition it could be seen that the green aspects are present in this concept, although it goes beyond them. Innovation has multiple meanings; PPI refers to any process that buys the process or the outcomes of innovation.

Due to the demand side relevance of the public sector it can act as an early adopter of innovative solutions, new technologies which are not yet available on large scale commercial basis¹². Due to its purchasing power, the market could be stimulated to invest in R&D&I and more sustainable products and services could be invented contributing to the economic growth¹³.

There are some success factors in this respect: public authorities should know exactly the public need and the challenge to be solved, and should be aware of what is going on at the supply side. These will enable public procurers to compare potential alternative solution concepts and identify the best solutions the market can deliver to solve a given public need¹⁴.

So the strategic use of PPI can help answering global challenges offering a tool to modernize the public sector and, by boosting demand-led innovation, the supply chains. Unfortunately, potentials are not fully exploited yet. The policy framework is rather immature in the majority of EU countries as it could be seen in Figure 3. In fact, more than one third of the countries could not even reach 20% score. This score is calculated based on ten analysed indicators what could be regarded as success factors for efficient PPI system: official definition, horizontal policies - the extent to which innovation procurement has been incorporated as a strategic tool or objective in 9 horizontal policy areas like R&D, innovation, competition, economic & financial, regional policy -, ICT policy, sectoral policies - like health care, public transport, energy, water -, action plan, spending target, monitoring system, incentives, capacity building and assistance measures, and innovation friendly public procurement market.

¹¹ Directive 2014/24/EU on Public Procurement

¹² <https://ec.europa.eu/digital-single-market/en/public-procurement-innovative-solutions>

¹³ ICLEI: PRIMES Innovation in GPP

¹⁴ <https://ec.europa.eu/digital-single-market/en/pre-commercial-procurement>

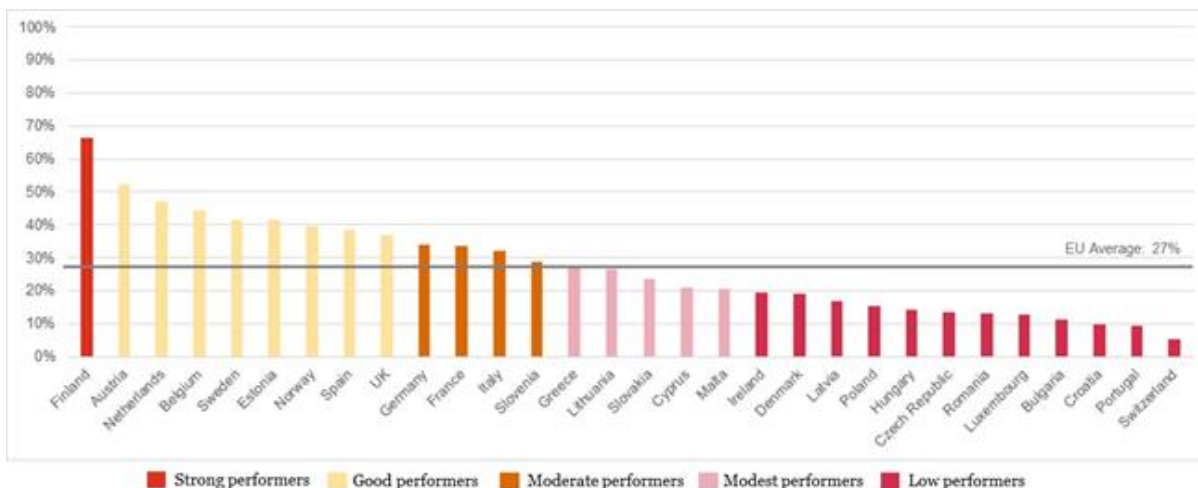


Figure 3. Overall ranking of countries based on the degree of advancement on the innovation procurement
Source: The Strategic Use of Public Procurement for Innovation in the Digital Economy, SMART 2016/0040 - Comparative analysis of results from benchmarking national policy frameworks for innovation procurement

An analysis of the PPI situation in the GREENIN partners' countries is detailed in Table 2.

	Hungary	Portugal	Spain
Strategic framework, action plan and scope	No stand-alone procurement for innovation action plan R&D&I is a relevant component of the economy development strategy addressed in the National Research and Development and Innovation Strategy 2013-20 and in the S3	No stand-alone procurement for innovation action plan Promoting policy framework (Public Contracts Code) S3 - green innovations are targeted by the National Reform Programme, Green Tax Reform and the Green Growth Commitment signed in 2015 Roadmap for Eco-Innovation framework agreements	No stand-alone procurement for innovation action plan; the plan is part of the general innovation strategy Spanish Strategy for Science, Technology and Innovation 2013-20 Directorate General of Innovation and Competitiveness responsible for the promotion and dissemination on the use of PPI
Implementation	A few ongoing projects (RAPIDE, PROGR-EAST) but no breakthrough success to be copied E-procurement introduced	EU leader by making e-procurement mandatory in 2009 - with e-catalogues e-reporting, e-platforms as PPI friendly infrastructures Green award criteria in most framework agreements (vehicles, paper, stationary) Fostering SME participation and aggregated procedures Several EU projects - successfully implemented	Guide and book on PPI (regularly revised) INNODEMANDA provides funds to companies to cover innovation costs INNOCOMPRA fosters innovation through demand agreements - EU structural funds to co-finance PPI at regional level Programme for co-financing actions on PPI supported by EU - FEDER Technological Fund (since 2011)

Challenges, risks	Lack the necessary financial and human resources Short term focus The integration of social, environmental and sustainability policy goals into the public procurement system is not a high level priority	High cost of innovative solutions Zero risk culture - stick to business as usual practices Capacity building and expertise Financial incentives to foster eco-procurement for innovation (tax breaks) Interoperable electronic platforms	Lack of awareness regarding benefits and possibilities in IP Lack of knowledge regarding the new legislative framework and the financial instruments Stick to business as usual methods Focus on urgent needs - no long term perspectives Lack of money
Key lessons learned	Public organisations stick to old routines Legislation is needed to clearly define the procedures	Communication is crucial to know the system - stakeholder involvement to know their roles and to know how to improve the system	Coordination between national and regional administration is essential Mapping of early demand targeted at potential suppliers Trainings for procurers
Measurement and impact assessment	No monitoring system for PPI	No target has been determined; some reports and surveys could be found but not a constant monitoring	Track the quantitative target for PPI through a marker in the State Procurement Platform, but yet no general monitoring system has been worked out

Table 2. Situation of PPI in Hungary, Portugal and Spain

Source: Own elaboration

It is also worth introducing action plans with great examples to be followed by the other countries. In particular, 4 countries have dedicated action plans to foster PPI in a coordinated way:

Austria

The Action Plan on Public Procurement Promoting Innovation (PPPI) was adopted in 2012 by the Austrian Federal Government covering all types of innovation procurement. It is applicable across the country and to all public procurers in all sectors and administrative levels, and aims at mainstreaming innovation at a large scale. The action plan is financed by the Ministry for Digital and Economic Affairs and the Ministry for Transport, Innovation and Technology.

Concrete actions are defined like the management of a PPPI platform and the foundation of the PPPI Service Centre operating under the roof of the Austrian Federal Procurement Agency with the objective to raise awareness, to match public procurers and potential suppliers of innovative solutions fostering dialogue between demand and supply, and to increase the overall share of procurement budgets used for PPPI. Other specific objectives include qualifying decision makers and procurers for PPPI and establishing a monitoring and benchmarking system.

Belgium (Flemish region)

The Flemish government adopted the Innovative Public Procurement Program (PIO) - first round 2009-2015, second 2016-2019. PIO, supported by the Flemish Ministry of Economy, Science and Innovation provides information, guidance and co-financing for innovative purchasing projects. PIO has well-defined an action plan with expected results, clear timeline and budget (5M€ per year).

PIO has a number of strategic goals including to establish a knowledge centre on innovation procurement, to reach 3% of the Flemish Government's budget for public procurement for innovation procurement, to draft a portfolio of projects and good practices as examples in order to raise awareness about innovation procurement, and to stimulate public organisations to participate in EU opportunities of innovation procurement (such as Horizon 2020).

Finland

In December 2017 Finland adopted a dedicated Action Plan on innovation procurement initiated by the Ministry of Economic Affairs and Employment with the purpose to promote a more strategic approach and enhance the better management and preparation of procurements in administrative branches. The action plan defines 14 different actions with clear timeline, KPIs and responsible actors - divided into 4 main categories: management, information sharing, skills development, and concrete tools. Special actors are the competence centre KEINO to all ministries in the central government, the central purchasing body HANSEL, the funding entities Sitra and Business Finland, and the training entity HAUS. All public organisations should assign a person in charge of achieving the objectives on innovation procurement and provide training tailored to innovation procurement.

The specific objectives of the Action Plan are to create a systematic development process for cooperation across central government sectors and administrative branches and to provide support to the government objective to raise the share of innovation procurement of all public procurement to 5%.

Netherlands

The Netherlands has a national Action Plan for innovation procurement since 2013. The key actor for the implementation of the Action Plan is PIANOo, the Competence Centre for Public Procurement, setting once a year an agenda with detailed objectives and initiatives.

The action plan defines concrete actions and objectives such as setting up new innovation procurement projects, increasing the use of innovation procurement instruments, activating local and regional authorities, water and health procurers to use more innovation procurement, and developing financial incentives and a monitoring system to report back on innovation procurement implementation progress to the Dutch parliament. The Netherlands have an ambition of 2.5% to be spent on innovation.

Besides the aforementioned countries, some others have also established a quantitative target value at policy level. For instance, Spain has set a target of 3% in new investment for procurement for innovation¹⁵ and, in France, SMEs should reach 2% of procurement for innovation by 2020. These action plans and good examples set a policy framework that might be followed to intensify the use of PPI and GPPI.

¹⁵ OECD: Public Procurement for Innovation: good practices and strategies© (2017)

1.3 Regional Smart Specialisation Strategies and link to GPPI

The Treaty on the Functioning of the European Union¹⁶ recognises the importance of regional policy with five articles referring to “*economic, social and territorial cohesion*” (articles 174-178) and the research and technological development with eleven articles devotes to “*strengthen scientific knowledge and technology*” (articles 179-190). Based on the Treaty, Europe design strategies with orientations and political priorities related to regional policy and innovation devoted to make Europe more competitive while reducing disparities between EU regions, working on key aspects related to capitalise European research and innovation results, foster European small and medium-sized enterprises (SMEs) competitiveness, mitigate climate changes, favour a low-carbon economy and the efficient use of the natural resources.

The Europe 2020 strategy¹⁷ puts the emphasis in an intelligent, sustainable and integrated growth on five thematic areas (R&D and innovation, education, climate change and energy, employment and poverty and social exclusion), with clear targets and key priorities, shown in Figure 4.

	Targets
Smart growth	<ul style="list-style-type: none"> Increasing combined public and private investment in R&D to 3 % of GDP Reducing school drop-out rates to less than 10 % Increasing the share of the population aged 30–34 having completed tertiary education to at least 40 %
Sustainable growth	<ul style="list-style-type: none"> Reducing greenhouse gas emissions by at least 20 % compared to 1990 levels Increasing the share of renewable energy in final energy consumption to 20 % Moving towards a 20% increase in energy efficiency
Inclusive growth	<ul style="list-style-type: none"> Increasing the employment rate of the population aged 20–64 to at least 75 % Lifting at least 20 million people out of the risk of poverty and social exclusion

Figure 4. The Europe 2020 strategy’s key priorities and headline targets
Source: European Union, 2018

To deliver this strategy, the Multiannual Financial Framework 2014-2020 has set two main policy goals and intervention principles for regional policy: investments for growth and jobs, and European territorial cooperation. The European Structural and Investment Funds (ESI Funds) support and fund-specific missions through two main funds, the European Regional Development Fund (ERDF) and the Cohesion Fund¹⁸.

¹⁶ Official Journal of the European Union C 202/129 -7.6.2016 (consolidated version)

¹⁷ Communication COM(2010) 2020

¹⁸ https://ec.europa.eu/regional_policy/en/funding/

The EU regulation for the common provisions of the ESI Funds¹⁹ introduces the general ex-ante conditionality for the implementation of financial instruments, including *“the existence of arrangements for the effective application of Union **public procurement** law in the field of the ESI Funds”*. Also, the regulation states that Sustainable Development must be *“ensured by Member States and managing authorities in all phases of implementation of ESI Funds”* and *“with the aim to avoid or reduce environmentally harmful effects of interventions”* of the actions to be undertaken is necessary *“the increase of the use of **green public procurement**”*.

The regulation for the specific provisions of the ERDF²⁰ establishes the aim of the funds *“to redress the main regional imbalances in the Union and contribute to reducing disparities between the levels of the various regions”*. and the concept of *“smart specialisation”* as a tool to define integrated agendas for territorial and economic transformation and an ex-ante conditionality for the ERDF investments in research and innovation.

The **Smart Specialisation Strategy (RIS3)** is defined by the UE as *“a place-based approach characterised by the identification of strategic areas for intervention based both on the analysis of the strengths and potential of the economy and on an Entrepreneurial Discovery Process (EDP) with wide stakeholder involvement. It is outward-looking and embraces a broad view of innovation including but certainly not limited to technology-driven approaches, supported by effective monitoring mechanisms”*²¹.

The European Union in its Guide to Research and Innovation Strategies for Smart Specialisations (RIS3)²² defines the need *“to identify priority areas and knowledge-based investments that are most likely to deliver growth and jobs in the regions, taking into account geographical specific characteristics”*. It also reflects on the inclusion of **innovative public procurement and green growth as part of the RIS3** as support schemes to design interventions to faster market up-take of sustainable products and services.

RIS3 are used by regions and national governments to identify priorities based on competitive advantage and emerging opportunities, as well as on market development, resulting in a limited number of R&D and industrial activities with high innovation potential developed by using ESI Funds. The new ESI Funds investment rules show the need to address new types of actions to invest in areas such as eco-innovation, public services applications, supporting shift towards a low-carbon economy, climate change adaptation, risk prevention and management, preserving and protecting the environment and promoting resource efficiency. This holds a substantial potential for creating more demand for innovative green products and services through public procurement.

¹⁹ Regulation (EU) 1303/2013

²⁰ Regulation (EU) 1301/2013

²¹ <https://s3platform.jrc.ec.europa.eu/what-is-smart-specialisation>

²² https://ec.europa.eu/regional_policy/sources/docgener/presenta/smart_specialisation/smart_ris3_2012.pdf

Many EU countries and regions have considered natural-based and green economy in their RIS3, in particular in areas such as climate change, green technology, natural sciences, clean energy and technologies, sustainable use of natural resources, bioeconomy, recycling and circular approaches, sustainable environment and biotechnologies. Figure 5 shows the EU countries and regions with natural resources and sustainable environment in their RIS3.

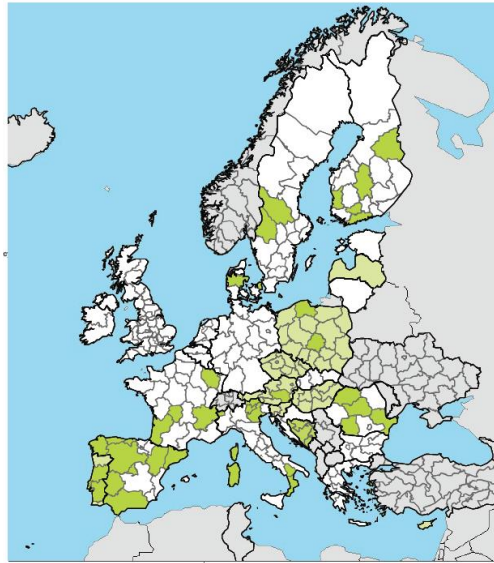


Figure 5. EU countries and regions with natural resources and sustainable environment in their RIS3
Source: Smart Specialisation Platform

The new Multiannual Financial Framework 2021-2027²³ has drafted the main features of the new Cohesion Policy Framework²⁴ (Figure 6) where green and smart investments will be supported with a range of 65% to 85% of the resources allocated to these two priorities.

- 
Smarter Europe, through innovation, digitisation, economic transformation and support to small and medium-sized businesses
- 
a Greener, carbon free Europe, implementing the Paris Agreement and investing in energy transition, renewables and the fight against climate change
- 
a more Connected Europe, with strategic transport and digital networks
- 
a more Social Europe, delivering on the European Pillar of Social Rights and supporting quality employment, education, skills, social inclusion and equal access to healthcare
- 
a Europe closer to citizens, by supporting locally-led development strategies and sustainable urban development across the EU.

Figure 6. Investment priorities Cohesion Policy 2021 – 2027
Source: European Union, 2018

²³ https://ec.europa.eu/commission/sites/beta-political/files/communication-modern-budget-may_2018_en.pdf

²⁴ https://ec.europa.eu/regional_policy/en/2021_2027/

The European Commission in its Guide to Research and Innovation Strategies for Smart Specialisations (RIS3)²⁵ states that some of the most successful innovation support schemes take public sector demand for innovative, affordable and high-quality solutions as a starting point. They then either procure R&D services to develop innovative solutions with pre-commercial public procurement or directly engage a public procurement of innovation if the necessary technologies/solutions are available but not yet in the market.

Using public procurement as an element of a national/regional research and innovation strategy for smart specialisation offers multiple advantages, such as better match to new needs in providing more and better public services and infrastructures to citizens and firms than off-the-shelf products could offer, higher mobilisation effect on private investors/venture capital thanks to the faster market access and return-on-investment for innovative firms, cost-savings for public budgets in the medium- and long-term thanks to more efficient energy or resource solutions (e.g. functional requirements), and higher impact of innovation investments thanks to a comprehensive strategy that combines R&D investments (e.g. in eco-innovation) with purchasing innovations (e.g. of energy efficient and low carbon buildings or transport).

The ERDF permits the strategic combination of investments in R&D&I capacity-building with demand-side measures in a unique manner. This is particularly true for public procurement, as the partnership contracts and strategic reference frameworks include different strands of administration (e.g. environment, transport, industry, innovation) and allow the development of strategies that cover entire countries (and even beyond).

Therefore, the European Commission recommends:

- The development of smart specialisation strategies to include the issues of market-up take and public procurement needs among the starting points for identifying the fields of specialisation;
- Encouraging procurers to purchase innovative solutions by rewarding them and by decreasing the potential innovation costs and financial risks through ERDF co-funding;
- The recognition of the procurement phase as strategic in public policy cycles, by associating procurement departments at an early stage in the definition of a project and of regional innovation strategies for smart growth;
- Supporting transparency for the procurers, to get to know the market better and to stimulate innovation; and for businesses (in particular SMEs) to better understand and anticipate the requirements of contracting authorities;
- Supporting a change in procurement practices towards more demanding requirements /specifications to pull innovations to the market (e.g. related to green public procurement and life-cycle-costing) in order to encourage the procurer to become an 'intelligent' customer. This can be achieved through better preparatory work and capacity-building in procurement offices both as regards the identification of state-of-the-art technologies /solutions in the market and the capacity to manage complex procurement procedures.

²⁵ <https://s3platform.jrc.ec.europa.eu/s3-guide>

2. Methodological approach towards GPPI

2.1 Good practices assessment report

The objective of the good assessment report prepared in the framework of the GREENIN project was to shed some light on the factors that may influence the success of the implementation of Green Public Procurement for Innovation practices, both at policy and organisational level.

The use of good practices is very common in international organisations and the approach is applied to a wide variety of subjects (e.g. territorial cooperation, rural development, gender mainstreaming). Compiling and diffusing good practices is a method that complements the definition of conceptual frameworks and rules of the game, by providing concrete applications.

GREENIN mainly looked for effective **good practices** or successful experiences on Green Public Procurement for Innovation, but also on Green Public Procurement or Public Procurement for Innovation, that could help other European regions to face similar problems and to achieve GPPI processes. For the project's purpose, the characteristics taken into account to be considered as good practice were the regional/national smart specialisation strategy approach and the status, considering preferably those implemented, but also the ones planned or ongoing.

In terms of dissemination and exchange of good practices, 10 countries (AT, BE, DE, DK, EE, FI, NL, NO, SE, UK) publish good practices examples on a national website, however only one country (SE) has obtained a full 100% score as it covers all 6 below aspects related to how good practice examples are made available to procurers. As shown in Table 3, in most countries only national case examples are promoted and examples from other countries (including European funded good practice examples) are missing. The EU average for the "Good practices" sub-indicator is 22,8%²⁶.

	AT	BE	DE	DK	EE	FI	NL	NO	SE	UK
Publication of good practice examples	√	√	√	√	√	√	√	√	√	√
Includes international funded good practice examples		√	√						√	
It is offered free of charge	√	√	√	√	√	√	√	√	√	√
Covers all types of innovation procurement	√	√	√	√				√	√	
Contains examples applicable to all public procurers	√		√	√	√	√	√	√	√	√
Includes examples on how to mainstream PPI at large scale	√					√			√	
Total score (%)	83	67	83	67	50	67	50	67	100	50

Table 3. Indicators for publication of good practices per country
Source: European Commission. The Strategic use of PPI in the Digital Economy

²⁶ European Commission. The Strategic use of PPI in the Digital Economy (2018)

Other indicators related to GREENIN project are:

- Countries where innovation procurement has been incorporated as a strategic tool or objective in public procurement and or innovation policy areas: Austria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, The Netherlands, Sweden, UK and Norway;
- Countries with innovation procurement endorsed as a strategic priority in a policy framework or action plan in sectors of public sector activity that are identified in the EU public procurement directives, regarding energy, environment or water: Austria, Belgium, Denmark, Finland, France, Ireland, Malta, The Netherlands, Slovakia, Sweden and UK;
- Countries with innovation procurement actions in wider strategies: Denmark, Estonia, Greece, France and Sweden.

Against this background, the objective of the study conducted in the GREENIN project was to uncover also good practices in countries with different positioning towards public procurement. In this sense, in order to collect new information on good practices on GPP/PPI/GPPI, it was decided to contact organisations with emerging initiatives as well as those already identified in previous reports as having a good track record on the design and implementation of public procurement policies and actions, and ask them to describe one or more cases they regarded as particularly relevant examples of good practices.

A questionnaire was devised to collect this information. The questionnaire, not only asked respondents to describe the practices and the results achieved, but also to provide some insights into what they considered the most successful elements and the main difficulties experienced, the lessons learnt and the ideas that could be transferred to subsequent actions. In addition, the questionnaire also asked information about the conditions surrounding these practices: e.g. level at which the action was implemented, type of organisation responsible, funding sources, and relationship with national/regional smart specialisation strategies. The objective was to contribute to a better understanding of the conditions that could influence success in different contexts. The questionnaire, developed in the Survey Monkey platform, was sent to a wide range of organisations, being directed to individuals who had been directly involved in the definition, management or implementation of PP policies and/or actions. The complete questionnaire and answers can be found in Annex I.

The information obtained from the **questionnaire** was one first source of information on good practices. However, due to the limited number of responses, this data had to be complemented with additional information, obtained from **published cases** of good practices. Thus, a second and more substantial source of information were case studies reported in the European Commission publication 'GPP in practice'²⁷ and those compiled in the Procurement Forum platform²⁸. Criteria for choosing those case studies were based on the need to cover a wide range of good practices,

²⁷ http://ec.europa.eu/environment/gpp/case_group_en.htm

²⁸ <https://procurement-forum.eu/resources>

encompassing diversity in terms of types of leading organisations, modes of governance and action goals; and also variety in terms of areas of application, nature of activities involved and type of entities targeted by the actions. To ensure a good amplitude of case studies, it was decided to cover good practices not only on PPI, but also on GPP and SPP.

Since good practices can be found both at the level of policy definition and at the level of implementation of public procurement actions, it was decided to include, but address separately, cases that involved formulation of policies (and eventually the set-up of mechanisms or agencies to apply them) and cases that involved the actual definition and execution of specific public procurement processes at organisational level. Thus, two levels of implementation were defined: ***policy and organisation***.

The questionnaire survey obtained 12 answers from 4 countries, plus one multi-country case. However, 3 of the cases included had not yet been fully implemented and therefore only 9 cases could be used for the analysis. This data was complemented with information from 26 published cases in a total of 35 cases from 19 countries, ranging from countries with policies and/or longstanding experience in public procurement to countries still starting to act in this area. Half the cases related to actions implemented at local level and about ¼ at national level. There were fewer cases at regional or international levels. In addition, half of the cases involved GPP (17), but there was still a substantial of cases of PPI (12), while SPP was less frequent. Procurement involved mostly products or services (or their combination) and less frequently goods or works. Regarding areas of application, energy - including energy efficiency -, construction, transportation - including electric mobility -, and acquisition of office materials and equipment were the most frequent, but there were cases in other areas such as food, health and water.

As regards **data analysis**, the cases were first of all classified according to the level at which the action was conducted – policy level or organisational level, and according to the type of public procurement they involved (PPI / GPP / SPP). Relevant contextual data was retained when it permitted to gain some insights into the conditions into which the practice was conducted. Then analytical categories were built for two major dimensions: characteristics of the procurement process; and, factors of success and main difficulties (Table 4).

CONTEXTUAL ASPECTS	
LEVEL	Policy / Organisation
TYPE PUBLIC PROCUREMENT	PPI / GPP / SPP
OTHER CONTEXT	Relevant contextual aspects
ANALYTICAL CATEGORIES	
PROCUREMENT PROCESS	Categories
SUCCESS FACTORS / MAIN DIFICULTIES	Categories

Table 4. Dimensions for data analysis.

Given the differences between the policy and organisational level, and the expected diverse nature of the practices they involved - and therefore of the recommendations to be obtained for each - it was decided to analyse the respective cases separately.

The analysis of the cases according to the analytical categories, permitted to identify key process elements and success factors for each one. A separate analysis of GPP, SPP and PPI cases permitted to identify the dominant practices in each group. Finally, a comparison between the dominant practices across the three types of procurement permitted to pinpoint the similarities and differences between them. As a result, it was possible to uncover dominant elements that could support GPP, SPP and PPI practices.

The results from the case study analysis are presented in Annex I, along the dimensions described above, together with a short summary of the practice and the relevant success factors. Despite the attempt to encompass a variety of actions and environments, these cases cannot be considered as representative of the diversity of situations across the European countries and regions; they are just part of an exploratory study. However, this compilation of good practices emerging from different contexts, and the effort to uncover patterns in what concerns success factors for types of public procurement activities with increasingly higher requirements, is novel in public procurement studies and can offer important insights for policy.

Policy level – Policy framework for GPPI

At macro level, i.e. at policy level, the good practices were divided into two groups: policies and top level organisations. These categories encompass two elements of public procurement policy formulation and implementation: “policies” refer to good practices in what concerns the definition of policies and instruments; “top level organisations” refer to good practices concerning the set-up of structures to coordinate the implementation of these policies. An analysis of the good practice cases reveals some success factors, presented in Table 5.

	LEVEL OF GOVERNANCE	SUCCESS FACTORS		SUCCESS FACTORS
POLICIES	European	Mandatory regulation Voluntary measures Funding of PPI activities	TOP LEVEL ORGANISATIONS	Policy mandate Building capacity Agency for procurers’ professionalization Specialised office to support procurers Aggregate demand Incomplete framework agreement Combine efforts at national, regional and local level
	National	Mandatory regulation Voluntary measures Policy mandate Funding of PPI activities		
	Regional	Voluntary measures Policy mandate Funding of PPI activities Technical offices		

Table 5. Success factors at policy level

Source: Own elaboration

Table 4 shows that, when designing policies towards GPPI, there are different types of measures that can be included in the governance model, which reinforce the relationship between the different institutions and functions at the different territorial levels - European, national and regional - thus supporting procurement of innovation and contributing to the success of GPPI:

- (1) Mandatory regulation - not subjected to contrary agreement and binding in all cases.
- (2) Voluntary measures - agreements negotiated with public authorities in which they can volunteer to participate. There are cases where voluntary approaches represent the only policy option available.
- (3) Funding of PPI activities - introduction of policy instruments that provide financial support to organisations engaged in the launch of PPI programmes and projects, in the performance of specific PPI actions, or in the development of new competences by buyers or suppliers.
- (4) Policy mandate - a clear policy vision provided at political level to the institutions and the professionals involved in procurement which provides them the necessary mandate to act.
- (5) Technical offices - organisations operating as specialised bodies for procurer's professionalization, training and support in the procurement process.

The technical offices operate as top level organisations, which should have been legitimated by a clear policy mandate; these can also develop actions to support the mainstreaming of GPPI practices among procurement organisations, as the following:

- (1) Building capacity - in order to successfully engage in innovation procurement, a public buyer should tap into knowledge and skills in various areas, which include: market and stakeholder's engagement; relevant products or services; relevant legal framework; negotiation; contract management; risk assessment; intellectual property rights (IPR) management; policy entrepreneurship. This capacity can be built through internal training, targeted recruitment, by relying on external experts and consultants or by pooling expertise with other public buyers. This learning process does not concern the public buyers alone. Companies, especially start-ups and innovative SMEs, also need to gradually engage in the innovation-centred business processes with the public sector and become acquainted with specific administrative practices.
- (2) Agency for procurer's professionalization - people involved in innovation procurement need a high level of motivation and expertise. Professionalism is one of the key factors of success.
- (3) Specialised office to support procurers - national competence centres on innovation procurement provide a one-stop-shop to raise awareness, coordinate capacity-building activities and assist public buyers in the implementation of innovation procurements. Professional bodies and trade associations can provide similar support.
- (4) Aggregate demand - cooperative procurement encompassing various modalities of cooperation between public buyers. Central purchasing bodies are institutions that manage the public procurement process for other public buyers on a regular basis, are the most structured means of cooperation. Central governments may choose to establish central purchasing bodies at the national level, while local authorities can do the same at theirs. They can also be created by public buyers within a specific sector.

- (5) Incomplete framework agreement - framework agreement negotiated with the aim of aggregating demand that allows greater flexibility for public bodies with their individual purchases, while ensuring compliance with minimum requirements.
- (6) Combine efforts at national, regional and local level - linking GPPI initiatives at regional/local level to national policies and initiatives, creating synergies and increasing chances for GPPI success.

Organisational level – Practices for GPPI

Complementary to the policy level, it was considered interesting to study which organisational setup can potentially lead to the successful practices of GPPI. The analysis was supported by previous research which identified a range of factors that explain success on public procurement (Trindade, 2017). The analysis of the good practice cases permitted to reveal the presence of some of these success factors and to uncover the forms they assumed in these cases (Table 5).

Accordingly, the results of the analysis of the success factors suggest that there are measures and/or practices that can be integrated within the procurement organisations that support procurement for innovation, contributing to the success of GPPI:

- (1) Governance - concerns the way the organisation is governing the process of GPPI. Success at this level is associated with: a policy mandate, as well as the support of top management; definition of responsibilities, roles, and functions within the organization; and, aligning GPPI with other policy goals, meaning that the policy vision has to be clear about linkages between other policy objectives and innovation procurement.
- (2) Knowledge - concerns the presence of competences in public procurement practices and strategies. Success requires development of awareness, information and training in GPP, SPP and PPI practices, tools and strategies.
- (3) Organisational culture - concerns the capacity of the organisation to change in order to adapt to the requirements of public procurement. Success is associated with changes in organisational culture conducting to the organisation of the public procurement procedure, and with openness to engage in internal learning processes.
- (4) Procurement factors - concerns the way individual organisations organize their procedures in an innovation-friendly way. Success requires concrete measures like: needs analysis, performing a wide-ranging needs assessment in order to define the problem to solve, before drafting technical specifications; aggregation of demand, corresponding to a process of bundling demand, in order to exploit purchasing power and provide incentives for innovation; market research, i.e. foresight activities that make purchasers and suppliers aware of options beyond their current market relationships; defining challenging specifications, allowing the most efficient and innovative solutions, including new ones, to compete and provide the public buyer with the best benefit; draft functional criteria, using outcome-based requirements in translating the need; and, promoting the ability of small and medium size enterprises (SMEs) to access public sector contracts (SME participation).

Table 6 distinguishes between the success factors identified for each type of procurement, confirming that from GPP to SPP to PPI, the range and complexity of practices required for success increase. The GPP column presents factors that form the basis for public procurement success. Then the SPP and PPI columns sequentially add (in a different colour) the new factors that are identified as associated with success in these more stringent procurement modes.

GPP	SPP	PPI
Governance - policy mandate	Governance - policy mandate	Governance - policy mandate; funding of PCP activities; technical offices
Responsibilities - top management support	Responsibilities - top management support;	Responsibilities - top management support (council leaders)
Knowledge - building capacity - market solutions	Knowledge - building capacity - market solutions	Knowledge - building capacity - market solutions and R&D - implementing outsourcing; tools
Strategy - aligning PP with other policy goals; SPP policy	Strategy - aligning PP with other policy goals; SPP policy; regional development, social goals; strong sustainability ambitions	Strategy - aligning PP with other policy goals; regional development, social goals; strong innovation ambitions
Organisational culture - internal organisation of PP process	Organisational culture - internal organisation of PP process collaboration with suppliers and stakeholders; communication with costumers; dialogue and communication throughout the process	Organisational culture - internal organisation of PP process - new operating model pilot project/testing ; collaboration with suppliers and stakeholders; communication with costumers; dialogue and communication throughout the process; pre-commercial actions; PCP; organisational learning
External stakeholders - consultation; dialogue; definition of criteria	External stakeholders - consultation; dialogue; partnerships; training	External stakeholders - consultation; dialogue; partnerships; training; sharing PP processes; dialogue users
Supplier's involvement - attraction of market	Supplier's involvement - attraction of market - working with suppliers; training. early supply chain integration; knowledge in sustainable solutions ; Market dialogue (open day; PIN); encourage social suppliers to participate	Supplier's involvement - attraction of market - lack of suppliers - working with suppliers; training; early supply chain integration; knowledge in sustainable solutions; Market dialogue (open day; PIN); suppliers, consultants, contractors, investors; cooperation among suppliers
	Procurement factors - challenging specifications promoting innovation	Procurement factors - challenging specifications promoting innovation
	Procurement factors - Functional criteria - promoting innovation	Procurement factors - Functional criteria - promoting innovation

Table 6. Practices for GPP, SPP and PPI, highlighting in blue those not described in the previous category
Source: Own elaboration

2.2 Local Working Groups and regional workshops

In order to facilitate knowledge exchange on GPPI through pilot actions that put newly developed skills into practice, in particular, events for procurers and SMEs to foster participation in GPPI processes, a Local Working Group (LWG) was established in each partner region. The detailed information on LWGs and activities carried out are presented in Annex II.

The LWG were formed by public authorities, procurers and representatives responsible for the development, delivery and management of public procurement, green economy and/or innovation support measures for SMEs, since they were considered as the key agents able to help in the identification of good practices and in the definition of the desired scenario for GPPI. Moreover, by using their own dissemination channels they had a multiplier effect, facilitating the transferability of the GREENIN results at EU level.

During the LWG meetings, partners were able to identify good practices on GPPI that would afterwards being submitted through the GREENIN questionnaire. Participants also discussed about issues and difficulties related to GPPI, measures at political level to promote it, as well as initiatives and existing and future funding programmes. In addition, recommendations and proposals were devised, and all contributions for this Design Options Paper were collected. Finally, the organisation of the regional workshops among procurers and regional enterprises was discussed and agreed.

The workshops as pilot actions carried out in each participating region according to their needs had the aim to facilitate the dialogue and the networking activities between procurers and SMEs to foster their participation in GPPI processes. They are summarised as follows:

In Spain, the workshop was held in Badajoz on the 14th May 2019 and included plenary sessions and B2B meetings between enterprises and the three regional public procurers. The sessions tackled the understanding of GPPI procedures, and practical cases presented by both a public procurer that had already experience in this type of procurement and a SME that had participated in such a process. In the workshops there were 20 participants and a total of 8 meetings between public procurers and enterprises took place. As a result, several proposals have been submitted to a national PPI call.

In Portugal, the workshop with participation of 14 local authorities was organised in Coimbra on the 16th July 2019. The framework was the Regional Agenda for Circular Economy of Centro Region, linked to the RIS3, and a Green Deal Centre pilot project was presented. It involves the participating 14 local authorities that committed to implement two procurement procedures integrating Circular Economy principles. The focus of the workshop was the work with these authorities in food and catering procurement procedures, including the involvement of relevant food and catering suppliers.

In Hungary, the workshop was held in Budapest on the 29th May 2019 and had 35 participants from the construction sector. The sessions included information on understanding GPP and PPI procedures by national experts and policy makers, regional experience on PPI by a representative of the procurers, and AN enterprise experience on how to make the construction sector more sustainable through public procurement. The main result was a partnership achieved for a new climate KIC pathfinder project approved in June that will allow to further work with public service providers of Budapest to create a roadmap as a continuation of the tasks and objectives of GREENIN.

3. Enhancing capabilities

3.1 Challenges

All Member States encourage green public procurement to some extent, although the measures and level of commitment vary. These measures range from having national legislation in place to sectoral guidelines or targets, or simply sharing information about green public procurement.

As described in section 2, one of the dimensions analysed by the GREENIN project, both in the questionnaires and in the case studies, was “difficulties” to put in place GPPI. This dimension can give an idea of the challenges that public organisations might face when implementing GPPI. These challenges cover different aspects related to policies, knowledge, suppliers and the organisation of the public procurement process, as summarised in Figure 7.

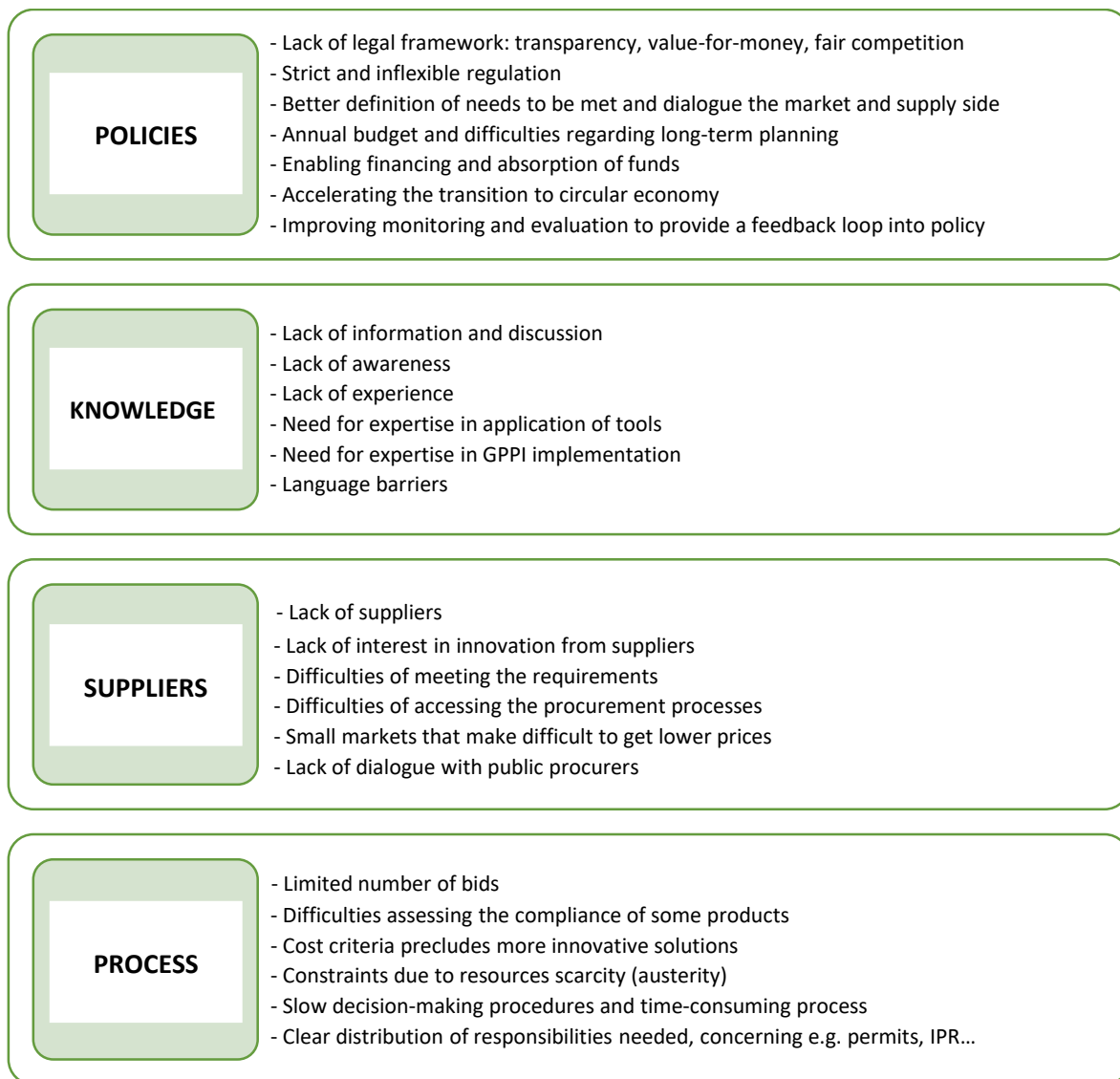


Figure 7. Main challenges for the implementation of GPPI.

Source: Own elaboration

3.2 Lessons learned

Reflecting on the lessons learned from the analysis made in the GREENIN project, one can conclude that there is a need of measures with a top-down approach, corresponding to good practices at policy level. These good practices entail the definition, at one or more governance levels (national, regional, local), of clear policies towards GPPI, including mandatory/ voluntary regulation, introduction of targeted funding and formulation of clear policy mandates. They can be operationalized through agencies acting at three levels: combining the efforts at national, regional and local level; operating as specialized bodies for procurers' professionalization, training and support; operating as demand aggregators, by defining incomplete framework agreements that can be used by contracting organisations in a flexible way to foster innovation. This top-down approach needs to be complemented by a bottom-up approach, corresponding to good practices at organisational level. The two approaches are needed to achieve successful implementation of GPPI.

In what regards governance, it is important to have a clear policy mandate which translates, in concrete terms, to the support of top management; however, when moving from GPP to SPP and PPI, the need for top management support increases, as the risk of a PPI procedure is significantly higher than GPP and SPP. Other measures that promote GPPI at this level are: development of a procurement policy; aligning GPPI with other policy goals, for example in the area of regional development, and with social goals; and defining strong sustainability ambitions.

The need for internal knowledge and building capacity also increases from GPP to SPP to PPI, suggesting that the organisations increasingly need to tackle more aspects, such as: practical guidance, tools, market solutions and R&D and/or implementing outsourcing.

Organisational culture, as well as the way the procurement procedure is organised are the dimensions that change more significantly from GPP to SPP to PPI, as the organisation needs to tackle, in each stage, an increasing number of factors with higher degree of complexity. In this dimension the success is related to a reconfiguration of the internal public procurement process to a new operating model which considers the integration of GPP criteria, different types of procedures, pilot project/testing and contract monitoring. This new model has also to consider dialogue and communication, partnerships with private companies and pre-commercial actions, along with organisational learning procedures.

The same trend can be observed in external stakeholders and supplier's involvement, as PPI needs to strengthen the collaboration between a wide range of actors in order to succeed. To attract the market and increase knowledge about sustainable solutions, public procurement organisations should promote a dialogue with suppliers and supply chain actors (prior, during and after the tender) as well as training activities; these can be also extended to consultants, contractors and investors. Regarding external stakeholders, a process of consultation and dialogue should be established, with the aim of sharing knowledge on public procurement processes, criteria, partnerships, and training.

Finally, the number of factors to take into account and the complexity of the procurement process also increases from GPP to SPP and PPI. These include procedures such as challenging specifications promoting innovation and SME participation, and the use of functional criteria.

3.3 Recommendations

The analysis made in the GREENIN projects points, first of all, to the need to combine good practices at the policy and organisational levels in order to promote and support GPPI implementation.

Additionally, the results suggest that there is a learning curve from GPP to SPP and PPI (Figure 8), as the range and complexity of practices required for success increase. Therefore, the good practices identified from GPP cases can be considered as minimum requirements for GPPI, while the good practices identified from SPP and PPI represent more advanced and efficient requirements for GPPI.

The GREENIN project highlights two main recommendations for the right implementation of GPPI:

- ✓ The necessity of combining measures at policy and organisational level;
- ✓ The need to support the learning curve at organisational level, starting by implementing the success factors from GPP and then gradually implementing more advanced success factors, as those identified for SPP and PPI.

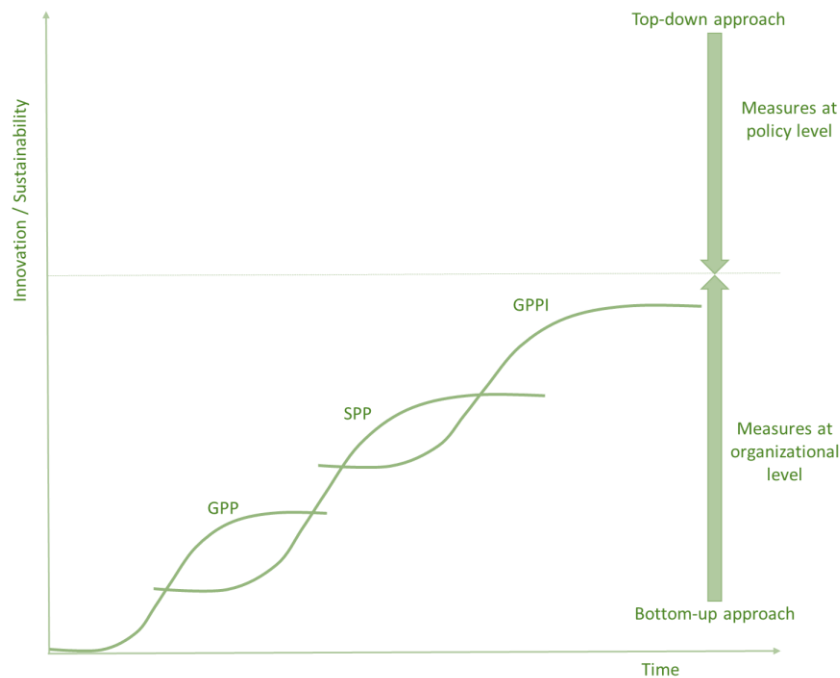


Figure 8. Summary of recommendations and the GPPI learning curve at organisational level

Source: Own elaboration

The GPPI learning curve illustrates that the complexity of the procurement process increases from GPP to SPP and PPI and therefore public authorities need to start by implementing some GPP practices and, as they acquire more experience and develop the levels of governance, internal knowledge and organisational culture and stakeholders' involvement, they should increasingly tackle additional practices (SPP and PPI).

Policy level – Main recommendations for GPPI implementation

Public authorities acting as facilitators of the green economy

Public authorities can play a critical role as facilitators of change since they are able to use public funds to create revenues for green economy projects, as such funds can help to achieve public objectives, e.g. through public procurement. In this sense, public authorities might undertake analyses of green economy potential at the local, regional and national scales and develop strategies that ensure green economy opportunities in regional smart specialisation strategies and include collaboration with other countries and regions. They might also provide information to the business sectors, especially to SMEs, to make easier for them to exploit the potential of the green economy, stimulating the demand and creating new markets for green products and services through public procurement. Financial commitments by a public organisation may provide certainty for the financial revenues from the public procurement contracts, which in turn facilitates access to finance and reduces risk for investors.

Enabling financing and absorption of funds

The use of public funding mechanisms in the Member States, focussing first on the use of European Structural and Investment Funds for environmental objectives, but also considering whether Member States have introduced mechanisms to direct funds from environmental taxes and charges towards environmental delivery, is an appropriate measure to foster GPPI implementation. In addition, the progress the Member State might make in implementing Green Public Procurement can be an effective way of using the purchasing power of public authorities to encourage a shift in supply of sustainable goods and services. For that purpose, public administrations should put in place flexible procedures and do not over-specify, so that suppliers are able to access the procurement process and to propose solutions accordingly.

Organisational level – Main recommendations for GPPI implementation

Knowledge exchange and establishment of collaborative arrangements across organisations

The general awareness on GPPI solutions and their benefits with buyers, businesses and the civil society and the knowledge exchange between the various green economy stakeholders, e.g. on how to optimise the procurement of green products and services by developing common quality / performance and commercial requirements, might foster the ability of small and medium size enterprises to access public sector contracts. Specific training programmes, peer learning and sharing experiences with tendering authorities with similar problems, as well as regular dialogue between all agents involved in the public procurement process would help to establish collaborative arrangements and to foster GPPI implementation.

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Annex I: Case Study Analysis

Table A.1. CASE STUDIES - SUMMARY AND ANALYSIS

Table A.1. CASE STUDIES - SUMMARY AND ANALYSIS															
Action			Background					Procurement				PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES
No	Action	Source	URL	Country	Level	Funding	Lead	Type	Category	Target group	Application area				
1	GPP law	QUEST		SL	National	Government	Government	GPP	goods, works, services	PA	General	political support/enforcement	training/awareness	lack of experience	POLICY LEVEL (PL) Relevance - national, mandatory Governance - policy mandate ORGANIZACIONAL LEVEL (OL) Responsibilities - top management support Building capacity
3	PIANOo.nl Dutch Public Procurement Expertise Centre	QUEST		NL	National	Government	Central government	PPI	all	PA	General	Set-up agency to professionalise procurement and tendering in all government departments and provide advice; Online tendering system (TenderNed).	Government policy: Dutch Public Procurement Act. Dialogue between government contracting authorities and companies. Community of practice (experts and practitioners involved in PP). Produce and share knowledge and experience on PP process and on market. Creation of agency to professionalise PP critical to ensure quality and efficiency in government services; to stimulate the market for sustainable products. "Professional procurement means linking procurement to policy aims and budget". Combine efforts of Dutch government and regional and local authorities.		PL Relevance - national, mandatory Governance - policy mandate; combine efforts at national, regional and local level; agency for procurers professionalisation OL Responsibilities - top management support Strategy - aligning PPI with other policy goals Organisational culture - sharing PP processes Supplier's involvement - attraction of market External stakeholders - community of practice Knowledge - building capacity
5	DEPATECH - Technical Centre for Paralympic Sports	QUEST		ES	Regional policy/Organisational level implementation	EU+Regional	University	PPI	goods	research centres	Health	6 lots of pre-commercial public purchase were tendered	PPI instrument at regional level (funding?) technical offices specialised in the management of Public Procurement for Innovation	lack of experience; lack of suppliers	PL Relevance - regional, voluntary Governance - policy mandate?(o que achas?) funding of PCP activities; technical offices OL Knowledge - building capacity Organisational culture - procedure for PPI Supplier's involvement - attraction of market - Lack of suppliers
6	LABPOLE - Large Animal Biohub	QUEST		ES	Regional policy/Organisational level implementation	EU+Regional	University	PPI	goods	research centres	Health	22 lots of pre-commercial public purchase were tendered	PPI instrument at regional level (funding?) technical offices specialised in the management of Public Procurement for Innovation	lack of experience; lack of suppliers	PL Relevance - regional, voluntary Governance - policy mandate?(o que achas?) funding of PCP activities; technical offices OL Knowledge - building capacity Organisational culture - procedure for PPI Supplier's involvement - attraction of market - Lack of suppliers
8	PSAE - Program for sustainable food in schools	QUEST		PT	Regional	Own	Municipality	SPP	goods	PA	Food	The implementation of this sustainable food strategic program brings several benefits such as: - Freshness of products; - Promotion of organic, local, seasonal fruits and vegetables; - Reduction of CO2 emissions associated to transport from the local of production to the place of delivery; - Near to zero waste; - Engagement of suppliers in this strategic sustainability program: environmental awareness and training, commitment of local producers and canteen employees.	It has provided environmental gains, such as the reduction of food waste due to the optimization of the menu and the reduction of CO2 emissions associated to the daily deliveries of products (short distance). Moreover, it has also contributed to the reduction of product packaging. It also allowed for social and economic outcomes, such as the increase of local jobs (producers, suppliers, canteen employees and private social solidarity institutions), healthy eating habits and well-being of children, and the development of local agriculture and the local economy. This program promoted the dialogue with the market and seek sustainable solutions. The awareness and communication of the municipal strategy among producers, suppliers, students, parents, employees and the general population play an important role for its implementation, engagement and commitment. Searching for innovative solutions, working in partnerships and involving the market has led to the promotion of healthier eating habits for students, reduction of food waste production and reduction of pollutants, resulting in environmental and social gains.		PL Relevance - Regional/local OL Governance - policy mandate Strategy - aligning PPI with other policy goals - regional development, social goals Responsibilities - top management support Knowledge - building capacity - Organisational culture - learning about PP process; collaboration with suppliers and stakeholders Supplier's involvement - attraction of market - working with suppliers; training External stakeholders - partnerships; training
9	Smart MET	QUEST		ES, IT, FR, BE, HU	Transnational	EU	Water utilities	PPI	services	PA	Water	ongoing	suppliers involvement; funding	lack of interest in innovation from suppliers	PL Relevance - European Governance - funding of PCP activities OL Supplier's involvement - attraction of market - Lack of interest from suppliers
10	Sustainable and Digital Construction Center	QUEST		ES	International	National instrument	PA	PPI	goods	Companies	General	planned			
11	Rental of low-carbon multifunction devices	QUEST		PT	Local	Own	Municipality of Loures	GPP	services	PA	Energy	PP process developed (criteria) open procedure	Learning about PP process. Organisational policy - Sustainable Procurement Strategy; Political support; external support (PT research institution); Community of practice. Funding from EU		PL Relevance - European Governance - funding of low carbon procurement activities OL Strategy - aligning PPI with other policy goals; SPP policy Responsibilities - top management support Knowledge - building capacity - external support Organisational culture - learning about PP process External stakeholders - community of practice
12	building Information Technologies	QUEST		PT	Local	Own	PA	GPP	works	Companies	Energy	ongoing; expected: Reduction of the energy consumption	Internal knowledge; interaction with suppliers		PL Relevance - local OL Knowledge - building capacity - internal knowledge Supplier's involvement - attraction of market
13	Environmental Policy Office	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue_49_Case_Study104_Cyprus.pdf	CY	National policy	Own	University	GPP	all	University	General	organisational policy implemented; specialised office; market development	Top management support; definition of a process for GPP; creation of a specialised office that supports procurement procedures; Flexible market engagement leading to market development	lack of suppliers	PL Relevance - national Governance - policy mandate; combine efforts at national and local level; specialised office to support procurers OL Responsibilities - top management support Organisational culture - procedure for GPP Supplier's involvement - attraction of market - Lack of suppliers

Action			Background					Procurement				PROCESS/RESULTS	SUCCESS FACTORS	DIFCULTIES	ANALYTICAL CATEGORIES
No	Action	Source	URL	Country	Level	Funding	Lead	Type	Category	Target group	Application area				
14	Sustainable procurement of office materials in Ghent (Belgium)	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue_36_Case_Study76_Ghent.pdf	BE	Local	Own	City of Ghent	SPP	goods	PA	Office materials	By preferring awareness in paper and office supplies around GPP. All suppliers met the set requirements and offer at least 90% of the products asked for. Reducing emissions through the reduction of delivery frequency.	extensive market research; internal needs analysis; central purchasing body ; larger contract; market engagement Support 'from above' is needed (SPP policy of the City of Ghent) Opening contracts up for other entities to participate Communication with customers Setting up a start-up meeting with the selected supplier is strongly encouraged, followed by active management of the contract.	difficulties assessing the compliance of some products	PL Relevance - local OL Responsibilities - top management support Organisational culture - PP process Organisational culture - communication with costumers Procurement factors - market research Procurement factors - needs analysis Procurement factors - aggregate demand (central purchasing body) Procurement factors - SME participation Procurement factors - contract management Supplier's involvement - attraction of market
15	Preparation and delivery of healthy and sustainable school meals	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue_86_Case_Study_166_Ottignies.pdf	BE	Local	Own	City of Ottignies-Louvain-la-Neuve	SPP	services	PA	Food	The successful bidder was a small enterprise, who, as a result of this contract has been able to focus their business entirely on sustainable food, and grow from four to 80 employees. In addition, four people, who could be classed as 'far from employment', are also being trained through 'social clause internships'. They will receive a maximum of 60 working days, at the rate of 38 hours per week spread over five days	Market dialogue prior to call for tender; analysis of user needs< Stakeholder involvement (suppliers; community); Inclusiveness (SME & unemployed), Definition of specifications challenging the market and encouraging innovation; changing demand through food education; Training of canteen workers; regular information to parents		PL Relevance - local OL Organisational culture - communication with parents Organisational culture - training canteen workers Procurement factors - needs analysis Procurement factors - aggregate demand (central purchasing body) Procurement factors - SME participation, unemployed Procurement factors - chalinging specifications promoting innovation Supplier's involvement - attraction of market - mrket dialogue prior to tender External stakeholders - community
16	Supply of sustainable concrete at the London Olympics	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue_23_Case_Study52_Olympics_concrete.pdf	UK	Local	Own	Olympic Delivery Authority's (ODA)	SPP	products	PA	Construction	centralised procurement; open procedure	Centralised procurement; early involvement of suppliers (along supply chain); Testing of products; Dialogue between suppliers, designers and contractors; Prior assessment of needs and market conditions. Definition of clear specifications.		PL Relevance - local OL Procurement factors - needs analysis (dialogue designers, contractors, suppliers) Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research Procurement factors - clear specifications Supplier's involvement - attraction of market - market dialogue prior to tender along supply chain
17	Reusing and refurbishing furniture in a new office - Public Health Wales (PHW)	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue_77_Case_Study_152_Wales.pdf	UK	Regional	Own	Public Health Wales (PHW)	SPP	services	PA	Office materials	open procedure: outcomes-based approach, functional criteria promoting innovation; involvement of suppliers; encourage participation of social enterprises	Involvement of stakeholders (suppliers; potential users); Market dialogue; Encourage heterogeneous suppliers; Specifications only at functional level; Open procedure encourages innovation; Good communication strategy; Criteria beyond cost		PL Relevance - Regional OL Organisational culture - procedure for PP; dialogue and communication throughout the process Functional criteria - promoting PPI Supplier's involvement - Market dialogue (open day; PIN); Encourage heterogeneous suppliers (i.e. social enterprises to participate) External stakeholders - Consultation with stakeholders with disabilities
18	ESCO procurement by the City of Vantaa	DOCS	https://www.motiva.fi/files/9182/ESCO_Procurement_by_the_City_of_Vantaa_Curiosity_and_Persistence.pdf	FI	Local	Own	City of Vantaa	GPP	services	PA	Energy efficiency	Energy efficiency of 14 buildings will be improved over the next eight years. Costs will be covered with the savings produced by the project within the agreed time. Negotiated procedure. Four negotiations were carried out with each tenderer, going through the targets, procurement principles, contract model, final invitation to tender, and comparison criteria. The selection of the comparison criteria was one of the biggest tasks. We worked hard in order to avoid overlapping subjects, which is so often complained about.; legal advice; contract management	Active debate with the board of members between meetings; extra support for my reasoning from energy efficiency specialist training that I was attending. Discussions with different stakeholders on the thoughts and experiences of ESCO procurement. Internal organisation of process; To promote innovative solutions from the participating companies, the notice didn't define what energy-saving calculation models should be used. Involvement different stakeholders; city of Vantaa did not want to restrict competition too much, all previous ESCO projects were accepted as references. In the end, the comparison criteria and their focus areas were selected so that they also supported the targets set for the project. The negotiated procedure challenges both the procurer and the supplier. It is important to gain mutual trust in order to achieve the desired end result. The number of different measures was not determined in advance, either. This will give the supplier freedom to choose the measures that are worth investing in. Dialogue with market; Management of negotiated procedure;	Cost criteria precluded more innovative solutions (The city required a savings guarantee of 100 % in the final call for tender. Due to this, the measures proposed in the tenders left out any innovative solutions. Budget will have some room for developing new solutions in the implementation stage).	PL Relevance - Local OL Organisational culture - internal organisation of PP process - negotiated procedure Responsibilities - top management support Supplier's involvement - Market dialogue Knowledge - building capacity - internal knowledge External stakeholders - Consultation
19	RAKLI Procurement Clinic	DOCS	http://www.sci-network.eu/fileadmin/templates/sci-network/files/Resource_Centre/Case_Studies/Case_Study_-_RAKLI_Procurement_Clinic_Finland.pdf	FI	National	Own	RAKLI - Finnish Association of Building Owners and Construction Clients)	PPI	works	PA and companies	Construction	Setting up a procurement clinic which uses open, interactive workshops to facilitate market dialogue between potential service providers, consultants, contractors and investors. (procurement clinic); pilot project	ERAKLI's role in arranging market dialogue has proved successful and as a result it has been used in several other ambitious procurement processes. The result of the project was a new operating model and a large amount of valuable knowledge gained in implementing outsourcing, which is applicable to other cities in the region.		PL Relevance - National Governance - combine efforts at national level; specialised office to support procurers OL Knowledge - implementing outsourcing Organisational culture - new operating model; pilot project Supplier's involvement - attraction of market - market dialogue (suppliers, consultants, contractors, investors)
20	Renewable Heating Systems for Schools	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue_25_Case_Study55_Oslo_heating.pdf	NO	Local	Own	City of Oslo	PPI	products	PA	Energy	Pre-procurement: A 4-stage procedure was chosen; consultation and dialogue with the market, a pre-commercial contest for innovative solutions, a development phase, and the final tenders, where solutions from the 3 earlier steps were purchased.	Early consultation /involvement of different stakeholders (research, suppliers, users, community?); Dialogue: definition of needs and identification of solutions available; Encourage cooperation between suppliers; Political support (council leaders); Pre-commercial actions generating innovative ideas; Organisational learning;		PL Relevance - Local OL Organisational culture - internal organisation of PP process - Pre-commercial actions; Organisational learning Procurement factors - needs analysis Responsibilities - top management support (council leaders) Supplier's involvement - attraction of market - market dialogue - cooperation among suppliers External stakeholders - Dialogue

Action			Background					Procurement				PROCESS/RESULTS	SUCCESS FACTORS	DIFFICULTIES	ANALYTICAL CATEGORIES
No	Action	Source	URL	Country	Level	Funding	Lead	Type	Category	Target group	Application area				
21	Framework agreement for zero-emission vehicles	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue30_Case_Study65_Oslo_zero_emission_vehicles.pdf	NO	Local	Own	City of Oslo	PPI	services	PA	Electric mobility	pre-procurement activities, test phase, open tender, framework agreement with a single supplier of cars, vans and car administration services.	Policy: supported by /part of local environment policy; Dialogue with stakeholders (suppliers & users); Preparatory phase; test phase was also an important part of the City's (marketing) strategy. It served both to communicate to the market what is to be expected in the upcoming tender, and also to prepare the City's employees for the next generation of service vehicles. Preparation of the framework agreement: the City's procurement department entered into dialogue with all its major suppliers. Organisational learning; Experience to be shared/replicated elsewhere		PL Relevance - Local Governance - supported by local policy OL Organisational culture - internal organisation of PP process - organisational learning; pre-procurement activities; test phase Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue (users)
22	Energy efficient lighting on Budapest's bridges	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue13_Case_Study31_Budapest_Bridge.pdf	HU	Local	Own	City of Budapest	GPP	products	PA	Energy efficiency	The technical specifications were in conformity with the core EU GPP criteria for street lighting	Policy: (local) regulation on GPP ;Application of EU GPP criteria	Limited number bids - why (availability of suppliers; requirements too high)?	PL Relevance - Local Governance - supported by local policy OL Organisational culture - internal organisation of PP (GPP criteria) Supplier's involvement - attraction of market - Lack of suppliers
23	Centralised procurement of greener office supplies	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue16_Case_Study37_Hungary_supplies.pdf	HU	National	Own	Public Procurement and Supply Directorate General	GPP	products	PA	Office materials	framework agreement for office supplies	Centralised procurement; framework agreement ; Application of EU GPP criteria; Market analysis - assessment market conditions (products available); Experience to be shared/replicated elsewhere		PL Relevance - National OL Organisational culture - internal organisation of PP (GPP criteria, framework agreement) Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research
24	Using LCA and CO2 performance to assess bidders	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue36_Case_Study78_Rijkswaterstaat.pdf	NL	National	Own	Rijkswaterstaat (RWS) - Department of Public Works / Dutch Ministry of Infrastructure and the Environment	PPI	products&services	Companies	Infrastructure projects	RWS aims to use green public procurement to challenge and encourage contractors and suppliers to provide added value through the delivery of sustainable working practices, green materials, energy efficiency and reduced carbon emissions. In order to achieve these objectives, RWS uses functional specifications for infrastructure projects, together with tools to gauge bidders' commitments to reducing carbon emissions within projects and to assess the life cycle environmental impacts of the materials they propose to use. These commitments and impacts are monetised within the award phase of the tender and quoted prices are adjusted accordingly. The methods aim to stimulate and utilise the market's creative capacities more efficiently and allow contractors to work in a targeted way towards better quality, more innovative solutions.	Policy (national): In 2010, the Dutch House of Commons decided that all public authorities in the Netherlands must implement 100% sustainable procurement as of 2015, which constitutes the inclusion of green criteria in all tenders; Process management: Functional criteria; procedures used by suppliers to improve quality of proposals; tools: LCA of materials proposed in tenders; CO2 performance to assess bidders: DuboCalc software.	Need for expertise in application of tools (training?)	PL Relevance - National, mandatory OL Knowledge - building capacity - tools Organisational culture - procedure for PP - process management Procurement factors - functional criteria
25	Energy performance and maintenance contracts	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue22_Case_study50_Rotterdam.pdf	NL	Local	Own	City of Rotterdam	GPP	services	PA	Energy	Pilot initiative; Competitive dialogue procedure	Local policy: Rotterdam Climate Initiative. Involvement of suppliers; Definition of specifications based on detailed assessment of needs. this should be started well in advance of works in future and should be kept up-to-date. The project was a success and it will now be rolled out across the City.	Constraints due to resources scarcity (austerity)	PL Relevance - Local Governance - policy mandate; OL Organisational culture - procedure for PP ; pilot project Procurement factors - needs analysis Supplier's involvement - attraction of market
26	Purchasing bio-based cleaning services	DOCS	http://innprobio.innovation-procurement.org/fileadmin/user_upload/Good_practices/180309_InnProBio_Good_Practice_Wilanow_final.pdf	PL	Local	Own	Capital City Warsaw, Wilanów District Office	GPP	services	PA	Water	Open tender procedure	Policy (national): Polish Public Procurement Act (2004). Experience gained at local level	Need to better define needs and avoid confusion in terminology	PL Relevance - Local Governance - policy mandate; OL Procurement factors - needs analysis
27	100% recycled paper for Bulgaria's Environment Ministry	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue5_Case_Study12_Bulgaria_paper.pdf	BG	National	Own	MINISTRY OF ENVIRONMENT AND WATER	GPP	products	PA	Office materials	pre-procurement analysis of market prices of recycled and non-recycled paper for printers	Policy support: National Action Plan on GPP. Practical guidance on GPP to practitioners. The pilot has shown that GPP does not necessarily mean spending more financial resources. This has helped to foster stronger political support for GPP in Bulgaria.As a result of the successful procurement, MEW has proposed to the recently established Central Purchasing Body in Bulgaria to procure fully recycled paper.		PL Relevance - National Governance - policy mandate OL Knowledge - building capacity - practical guidance Procurement factors - market research Organisational culture - procedure for GPP; pilot project
28	Retrofitting trams for energy efficiency in Craiova	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue23_Case_Study51_Craiova_trams.pdf	RO	Local	EU	CRAIOVA Municipality	PPI	products	PA	Transport	Definition of technical specifications informed by search for available solutions	CIVITAS Initiative, co-financed by the EU. Good awareness of available technical solutions/potential developments and innovation (R&D); Dialogue with different stakeholders; (political & scientific & market). Importance of consolidating the different perspectives of political, technical and scientific actors;		PL Relevance - Local Governance - EU financing program OL Knowledge - building capacity - market solutions and R&D Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue
29	CNG and hybrid buses: Alternative vehicles for a cleaner city	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue39_Case_Study83_Madrid_alternative_vehicles.pdf	ES	Local	Own	THE MUNICIPAL TRANSPORT COMPANY OF MADRID (EMT)	GPP	products	PA	Transport	Open tender procedure; Life cycle costing: Emissions were considered as a cost of the pollutant emissions indicated in Table 2 of the Annex to Directive 2009/33/EC, on the promotion of clean and energy efficient road transport vehicles; the "Clean Vehicles Directive" (CVD).	Constant dialogue with suppliers; in-depth knowledge and understanding of the market, including all available solutions; Tender combining economic & environmental criteria (LCC); Experience: number & variety of projects		PL Relevance - Local OL Knowledge - building capacity - market solutions Organisational culture - procedure for PP; LCC
30	A National Framework Contract for Green Dairy Products	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue32_Case_Study69_Austria_dairy_products.pdf	AU	National	Own	Federal Procurement Agency (BBG)	SPP	products	PA	Food	open tender procedure to set up a national framework contract for dairy products, which began in October 2012. The aim was to supply around 350 kitchens in public organisations buying through the contract. Most of the criteria within the food product group were taken from the EU GPP criteria for Food and Catering Services. Principle procurement objectives included; the consideration of organic and non-GM products, the inclusion of smaller dairy producers from the region, deliveries within one working day and value for money. Specifications therefore aimed to encourage food production methods that are less harmful to the environment and the national contract was divided into 8 regional lots to facilitate the participation of SMEs.	Policy (national): The Austrian sustainable procurement action plan; Definition of a clear procurement strategy within BBG; early market analysis before tendering; working groups to decide upon the food criteria; Early market engagement activities included the BBG working groups holding discussions with dairy producers and associations to determine what the market was able to deliver - Involvement of stakeholders. The national contract was divided into 8 regional lots to facilitate the participation of SMEs.	Although the contract was divided into lots, smaller dairies were still not able to be competitive on price compared to larger companies. The latter are usually able to produce all items from the core list, which gives them the advantage of offering lower prices; Problems with more innovative products; Excessive requirements	PL Relevance - National Governance - policy mandate OL Organisational culture - procedure for PP - clear procurement strategy Procurement factors - market research Procurement factors - SME participation Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue

Action			Background					Procurement				PROCESS/RESULTS	SUCCESS FACTORS	DIFCULTIES	ANALYTICAL CATEGORIES
No	Action	Source	URL	Country	Level	Funding	Lead	Type	Category	Target group	Application area				
31	Green Building Materials for a Fire Station in Lorüns	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue26_Case_Study57_Vorarlberg_construction.pdf	AU	Regional	Own	VORARLBERG	GPP	products&services	PA	Construction	The service provided in Vorarlberg Environmental Association includes assistance with concepts for materials, construction and energy. In this case, the service provided included the definition of the technical specifications, selected from a database of GPP criteria (Baubook), planning and tendering phases. Environmental and legal checks were also performed on tenders and green criteria for each call for tender.	Lorüns was supported by the provincial GPP advisory service in the preparatory, planning, tendering and construction phases of the contract to build the municipal fire station. The service has proven particularly helpful for smaller local authorities that may not have the technical knowledge in green building or procurement to carry out sustainable construction or renovation projects.		PL Relevance - Regional OL Organisational culture - procedure for PP; GPP criteria Knowledge - building capacity
32	Green ambulance procurement in Stockholm	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue15_Case_Study34_Stockholm_ambulance.pdf	SE	Local	Own	STOCKHOLM COUNTY COUNCIL	PPI	products	PA	Transport	Early development of a vision for the procurement; Pilot study; Pre-procurement procedure followed by a negotiated procedure; early dialogue with manufacturers; dialogue with stakeholders (users);	Local policy (environment): Environment Step 5 with tangible environmental goals and progress reported annually; Early development of a vision for the procurement; Pilot study to examine the technical solutions available and the extra costs of finding an eco-friendly solution. Collaboration between Stockholm and the supplier was crucial to making the pilot project a success, not only setting new, tougher requirements, but also working with the supplier to find new solutions to meet those requirements.		PL Relevance - Local Governance - policy mandate OL Organisational culture - Procedure in PP; early development of a vision for PP process; pilot project; pre-procurement procedure+negotiated procedure Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue
33	Joint National Procurement of Electrical Vehicles in Sweden	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue24_Case_Study53_Sweden_EV.pdf	SE	National	Government	City of Stockholm & state-owned utility "Vattenfall"	GPP	products&services	PA and companies	Electric mobility	Public and private entities in Sweden joined forces to conduct a national procurement of Electric Vehicles (EVs) and Plugin Hybrid Electric Vehicles (PHEVs). An invitation to participate was issued and interested parties worked together to define parameters for bidder qualification and the tender process. Two-step procurement procedure with a prequalification stage for bidders. 12 months later, two contracts for the purchase/lease of electric vehicles began. Two separate contracts had to be created to accommodate the different entities joining the procurement i) Electric vehicles 2011: Public bodies and ii) Electric vehicles 2011: Private organisations.	Process: joint procurement (good scale of demand and saving individual partners time and money, especially smaller stakeholders); Two-step procedure drew attention to the procurement from both national and international vehicle retailers; Need to understand the market and anticipate that smaller providers may have difficulties participating in tenders. Suppliers are not always used to public (joint) procurement so the tendering process and associated documents must be easy to follow. Stipulating requirements on the availability of service and maintenance was also deemed to be important.	<ul style="list-style-type: none"> Reaching an agreement on vehicle specifications was time-consuming and challenging due to the number of stakeholders involved and concerns over vehicle safety. The market for EVs is very immature and in general, demand is larger than supply. This made it hard to get lower prices or discounts in the joint procurement. 	PL Relevance - National OL Organisational culture - internal organisation of PP - joint procurement; pre-qualification+tender process Procurement factors - aggregate demand (centralised procurement) Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue; definition of criteria
34	Electric vehicles for Stuttgart's Sewage Treatment Works	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue22_Case_study49_Stuttgart.pdf	GE	Local	Own	City of Stuttgart	GPP	products	PA	Electric mobility	In this contract, Stuttgart have gone one step beyond the technical specifications required by the EU GPP criteria for vehicles and have replaced their mixed diesel and electric fleet with entirely electric vehicles. The 3-year contract covered the vehicles used at the Municipal sewage treatment plant. A tender document with specific requirements was drawn up after extensive market analysis.	The contract is currently being monitored by the tendering department at Stuttgart City Council. As an additional selection criterion the Municipality has suggested that including delivery time may be of benefit, as they have had to wait for fairly significant periods of time for each vehicle to be produced, due to the fact that they have been made to measure. Extensive market analysis	Not all manufacturers were able to meet Stuttgart City Council's technical specifications.	PL Relevance - Local OL Organisational culture - internal organisation of PP (GPP criteria, contract monitoring) Procurement factors - market research
35	Recycled asphalt used for road resurfacing	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue28_Case_Study60_Hamburg_recycled_asphalt.pdf	GE	Local	Own	City of Hamburg	GPP	services	PA	Construction	Testing of full recycled asphalt by a group of private companies on public roads owned by the City State. After confirming the quality of the solution, a restricted tender procedure was conducted, with five companies invited to bid.	Pilot project to ensure quality of the solution; local (municipal) policies and also national policies to increase the proportion of waste recycled.		PL Relevance - Local Governance - local and national policies to stimulate recycling; OL Organisational culture - internal organisation of PP (private companies partnership; pilot project)
36	ICT equipment and management services	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue38_Case_Study81_CONSIP ICT_equipment.pdf	IT	National	Own	CONSIP	GPP	services	PA	ICT equipment & services	Consip decided to set up an "incomplete" framework agreement as they felt that this would allow public bodies purchasing through the contract greater flexibility with their individual purchases, while ensuring compliance with Consip's minimum requirements.	Procurement strategy enabling flexibility (tender for service vs purchase product); Involvement stakeholders; Sustainability criteria contributed to the selection of brand new products on the market with low energy consumption, without increasing risks (litigations, delay of the procedure, formal complaints, etc.).		PL Relevance - National OL Organisational culture - internal organisation of PP - incomplete framework agreement; sustainability criteria (mandatory) Procurement factors - market research
37	Pre-Commercial Procurement for Smart Energy and Intelligent Mobility Solutions	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue24_Case_Study54_Valle%20D'Aosta%20Region_Energy_Mobility.pdf	IT	Transnational	European Regional Develop. Fund	Valle d'Aosta Region	PPI	services	PA	Energy efficiency and Mobility	The Pre-Commercial Public Procurement Procedure was undertaken to meet these objectives and stimulate innovation. The project aims to create and develop a culture of partnership and collaboration between innovators on both sides of the Alpine frontier, in order to improve their ability to compete effectively in international markets. The overarching objective was to explore new solutions to currently unsustainable local and renewable energy systems and traffic congestion by testing prototypes in real life situations.	The contracting authority emphasised the importance of a sound and consistent open dialogue with the market, citizens and end-users. It was also highlighted that attention must be given to meeting the provisions established in the EC Communication about Pre-Commercial Public Procurement (COM (2007) 799 14.12.2007), in order not to fall under a case of State Aid.		PL Relevance - Transnational Governance - European funding OL Organisational culture - internal organisation of PP - PCP Supplier's involvement - attraction of market - market dialogue; suppliers collaboration External stakeholders - Dialogue
38	Organising GPP through an EMS	DOCS	http://ec.europa.eu/environment/gpp/pdf/news_alert/issue9_Case_Study23_Amaroussion EMS.pdf	GR	Local	Own	Amaroussion Municipality	GPP	products	PA	Various	Procurement criteria; Market analysis; Definition of technical specifications	Policy at local level : municipal environmental policy; Policy implementation mechanisms (EMS); GPP as component of EMS; Participation in European projects as a source of knowledge and experience. Support of top level management; Market knowledge; Definition of technical specifications	No country level GPP policy, which makes difficult to secure policy support	PL Relevance - Local OL Governance - policy at local level - municipal env. policy Organisational culture - internal organisation of PP - integration into EMS; GPP criteria Knowledge - building capacity - participation in European projects Responsibilities - top management support Procurement factors - market research

Table A.2. SUCCESS FACTORS AT MACRO LEVEL

No	Action	Type PP	PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES	SUCCESS FACTORS AT MACRO LEVEL
1	GPP law POLICIES	GPP	political support/enforcement	training/awareness	lack of experience	POLICY LEVEL (PL) Relevance - national, mandatory Governance - policy mandate ORGANIZACIONAL LEVEL (OL) Responsibilities - top management support Building capacity	SUCCESS FACTORS AT MACRO LEVEL - POLICIES Relevance - European Governance - funding of PCP activities Relevance - national, mandatory Governance - policy mandate Relevance - regional. Voluntary; funding of PCP activities; technical offices
5	DEPATECH POLICIES	PPI	6 lots of pre-commercial public purchase were tendered	PPI instrument at regional level (funding?) technical offices specialised in the management of Public Procurement for Innovation	lack of experience; lack of suppliers	PL Relevance - regional. voluntary Governance - policy mandate?(o que achas?) funding of PCP activities; technical offices OL Knowledge - building capacity Organisational culture - procedure for PPI Supplier's involvement - attraction of market - Lack of suppliers	
6	LABPOLE POLICIES	PPI	22 lots of pre-commercial public purchase were tendered	PPI instrument at regional level (funding?) technical offices specialised in the management of Public Procurement for Innovation	lack of experience; lack of suppliers	PL Relevance - regional. voluntary Governance - policy mandate?(o que achas?) funding of PCP activities; technical offices OL Knowledge - building capacity Organisational culture - procedure for PPI Supplier's involvement - attraction of market - Lack of suppliers	
9	Smart MET POLICIES	PPI	ongoing	suppliers involvement; funding	lack of interest in innovation from suppliers	PL Relevance - European Governance - funding of PCP activities OL Supplier's involvement - attraction of market - Lack of interest from suppliers	
37	Pre-Commercial Procurement for Smart Energy and Intelligent Mobility Solutions POLICIES	PPI	The Pre-Commercial Public Procurement Procedure was undertaken to meet these objectives and stimulate innovation. The project aims to create and develop a culture of partnership and collaboration between innovators on both sides of the Alpine frontier, in order to improve their ability to compete effectively in international markets. The overarching objective was to explore new solutions to currently unsustainable local and renewable energy systems and traffic congestion by testing prototypes in real life situations.	The contracting authority emphasised the importance of a sound and consistent open dialogue with the market, citizens and end-users. It was also highlighted that attention must be given to meeting the provisions established in the EC Communication about Pre-Commercial Public Procurement (COM (2007) 799 14.12.2007), in order not to fall under a case of State Aid.		PL Relevance - Transnational Governance - European funding OL Organisational culture - internal organisation of PP - PCP Supplier's involvement - attraction of market - market dialogue; suppliers collaboration External stakeholders - Dialogue	
3	PIANOo.nl Dutch Public Procurement Expertise Centre, TOP ORG	PPI	Set-up agency to professionalise procurement and tendering in all government departments and provide advice; Online tendering system (TenderNed).	Government policy: Dutch Public Procurement Act. Dialogue between government contracting authorities and companies. Community of practice (experts and practitioners involved in PP). Produce and share knowledge and experience on PP process and on market. Creation of agency to professionalise PP critical to ensure quality and efficiency in government services; to stimulate the market for sustainable products. "Professional procurement means linking procurement to policy aims and budget". Combine efforts of Dutch government and regional and local authorities.		PL Relevance - national, mandatory Governance - policy mandate; combine efforts at national, regional and local level; agency for procurers professionalisation OL Responsibilities - top management support Strategy - aligning PPI with other policy goals Organisational culture - sharing PP processes Supplier's involvement - attraction of market External stakeholders - community of practice Knowledge - building capacity	SUCCESS FACTORS AT MACRO LEVEL - TOP LEVEL ORGANISATIONS Governance - policy mandate; combine efforts at national, regional and local level; agency for procurers professionalisation Governance - combine efforts at national level; specialised office to support procurers aggregate demand building capacity incomplete framework agreement

No	Action	Type PP	PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES	SUCCESS FACTORS AT MACRO LEVEL
19	RAKLI Procurement Clinic TOP ORG	PPI	Setting up a procurement clinic which uses open, interactive workshops to facilitate market dialogue between potential service providers, consultants, contractors and investors. (procurement clinic); pilot project	ERAKLI's role in arranging market dialogue has proved successful and as a result it has been used in several other ambitious procurement processes. The result of the project was a new operating model and a large amount of valuable knowledge gained in implementing outsourcing, which is applicable to other cities in the region.		PL Relevance - National Governance - combine efforts at national level; specialised office to support procurers OL Knowledge - implementing outsourcing Organisational culture - new operating model;pilot project Supplier's involvement - attraction of market - market dialogue (suppliers, consultants, contractors, investors)	
23	Centralised procurement of greener office supplies TOP ORG	GPP	framework agreement for office supplies	Centralised procurement; framework agreement ; Application of EU GPP criteria; Market analysis - assessment market conditions (products available); Experience to be shared/replicated elsewhere		PL Relevance - National OL Organisational culture - internal organisation of PP (GPP criteria, framework agreement) Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research	
30	A National Framework Contract for Green Dairy Products TOP ORG	SPP	open tender procedure to set up a national framework contract for dairy products, which began in October 2012. The aim was to supply around 350 kitchens in public organisations buying through the contract. Most of the criteria within the food product group were taken from the EU GPP criteria for Food and Catering Services. Principle procurement objectives included; the consideration of organic and non-GM products, the inclusion of smaller dairy producers from the region, deliveries within one working day and value for money. Specifications therefore aimed to encourage food production methods that are less harmful to the environment and the national contract was divided into 8 regional lots to facilitate the participation of SMEs.	Policy (national): The Austrian sustainable procurement action plan; Definition of a clear procurement strategy within BBG; early market analysis before tendering; working groups to decide upon the food criteria; Early market engagement activities included the BBG working groups holding discussions with dairy producers and associations to determine what the market was able to deliver - Involvement of stakeholders. The national contract was divided into 8 regional lots to facilitate the participation of SMEs.	Although the contract was divided into lots, smaller dairies were still not able to be competitive on price compared to larger companies. The latter are usually able to produce all items from the core list, which gives them the advantage of offering lower prices; Problems with more innovative products; Excessive requirements	PL Relevance - National Governance - policy mandate OL Organisational culture - procedure for PP - clear procurement strategy Procurement factors - market research Procurement factors - SME participation Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue	
31	Green Building Materials for a Fire Station in Lorüns TOP ORG	GPP	The service provided in Vorarlberg Environmental Association includes assistance with concepts for materials, construction and energy. In this case, the service provided included the definition of the technical specifications, selected from a database of GPP criteria (Baubook), planning and tendering phases . Environmental and legal checks were also performed on tenders and green criteria for each call for tender.	Lorüns was supported by the provincial GPP advisory service in the preparatory, planning, tendering and construction phases of the contract to build the municipal fire station. The service has proven particularly helpful for smaller local authorities that may not have the technical knowledge in green building or procurement to carry out sustainable construction or renovation projects.		PL Relevance - Regional OL Organisational culture - procedure for PP; GPP criteria Knowledge - building capacity	
36	ICT equipment and management services TOP ORG	GPP	Consip decided to set up an "incomplete" framework agreement as they felt that this would allow public bodies purchasing through the contract greater flexibility with their individual purchases, while ensuring compliance with Consip's minimum requirements.	Procurement strategy enabling flexibility (tender for service vs purchase product); Involvement stakeholders; Sustainability criteria contributed to the selection of brand new products on the market with low energy consumption, without increasing risks (litigations, delay of the procedure, formal complaints, etc.).		PL Relevance - National OL Organisational culture - internal organisation of PP - incomplete framework agreement; sustainability criteria (mandatory) Procurement factors - market research	

Table A.3. SUCCESS FACTORS AT MICRO LEVEL

No	Action	PP Type	PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES	SUCCESS FACTORS AT ORGANISATIONAL LEVEL – PRACTICES FOR PROCUREMENT OF INNOVATION
							GPP
1	GPP law	GPP	political support/enforcement	training/awareness	lack of experience	POLICY LEVEL (PL) Relevance - national, mandatory Governance - policy mandate ORGANIZACIONAL LEVEL (OL) Responsibilities - top management support Building capacity	Governance - policy mandate Responsibilities - top management support Knowledge - building capacity - internal knowledge - external support - practical guidance - market solutions - participation in European projects Strategy - aligning PPI with other policy goals; SPP policy Organisational culture - internal organisation of PP process - (GPP criteria, framework agreement; negotiated procedure; pilot project; LCC; joint procurement; pre-qualification+tender process; Contract monitoring; private companies partnership; integration into EMS) External stakeholders - community of practice External stakeholders - Consultation; Dialogue; definition of criteria Supplier's involvement - attraction of market - market dialogue Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research Procurement factors - needs analysis
11	Rental of low-carbon multifunction devices	GPP	PP process developed (criteria) open procedure	Learning about PP process. Organisational policy - Sustainable Procurement Strategy; Political support; external support (PT research institution); Community of practice. Funding from EU		PL Relevance - European Governance - funding of low carbon procurement activities OL Strategy - aligning PPI with other policy goals; SPP policy Responsibilities - top management support Knowledge - building capacity - external support Organisational culture - learning about PP process External stakeholders - community of practice	
12	building information Technologies	GPP	ongoing; expected: Reduction of the energy consumption	Internal knowledge; interaction with suppliers		PL Relevance - local OL Knowledge - building capacity - internal knowledge Supplier's involvement - attraction of market	
13	Environmental Policy Office	GPP	organisational policy implemented; specialised office; market development	Top management support; definition of a process for GPP; creation of a specialised office that supports procurement procedures; Flexible market engagement leading to market development	lack of suppliers	PL Relevance - national Governance - policy mandate; combine efforts at national and local level; specialised office to support procurers OL Responsibilities - top management support Organisational culture - procedure for GPP Supplier's involvement - attraction of market - Lack of suppliers	
18	ESCO procurement by the City of Vantaa	GPP	Energy efficiency of 14 buildings will be improved over the next eight years. Costs will be covered with the savings produced by the project within the agreed time. Negotiated procedure. Four negotiations were carried out with each tenderer, going through the targets, procurement principles, contract model, final invitation to tender, and comparison criteria. The selection of the comparison criteria was one of the biggest tasks. We worked hard in order to avoid overlapping subjects, which is so often complained about.; legal advice; contract management	Active debate with the board of members between meetings; extra support for my reasoning from energy efficiency specialist training that I was attending. Discussions with different stakeholders on the thoughts and experiences of ESCO procurement. Internal organisation of process; To promote innovative solutions from the participating companies, the notice didn't define what energy-saving calculation models should be used. Involvement different stakeholders; city of Vantaa did not want to restrict competition too much, all previous ESCO projects were accepted as references. In the end, the comparison criteria and their focus areas were selected so that they also supported the targets set for the project. The negotiated procedure challenges both the procurer and the supplier. It is important to gain mutual trust in order to achieve the desired end result. The number of different measures was not determined in advance, either. This will give the supplier freedom to choose the measures that are worth investing in. Dialogue with market; Management of negotiated procedure;	Cost criteria precluded more innovative solutions (The city required a savings guarantee of 100 % in the final call for tender. Due to this, the measures proposed in the tenders left out any innovative solutions. Budget will have some room for developing new solutions in the implementation stage).	PL Relevance - Local OL Organisational culture - internal organisation of PP process - negotiated procedure Responsibilities - top management support Supplier's involvement - Market dialogue Knowledge - building capacity - internal knowledge External stakeholders - Consultation	
22	Energy efficient lighting on Budapest's bridges	GPP	The technical specifications were in conformity with the core EU GPP criteria for street lighting	Policy: (local) regulation on GPP ;Application of EU GPP criteria	Limited number bids - why (availability of suppliers; requirements too high)?	PL Relevance - Local Governance - supported by local policy OL Organisational culture - internal organisation of PP (GPP criteria) Supplier's involvement - attraction of market - Lack of suppliers	
23	Centralised procurement of greener office supplies GPP	GPP	framework agreement for office supplies	Centralised procurement; framework agreement ; Application of EU GPP criteria; Market analysis - assessment market conditions (products available); Experience to be shared/replicated elsewhere		PL Relevance - National OL Organisational culture - internal organisation of PP (GPP criteria, framework agreement) Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research	

No	Action	PP Type	PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES	SUCCESS FACTORS AT ORGANISATIONAL LEVEL – PRACTICES FOR PROCUREMENT OF INNOVATION
25	Energy performance and maintenance contracts	GPP	Pilot initiative; Competitive dialogue procedure	Local policy: Rotterdam Climate Initiative. Involvement of suppliers; Definition of specifications based on detailed assessment of needs. this should be started well in advance of works in future and should be kept up-to-date. The project was a success and it will now be rolled out across the City.	Constraints due to resources scarcity (austerity)	PL Relevance - Local Governance - policy mandate; OL Organisational culture - procedure for PP ; pilot project Procurement factors - needs analysis Supplier's involvement - attraction of market	
26	Purchasing bio-based cleaning services	GPP	Open tender procedure	Policy (national): Polish Public Procurement Act (2004). Experience gained at local level	Need to better define needs and avoid confusion in terminology	PL Relevance - Local Governance - policy mandate; OL Procurement factors - needs analysis	
27	100% recycled paper for Bulgaria's Environment Ministry	GPP	pre-procurement analysis of market prices of recycled and non-recycled paper for printers	Policy support: National Action Plan on GPP. Practical guidance on GPP to practitioners. The pilot has shown that GPP does not necessarily mean spending more financial resources. This has helped to foster stronger political support for GPP in Bulgaria. As a result of the successful procurement, MEW has proposed to the recently established Central Purchasing Body in Bulgaria to procure fully recycled paper.		PL Relevance - National Governance - policy mandate OL Knowledge - building capacity - practical guidance Procurement factors - market research Organisational culture - procedure for GPP; pilot project	
29	CNG and hybrid buses: Alternative vehicles for a cleaner city	GPP	Open tender procedure; Life cycle costing: Emissions were considered as a cost of the pollutant emissions indicated in Table 2 of the Annex to Directive 2009/33/EC, on the promotion of clean and energy efficient road transport vehicles; the "Clean Vehicles Directive" (CVD).	Constant dialogue with suppliers; in-depth knowledge and understanding of the market, including all available solutions; Tender combining economic & environmental criteria (LCC); Experience: number & variety of projects		PL Relevance - Local OL Knowledge - building capacity - market solutions Organisational culture - procedure for PP; LCC	
31	Green Building Materials for a Fire Station in Lorüns	GPP	The service provided in Vorarlberg Environmental Association includes assistance with concepts for materials, construction and energy. In this case, the service provided included the definition of the technical specifications, selected from a database of GPP criteria (Baubook), planning and tendering phases. Environmental and legal checks were also performed on tenders and green criteria for each call for tender.	Lorüns was supported by the provincial GPP advisory service in the preparatory, planning, tendering and construction phases of the contract to build the municipal fire station. The service has proven particularly helpful for smaller local authorities that may not have the technical knowledge in green building or procurement to carry out sustainable construction or renovation projects.		PL Relevance - Regional OL Organisational culture - procedure for PP; GPP criteria Knowledge - building capacity	
33	Joint National Procurement of Electrical Vehicles in Sweden	GPP	Public and private entities in Sweden joined forces to conduct a national procurement of Electric Vehicles (EVs) and Plugin Hybrid Electric Vehicles (PHEVs). An invitation to participate was issued and interested parties worked together to define parameters for bidder qualification and the tender process. Two-step procurement procedure with a prequalification stage for bidders. 12 months later, two contracts for the purchase/lease of electric vehicles began. Two separate contracts had to be created to accommodate the different entities joining the procurement i) Electric vehicles 2011: Public bodies and ii) Electric vehicles 2011: Private organisations.	Process: joint procurement (good scale of demand and saving individual partners time and money, especially smaller stakeholders); Two-step procedure drew attention to the procurement from both national and international vehicle retailers; Need to understand the market and anticipate that smaller providers may have difficulties participating in tenders. Suppliers are not always used to public (joint) procurement so the tendering process and associated documents must be easy to follow. Stipulating requirements on the availability of service and maintenance was also deemed to be important.	<ul style="list-style-type: none"> Reaching an agreement on vehicle specifications was time-consuming and challenging due to the number of stakeholders involved and concerns over vehicle safety. The market for EVs is very immature and in general, demand is larger than supply. This made it hard to get lower prices or discounts in the joint procurement. 	PL Relevance - National OL Organisational culture - internal organisation of PP - joint procurement; pre-qualification+tender process Procurement factors - aggregate demand (centralised procurement) Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue; definition of criteria	
34	Electric vehicles for Stuttgart's Sewage Treatment Works	GPP	In this contract, Stuttgart have gone one step beyond the technical specifications required by the EU GPP criteria for vehicles and have replaced their mixed diesel and electric fleet with entirely electric vehicles. The 3-year contract covered the vehicles used at the Municipal sewage treatment plant. A tender document with specific requirements was drawn up after extensive market analysis.	The contract is currently being monitored by the tendering department at Stuttgart City Council. As an additional selection criterion the Municipality has suggested that including delivery time may be of benefit, as they have had to wait for fairly significant periods of time for each vehicle to be produced, due to the fact that they have been made to measure. Extensive market analysis	Not all manufacturers were able to meet Stuttgart City Council's technical specifications.	PL Relevance - Local OL Organisational culture - internal organisation of PP (GPP criteria, contract monitoring) Procurement factors - market research	
35	Recycled asphalt used for road resurfacing	GPP	Testing of full recycled asphalt by a group of private companies on public roads owned by the City State. After confirming the quality of the solution, a restricted tender procedure was conducted, with five companies invited to bid.	Pilot project to ensure quality of the solution; local (municipal) policies and also national policies to increase the proportion of waste recycled.		PL Relevance - Local Governance - local and national policies to stimulate recycling; OL Organisational culture - internal organisation of PP (private companies partnership; pilot project)	
36	ICT equipment and management services	GPP	Consip decided to set up an "incomplete" framework agreement as they felt that this would allow public bodies purchasing through the contract greater flexibility with their individual purchases, while ensuring compliance with Consip's minimum requirements.	Procurement strategy enabling flexibility (tender for service vs purchase product); Involvement stakeholders; Sustainability criteria contributed to the selection of brand new products on the market with low energy consumption, without increasing risks (litigations, delay of the procedure, formal complaints, etc.).		PL Relevance - National OL Organisational culture - internal organisation of PP - incomplete framework agreement; sustainability criteria (mandatory) Procurement factors - market research	

No	Action	PP Type	PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES	SUCCESS FACTORS AT ORGANISATIONAL LEVEL – PRACTICES FOR PROCUREMENT OF INNOVATION
38	Organising GPP through an EMS	GPP	Procurement criteria; Market analysis; Definition of technical specifications	Policy at local level : municipal environmental policy; Policy implementation mechanisms (EMS); GPP as component of EMS; Participation in European projects as a source of knowledge and experience. Support of top level management; Market knowledge; Definition of technical specifications	No country level GPP policy, which makes difficult to secure policy support	PL Relevance - Local OL Governance - policy at local level - municipal env. policy Organisational culture - internal organisation of PP - integration into EMS; GPP criteria Knowledge - building capacity - participation in European projects Responsibilities - top management support Procurement factors - market research	
8	PSAE	SPP	The implementation of this sustainable food strategic program brings several benefits such as: - Freshness of products; - Promotion of organic, local, seasonal fruits and vegetables; - Reduction of CO2 emissions associated to transport from the local of production to the place of delivery; - Near to zero waste; - Engagement of suppliers in this strategic sustainability program: environmental awareness and training, commitment of local producers and canteen employees. This program promoted the dialogue with the market and seek sustainable solutions. The awareness and communication of the municipal strategy among producers, suppliers, students, parents, employees and the general population play an important role for its implementation, engagement and commitment. Searching for innovative solutions, working in partnerships and involving the market has led to the promotion of healthier eating habits for students, reduction of food waste production and reduction of pollutants, resulting in environmental and social gains.	It has provided environmental gains, such as the reduction of food waste due to the optimization of the menu and the reduction of CO2 emissions associated to the daily deliveries of products (short distance). Moreover, it has also contributed to the reduction of product packaging. It also allowed for social and economic outcomes, such as the increase of local jobs (producers, suppliers, canteen employees and private social solidarity institutions), healthy eating habits and well-being of children, and the development of local agriculture and the local economy. This program promoted the dialogue with the market and seek sustainable solutions. The awareness and communication of the municipal strategy among producers, suppliers, students, parents, employees and the general population play an important role for its implementation, engagement and commitment. Searching for innovative solutions, working in partnerships and involving the market has led to the promotion of healthier eating habits for students, reduction of food waste production and reduction of pollutants, resulting in environmental and social gains.		PL Relevance - Regional/local OL Governance - policy mandate Strategy - aligning PPI with other policy goals - regional development, social goals Responsibilities - top management support Knowledge - building capacity - Organisational culture - learning about PP process; collaboration with suppliers and stakeholders Supplier's involvement - attraction of market - working with suppliers; training External stakeholders - partnerships; training	SPP Governance - policy mandate Responsibilities - top management support; Knowledge - building capacity - internal knowledge - external support - practical guidance - market solutions - participation in European projects Strategy - aligning PPI with other policy goals; SPP policy; regional development, social goals; strong sustainability ambitions Organisational culture - internal organisation of PP process - (GPP criteria, framework agreement; negotiated procedure; pilot project/testing; LCC; joint procurement; pre-qualification+tender process; Contract monitoring; private companies partnership; integration into EMS). collaboration with suppliers and stakeholders. communication with costumers; dialogue and communication throughout the process External stakeholders - community of practice External stakeholders - Consultation; Dialogue; definition of criteria. partnerships; training Supplier's involvement - attraction of market - market dialogue. working with suppliers; training. market dialogue prior to tender; early supply chain integration; knowledge in sustainable solutions; Market dialogue (open day; PIN); Encourage heterogeneous suppliers (i.e. social enterprises to participate) Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research Procurement factors - needs analysis Procurement factors - SME participation, unemployed Procurement factors - contract management Procurement factors - challenging specifications promoting innovation Procurement factors - Functional criteria - promoting PPI
14	Sustainable procurement of office materials in Ghent (Belgium)	SPP	By preferring awareness in paper and office supplies around GPP. All suppliers met the set requirements and offer at least 90% of the products asked for. Reducing emissions through the reduction of delivery frequency.	extensive market research; internal needs analysis; central purchasing body ; larger contract; market engagement Support 'from above' is needed (SPP policy of the City of Ghent) Opening contracts up for other entities to participate Communication with customers Setting up a start-up meeting with the selected supplier is strongly encouraged, followed by active management of the contract.	difficulties assessing the compliance of some products	PL Relevance - local OL Responsibilities - top management support Organisational culture - PP process Organisational culture - communication with costumers Procurement factors - market research Procurement factors - needs analysis Procurement factors - aggregate demand (central purchasing body) Procurement factors - SME participation Procurement factors - contract management Supplier's involvement - attraction of market	
15	Preparation and delivery of healthy and sustainable school meals	SPP	The successful bidder was a small enterprise, who, as a result of this contract has been able to focus their business entirely on sustainable food, and grow from four to 80 employees. In addition, four people, who could be classed as 'far from employment', are also being trained through 'social clause internships'. They will receive a maximum of 60 working days, at the rate of 38 hours per week spread over five days	Market dialogue prior to call for tender; analysis of user needs< Stakeholder involvement (suppliers; community); Inclusiveness (SME & unemployed), Definition of specifications challenging the market and encouraging innovation; changing demand through food education; Training of canteen workers; regular information to parents		PL Relevance - local OL Organisational culture - communication with parents Organisational culture - training canteen workers Procurement factors - needs analysis Procurement factors - aggregate demand (central purchasing body) Procurement factors - SME participation, unemployed Procurement factors - challenging specifications promoting innovation Supplier's involvement - attraction of market - market dialogue prior to tender External stakeholders - community	
16	Supply of sustainable concrete at the London Olympics	SPP	centralised procurement; open procedure?	Centralised procurement; early involvement of suppliers (along supply chain); Testing of products; Dialogue between suppliers, designers and contractors; Prior assessment of needs and market conditions. Definition of clear specifications.		PL Relevance - local OL Procurement factors - needs analysis (dialogue designers, contractors, suppliers) Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research Procurement factors - clear specifications Supplier's involvement - attraction of market - market dialogue prior to tender along supply chain	

No	Action	PP Type	PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES	SUCCESS FACTORS AT ORGANISATIONAL LEVEL – PRACTICES FOR PROCUREMENT OF INNOVATION
17	Reusing and refurbishing furniture in a new office - Public Health Wales (PHW)	SPP	open procedure: outcomes-based approach, functional criteria promoting innovation; involvement of suppliers; encourage participation of social enterprises	involvement of stakeholders (suppliers; potential users); Market dialogue; Encourage heterogeneous suppliers; Specifications only at functional level; Open procedure encourages innovation; Good communication strategy; Criteria beyond cost		PL Relevance - Regional OL Organisational culture - procedure for PP; dialogue and communication throughout the process Functional criteria - promoting PPI Supplier's involvement - Market dialogue (open day; PIN); Encourage heterogeneous suppliers (i.e. social enterprises to participate) External stakeholders - Consultation with stakeholders with disabilities	
30	A National Framework Contract for Green Dairy Products	SPP	open tender procedure to set up a national framework contract for dairy products, which began in October 2012. The aim was to supply around 350 kitchens in public organisations buying through the contract. Most of the criteria within the food product group were taken from the EU GPP criteria for Food and Catering Services. Principle procurement objectives included; the consideration of organic and non-GM products, the inclusion of smaller dairy producers from the region, deliveries within one working day and value for money. Specifications therefore aimed to encourage food production methods that are less harmful to the environment and the national contract was divided into 8 regional lots to facilitate the participation of SMEs.	Policy (national): The Austrian sustainable procurement action plan; Definition of a clear procurement strategy within BBG; early market analysis before tendering; working groups to decide upon the food criteria; Early market engagement activities included the BBG working groups holding discussions with dairy producers and associations to determine what the market was able to deliver - Involvement of stakeholders. The national contract was divided into 8 regional lots to facilitate the participation of SMEs.	Although the contract was divided into lots, smaller dairies were still not able to be competitive on price compared to larger companies. The latter are usually able to produce all items from the core list, which gives them the advantage of offering lower prices; Problems with more innovative products; Excessive requirements	PL Relevance - National Governance - policy mandate OL Organisational culture - procedure for PP - clear procurement strategy Procurement factors - market research Procurement factors - SME participation Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue	
3	PIANOO.nl Dutch Public Procurement Expertise Centre,	PPI	Set-up agency to professionalise procurement and tendering in all government departments and provide advice; Online tendering system (TenderNed).	Government policy: Dutch Public Procurement Act. Dialogue between government contracting authorities and companies. Community of practice (experts and practitioners involved in PP). Produce and share knowledge and experience on PP process and on market. Creation of agency to professionalise PP critical to ensure quality and efficiency in government services; to stimulate the market for sustainable products. "Professional procurement means linking procurement to policy aims and budget". Combine efforts of Dutch government and regional and local authorities.		PL Relevance - national, mandatory Governance - policy mandate; combine efforts at national, regional and local level; agency for procurers professionalisation OL Responsibilities - top management support Strategy - aligning PPI with other policy goals Organisational culture - sharing PP processes Supplier's involvement - attraction of market External stakeholders - community of practice Knowledge - building capacity	PPI Governance - policy mandate; funding of PCP activities; technical offices Responsibilities - top management support (council leaders) Knowledge - building capacity - internal knowledge - external support - practical guidance - market solutions and R&D- participation in European projects; implementing outsourcing; tools Strategy - aligning PPI with other policy goals; SPP policy; regional development, social goals; strong sustainability ambitions Organisational culture - internal organisation of PP process - new operating model (GPP criteria, framework agreement; negotiated procedure; pilot project/testing; LCC; joint procurement; pre-qualification+tender process; Contract monitoring; private companies partnership; integration into EMS). collaboration with suppliers and stakeholders. communication with costumers; dialogue and communication throughout the process; Pre-commercial actions; PCP; Organisational learning External stakeholders - community of practice External stakeholders - Consultation; Dialogue; definition of criteria. partnerships; training; sharing PP processes; dialogue; users Supplier's involvement - attraction of market - lack of suppliers - working with suppliers; training. market dialogue prior to tender; early supply chain integration; knowledge in sustainable solutions; Market dialogue (open day; PIN); suppliers, consultants, contractors, investors); Encourage heterogeneous suppliers (i.e. social enterprises to participate); cooperation among suppliers Procurement factors - aggregate demand (centralised procurement) Procurement factors - market research Procurement factors - needs analysis Procurement factors - SME participation, unemployed Procurement factors - contract management Procurement factors - challenging specifications promoting innovation Procurement factors - Functional criteria - promoting innovation
5	DEPATECH	PPI	6 lots of pre-commercial public purchase were tendered	PPI instrument at regional level (funding?) technical offices specialised in the management of Public Procurement for Innovation	lack of experience; lack of suppliers	PL Relevance - regional. voluntary Governance - policy mandate?(o que achas?) funding of PCP activities; technical offices OL Knowledge - building capacity Organisational culture - procedure for PPI Supplier's involvement - attraction of market - Lack of suppliers	
6	LABPOLE	PPI	22 lots of pre-commercial public purchase were tendered	PPI instrument at regional level (funding?) technical offices specialised in the management of Public Procurement for Innovation	lack of experience; lack of suppliers	PL Relevance - regional. voluntary Governance - policy mandate?(o que achas?) funding of PCP activities; technical offices OL Knowledge - building capacity Organisational culture - procedure for PPI Supplier's involvement - attraction of market - Lack of suppliers	
9	Smart MET	PPI	ongoing	suppliers involvement; funding	lack of interest in innovation from suppliers	PL Relevance - European Governance - funding of PCP activities OL Supplier's involvement - attraction of market - Lack of interest from suppliers	

No	Action	PP Type	PROCESS/RESULTS	SUCCESS FACTORS	DIFICULTIES	ANALYTICAL CATEGORIES	SUCCESS FACTORS AT ORGANISATIONAL LEVEL – PRACTICES FOR PROCUREMENT OF INNOVATION
19	RAKLI Procurement Clinic	PPI	Setting up a procurement clinic which uses open, interactive workshops to facilitate market dialogue between potential service providers, consultants, contractors and investors. (procurement clinic); pilot project	ERAKLI's role in arranging market dialogue has proved successful and as a result it has been used in several other ambitious procurement processes. The result of the project was a new operating model and a large amount of valuable knowledge gained in implementing outsourcing, which is applicable to other cities in the region.		PL Relevance - National Governance - combine efforts at national level; specialised office to support procurers OL Knowledge - implementing outsourcing Organisational culture - new operating model;pilot project Supplier's involvement - attraction of market - market dialogue (suppliers, consultants, contractors, investors)	
20	Renewable Heating Systems for Schools	PPI	Pre-procurement: A 4-stage procedure was chosen; consultation and dialogue with the market, a pre-commercial contest for innovative solutions, a development phase, and the final tenders, where solutions from the 3 earlier steps were purchased.	Early consultation /involvement of different stakeholders (research, suppliers, users, community?); Dialogue: definition of needs and identification of solutions available; Encourage cooperation between suppliers; Political support (council leaders); Pre-commercial actions generating innovative ideas; Organisational learning;		PL Relevance - Local OL Organisational culture - internal organisation of PP process - Pre-commercial actions; Organisational learning Procurement factors - needs analysis Responsibilities - top management support (council leaders) Supplier's involvement - attraction of market - market dialogue - cooperation among suppliers External stakeholders - Dialogue	
21	Framework agreement for zero-emission vehicles	PPI	pre-procurement activities, test phase, open tender, framework agreement with a single supplier of cars, vans and car administration services.	Policy: supported by /part of local environment policy; Dialogue with stakeholders (suppliers & users); Preparatory phase; test phase was also an important part of the City's (marketing) strategy. It served both to communicate to the market what is to be expected in the upcoming tender, and also to prepare the City's employees for the next generation of service vehicles. Preparation of the framework agreement: the City's procurement department entered into dialogue with all its major suppliers. Organisational learning; Experience to be shared/replicated elsewhere		PL Relevance - Local Governance - supported by local policy OL Organisational culture - internal organisation of PP process - organisational learning; pre-procurement activities; test phase Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue (users)	
24	Using LCA and CO2 performance to assess bidders	PPI	RWS aims to use green public procurement to challenge and encourage contractors and suppliers to provide added value through the delivery of sustainable working practices, green materials, energy efficiency and reduced carbon emissions. In order to achieve these objectives, RWS uses functional specifications for infrastructure projects, together with tools to gauge bidders' commitments to reducing carbon emissions within projects and to assess the life cycle environmental impacts of the materials they propose to use. These commitments and impacts are monetised within the award phase of the tender and quoted prices are adjusted accordingly. The methods aim to stimulate and utilise the market's creative capacities more efficiently and allow contractors to work in a targeted way towards better quality, more innovative solutions.	Policy (national): In 2010, the Dutch House of Commons decided that all public authorities in the Netherlands must implement 100% sustainable procurement as of 2015, which constitutes the inclusion of green criteria in all tenders; Process management: Functional criteria; procedures used by suppliers to improve quality of proposals; tools: LCA of materials proposed in tenders; CO2 performance to assess bidders: DuboCalc software.	Need for expertise in application of tools (training?)	PL Relevance - National, mandatory OL Knowledge - building capacity - tools Organisational culture - procedure for PP - process management Procurement factors - functional criteria	
28	Retrofitting trams for energy efficiency in Craiova	PPI	Definition of technical specifications informed by search for available solutions	CIVITAS Initiative, co-financed by the EU. Good awareness of available technical solutions/potential developments and innovation (R&D); Dialogue with different stakeholders; (political & scientific & market). Importance of consolidating the different perspectives of political, technical and scientific actors;		PL Relevance - Local Governance - EU financing program OL Knowledge - building capacity - market solutions and R&D Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue	
32	Green ambulance procurement in Stockholm	PPI	Early development of a vision for the procurement; Pilot study; Pre-procurement procedure followed by a negotiated procedure; early dialogue with manufacturers; dialogue with stakeholders (users);	Local policy (environment): Environment Step 5 with tangible environmental goals and progress reported annually; Early development of a vision for the procurement; Pilot study to examine the technical solutions available and the extra costs of finding an eco-friendly solution. Collaboration between Stockholm and the supplier was crucial to making the pilot project a success, not only setting new, tougher requirements, but also working with the supplier to find new solutions to meet those requirements.		PL Relevance - Local Governance - policy mandate OL Organisational culture - Procedure in PP; early development of a vision for PP process; pilot project; pre-procurement procedure+negotiated procedure Supplier's involvement - attraction of market - market dialogue External stakeholders - Dialogue	
37	Pre-Commercial Procurement for Smart Energy and Intelligent Mobility Solutions	PPI	The Pre-Commercial Public Procurement Procedure was undertaken to meet these objectives and stimulate innovation. The project aims to create and develop a culture of partnership and collaboration between innovators on both sides of the Alpine frontier, in order to improve their ability to compete effectively in international markets. The overarching objective was to explore new solutions to currently unsustainable local and renewable energy systems and traffic congestion by testing prototypes in real life situations.	The contracting authority emphasised the importance of a sound and consistent open dialogue with the market, citizens and end-users. It was also highlighted that attention must be given to meeting the provisions established in the EC Communication about Pre-Commercial Public Procurement (COM (2007) 799 14.12.2007), in order not to fall under a case of State Aid.		PL Relevance - Transnational Governance - European funding OL Organisational culture - internal organisation of PP - PCP Supplier's involvement - attraction of market - market dialogue; suppliers collaboration External stakeholders - Dialogue	

Table A.4. SUMMARY OF SUCCESS FACTORS AT MICRO LEVEL

ORGANISATIONAL LEVEL – PRACTICES FOR PROCUREMENT OF INNOVATION

GPP	SPP	PPI
Governance - policy mandate	Governance - policy mandate	Governance - policy mandate; funding of PCP activities; technical offices
Responsibilities - top management support	Responsibilities - top management support;	Responsibilities - top management support (council leaders)
Knowledge - building capacity - internal knowledge - external support - practical guidance - market solutions - participation in European projects	Knowledge - building capacity - market solutions	Knowledge - building capacity - market solutions and R&D –implementing outsourcing; tools
Strategy - aligning PPI with other policy goals; SPP policy	Strategy - aligning PPI with other policy goals; SPP policy; regional development, social goals; strong sustainability ambitions	Strategy - aligning PPI with other policy goals;
Organisational culture - internal organisation of PP process - (GPP criteria, framework agreement; negotiated procedure; pilot project; LCC; joint procurement; pre-qualification+tender process; Contract monitoring; private companies partnership; integration into EMS)	Organisational culture - internal organisation of PP process collaboration with suppliers and stakeholders. communication with costumers; dialogue and communication throughout the process	Organisational culture - internal organisation of PP process - new operating model pilot project/testing; collaboration with suppliers and stakeholders. communication with costumers; dialogue and communication throughout the process; Pre-commercial actions; PCP; Organisational learning
External stakeholders - community of practice		External stakeholders - community of practice
External stakeholders - Consultation; Dialogue; definition of criteria	External stakeholders - Consultation; partnerships; training	External stakeholders - Consultation; partnerships; training; sharing PP processes; dialogue; users
Supplier's involvement - attraction of market - market dialogue	Supplier's involvement - attraction of market - working with suppliers; training, early supply chain integration; knowledge in sustainable solutions ; Market dialogue (open day; PIN); Encourage heterogeneous suppliers (i.e. social enterprises to participate)	Supplier's involvement - attraction of market - lack of suppliers - working with suppliers; training; early supply chain integration; knowledge in sustainable solutions; Market dialogue (open day; PIN; suppliers, consultants, contractors, investors); cooperation among suppliers
Procurement factors - aggregate demand (centralised procurement)	Procurement factors - aggregate demand (centralised procurement)	
Procurement factors - market research	Procurement factors - market research	
Procurement factors - needs analysis	Procurement factors - needs analysis	Procurement factors - needs analysis
	Procurement factors - SME participation, unemployed	
	Procurement factors - contract management	
	Procurement factors - challeging specifications promoting innovation	Procurement factors - challeging specifications promoting innovation
	Procurement factors - Functional criteria - promoting innovation	Procurement factors - Functional criteria - promoting innovation

Annex II: Local Working Groups and regional workshops

GREENIN Local Working Group (LWG) Hungary

Methodology

IFKA identified the key stakeholders of the green public procurement for innovation topic. Based on this stakeholder analysis 3 meetings were determined in advance to be target specific enough to draw relevant conclusions:

LWG I.: policy maker's side including authorities and ministries responsible for smart specialization strategy, public procurement, green issues

LWG II.: main procurers and associations of SMEs side

LWG III: all interested parties = regional workshop including policy makers, procurers and SMEs

The 1st LWG meeting

The 1st LWG meeting was organized on 31th of January at the headquarters of IFKA. The main stakeholder groups at the meeting were ministries, authorities, councils, a consulting organization and an environmental association. Our aim was a knowledge exchange to examine their viewpoints about the topic from policy perspectives.

Invited partners:

Authority - Organisation	Role in the process
Authority for Public Procurement	responsible authority for public procurement http://www.kozbeszerzes.hu/english/
Prime Minister's Office	public procurement on ministerial level
ASSOCIATION OF ENVIRONMENTAL ENTERPRISES	companies' representation - mainly SMEs
Ministry of Agriculture	State Secretariat for Environmental Affairs (nature and environmental protection)
Ministry for Innovation and Technology	responsible for sustainability issues and circular economy
National Association of Local Municipalities	procurers with possible relevant good practices
National Research, Development and Innovation Office (NRDI Office)	S3 strategy aims to promote innovation
Hungarian Official Public Procurement Advisors' Association (HOPPAA)	knowledge and wide range of experience
Pest County Government Office	procurer's and strategy-side experience

Eventually at the event 11 representatives participated from the following organizations besides IFKA Green Economy unit:

- Ministry of Innovation and Technology,
- Authority for Public Procurement,

- Hungarian Official Public Procurement Advisors' Association (HOPAA),
- Hungarian Association of Environmental Enterprises.

The meeting started with presentation of IFKA and the GREENIN project in details including project objectives. Then every participant introduced the represented organisations after which an intensive and proactive dialogue started.



During this event we identified the **following issues and difficulties related to the GPPI in Hungary:**

- Hungarian legislation allows the GPP process, in 2012 there was even a decree drafted but never voted
- increasing number of GPP, but since there is no common definition – we could not know whether they are really green or not and it is based on self-declaration
 - o these numbers only refer to national PPs, no statistics for EU level procurements
- Confusion of concepts of green procurement and innovation.
- The process is very complex, there are not enough competence, practical knowledge and not even enough procurers in this field. Raising awareness is highly needed.
- No agreement on EU level either – sometimes green initiatives are considered to be restrictive for the market since it might hinder competition
- Green criteria in procurement are huge risks for the procurers – during audit processes some penalties might be given if the green issues are not properly detailed and verified. Some cases the control during the fulfilment of the procured service is the most questionable part – exactly how you can estimate and at the end measure CO2?
- In Hungary mainly 3 criteria are taken into account when making the decisions: price, expert knowledge and reference – it is the easy way
- LCA and LCC are good tools but the use is very difficult and there is not a uniform way how to integrate it to the procurement process
- If there was a law or decree in Hungary made GPP compulsory the market could react easily and adapt quite quickly.
- Lack of Hungarian GPP action plan
- There are good practices in other countries, but Hungarian experts do not know how others exactly can do it. Lack of concrete contract forms, call forms, public procurement documentations are not detailed enough to help them properly.
- In Hungary as an eligibility criteria you could not even mention any “green” criteria – too restrictive – and during audit and control process it will fail

- Procurers are mainly lawyers in Hungary, that is why all the procurement processes are done from legal perspectives. It is also hard for them to work with engineers and technicians but this could be a key to success.
- within EU now there is an opportunity for Member states to create knowledge platforms helping to meet the criteria of the circular economy package. Within this Peer-to-peer meetings could also be organized. Maybe one could be organized in the topic of green public procurement.

Recommendations, Proposals

- Intentions to cooperate even on ministerial, policy makers' level to move forward in this topic
- 2018 was the year of sustainable procurements in Hungary and it has been extended to 2019 as a priority project. A special website was created as a knowledge hub for GPP issues, this could be used to promote the Greenin project deliverables as well. Even an award was founded for the best GPP process by the authority for public procurements – this should be popularized constantly to make it are relevant acknowledgement on the market
- GPP legislation and the action plan should be compiled. The latter one is an obligation still failed to be done. The GPP legislation could give a boost to the GPPI as well
- The long term perspective should be the guiding point, now the short term focus is an obstacle for GPP and GPPI
- Good practices from foreign countries uploaded to the platforms of the EU should be detailed enough to learn from them – sample calls, contracts should be also available
- Peer-to-peer meetings organized in the topic of green public procurement – this need should be noted to the ministries
- In order to increase the knowledge of the experts:
 - o some incentives should be initiated: compulsory training more points could be given for GPP and GPPI trainings to make more experts fulfilling them
 - o even at universities some lessons should be devoted to this topic
- LCA, LCC and CO2 calculations should be uniformly accepted methods

The 2nd LWG meeting

The 2nd LWG meeting was organized 16th of April in the IFKA's meeting room, too. At the event 12 persons participated from the following organizations besides IFKA Green Economy unit. The target group in this case was the main procurers and associations of SMEs side:

- Hungarian Innovation and Efficiency Nonprofit Ltd.
- Hungarian Cleaning-technology Association
- Municipality of Budapest
- Pannon Pro Innovations
- Hungarian Association of Environmental Enterprises
- Hungarian Official Public Procurement Advisors' Association
- DATAFLY Consulting Ltd.



IFKA tried to collect concrete practical experiences. Unfortunately, some of invited representatives from the main procurer organizations could not come to the meeting (big transportation companies: MAV, BKK) But the legal representative of Municipality of Budapest attended the meeting and they are in connection with the public service providers of the capital city – with great experience. HOPAA also participated in this meeting because they have many ideas and experiences in GPPI.

The discussed main topics, practices and problems related to GPPI were the following:

- Budapest Municipality several good practices
 - o Green Public Procurement Strategy is under preparation
 - o Targeted trainings - Public service companies, procurement and subject level discussions
 - o They joined several international networks (EUROCITIES, Covenant of Mayors)
- Eco-friendly cleaning service label was created by the Hungarian Cleaning-technology Association
 - o used to justify an environmentally friendly cleaning method
 - o spot checks every year
 - o 3-year audit
 - o can be acquired for a specific area (eg office), not general
 - o If the customers had the expectation to have it, the companies would be encouraged to acquire that, but currently there is no demand
- General missing elements in case of purchases:
 - o strategic view,
 - o knowledge of basic definitions
 - o contract fulfilment control on the bidding side
 - o consequences, lessons learned from the conclusions when the contractual relationship ends
 - o feedback on the preparation of the new public procurements → this is how the circularity could be managed
- Expensive LCA and LCC software – difficult to understand the results – hindering the wider applications

- At the moment the purchase price is relevant, not total cost including planning, implementation, operation, maintenance → different long-term perspective should be needed
- GPPI have to be based on legislation
- Participants should be more engaged –more aware of their role and importance
- Concrete detailed documentation is needed with data, real information to get some insight how it is done in other countries
 - o in case of the Big Buyers' Platform not legal experts were delegated, so when a case is introduced, you could not ask concrete legal questions
- Good example is the vehicle directive – clear calculations
- Measurement: you could only estimate e.g.: the CO2 emission during a construction, no concrete numbers, hard to evaluate

At the end one interesting question was made by one of the participants:

In Hungary, EU controls, audits are more frequent because we are a country utilizing EU funds. Maybe green public procurement good practices – what work abroad - could not really be introduced under such an EU control microscope?

Recommendations, proposals:

- Compulsory legislation with clear definitions – vehicle directive should be also examined
- Agreement with European Commission could be a zero step: what we can do legally and what not. Common agreement what could work, what criteria are hindering competition, what could be applied.
- In case of companies maybe we should start at smaller purchases – the low hanging fruits - and due to the success the green process could be extended to public procurement
- more dissemination activities to the stakeholders
- Concrete documentation is needed with data - in case of the Big Buyers' Platform legal representatives should be present to be able to answer questions
- options beyond public procurement
 - o Pre-qualification system - tightening the membership of the different Chambers
 - o standards
 - o fostering the use eco-labels
- Even a Visegrad Group 4 countries – Czech Republic, Hungary, Poland and Slovakia - joint forum could be a good solution due to similarities of countries – to identify common issues, problems and finding answers together

The 3rd LWG meeting = regional workshop

Regional workshop held in Budapest, 29th May 2019 with 35 participants. Together with the National Association of Public Procurement Consultants, we identify the construction sector where some progress would be really needed due to the effect and size of PPs. We invited the policy makers as well to give an overview what is the case on strategic level in GPPI and through the association we invited construction – mainly road – companies to a dialogue what could be added to the public procurement to make them more sustainable and what could not work in Hungary.

Main topics of the meeting:

- Understanding GPP and PPI procedures, by national experts and policy makers (Deputy State secretariat and authority level)
- Regional experience on PPI, by a representative of the procurers and audit experience
- Enterprise experience – how to make the construction sector more sustainable through public procurements

Policy makers, public procurement consultants and experts, and representatives of companies, bidders, and small and medium-sized enterprises attended the event from the construction sector.

In the first half of the event, after the welcome speech, Dr. Kretter Diána, Deputy State Secretary for Public Procurement in the Prime Minister's Office, spoke about green public procurement for innovation emphasising the importance of cooperation in this field. Then Dr. Ágnes Hubai, President of the National Association of Public Procurement Consultants, gave an overview of green public procurement legislation and the main problems of its application. After this, Dr. Dencső Balázs, Director General of the European Directorate General for Audit, shared the audit experience with the interested parties so far. The section was closed by Dr. László Kovács, Secretary General of the Public Procurement Authority, who presented the authority's work on sustainable public procurement in his presentation.

The second half of the event was led by Dr. Gábor Paksi, Member of the Board of the National Association of Public Procurement Consultants and Head of the Green Public Procurement Working Group, who talked about how environmental aspects of public procurements could appear in the construction sector. There was a round table discussion and exchange of knowledge and experience between the participants, which was the main goal of the event resembling Greenin project goals. Participants were very proactive, sharing their experiences, ideas and opinions openly on green public procurement. The EU GPP criteria for Road Design, Construction and Maintenance was discussed in details which one of these could be built into the Hungarian tenders.

Regional workshop

Sustainable public procurement solutions in the construction sector

Date:

29th of May 2019
8:30 – 14:00

Location:

Millenary Park – Building B
Elektromobility Showroom
1024 Budapest, Kis Rókus u. 16.

8:30 – 9:00	Registration
9:00 – 9:40	Welcome speech and introduction of Greenin project and of IFKA <i>Eszter Tanka, Head of Green Economy unit – IFKA Public Benefit Non-profit Ltd. for the Development of Industry</i>
9:40 – 10:00	GPP in legislation and the problems and issues of the application <i>Ágnes Dr. Hubai President– Hungarian Official Public Procurement Advisors' Association (HOPPAA)</i>
10:00 – 10:20	Audit experience in relation to GPP <i>Balázs Dr. Dencső Director General – Directorate General for Audit of European Funds</i>
10:20 – 10:40	Public Procurement Authority of Hungary and its activities related to Green Public Procurement <i>László Dr. Kovács General Secretary – Public Procurement Authority of Hungary</i>
10:40 – 11:00	Coffee break
11:00 – 11:20	Green opportunities in the public procurements of the construction sector <i>Dr. Paksi Gábor head of the GPP working group - Hungarian Official Public Procurement Advisors' Association (HOPPAA)</i>
11:00 – 13:00	Round table discussion – sharing knowledge, experience, determining hindering factors, ideas <i>Moderator: Ágnes Dr. Hubai and Gábor Dr. Paksi</i>
13:00 – 13:30	Summary, conclusions
13:30 –	Lunch





Main conclusions of the meeting:

The feedbacks from the participants were really positive regarding the project itself and the events – both from company side and on policy side, as well.

The main conclusion on policy level is that they also foster cooperation in this field, they are ready to answer questions regarding concrete tendering documents how could one green aspect could be included in a way to be approved and accepted at the end of the audit process.

It was highlighted that similar forums are needed to discuss the experience and knowledge in this field and to share views how the theory could be applied in practice. That is why the involvement of companies, suppliers is crucial.

Several partnerships were created due to the project. Even IFKA started a cooperation with the Budapest Municipality and the Hungarian Official Public Procurement Advisors' Association (HOPPAA). We applied for a Climate KIC pathfinder project – what was approved in June - in which until the end of this year we could further analyse the situation of GPP here in Hungary identifying promoting and hindering factors. We will work together with the public service providers of Budapest to see how we could progress and to create a roadmap at the end. It is a great continuation of the tasks and objectives of Greenin project and a great opportunity to demonstrate all the project results to the Hungarian stakeholders, as well.

GREENIN

Local Working Group (LGW) Portugal

LGW Structure

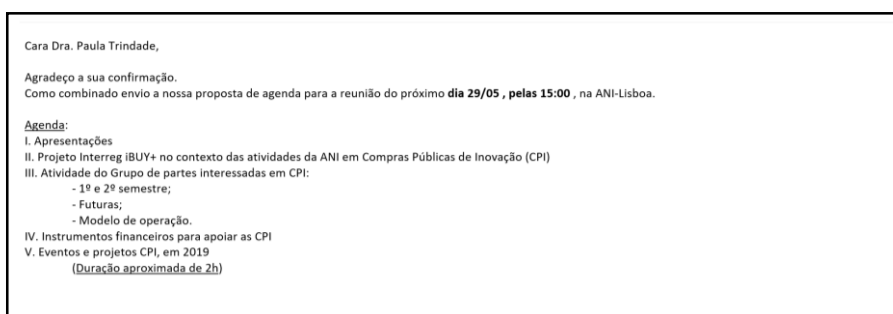
	Authority - Organisation	Role
1	LNEG - National Laboratory of Energy and Geology	Since 2003 LNEG (the National Laboratory of Energy and Geology) has implemented several initiatives concerning GPP, SPP and PPI in Portugal, through European projects (GreenMed; Pro-EE, Smart-SPP, Building –SPP, GPP 2020). Additionally, LNEG offers services on GPP, SPP and PPI that can entail the development of procurement processes with special characteristics (environmental, social, innovation aspects), comprehensive approaches to organizations, as the development of GPP/SPP/PPI strategies, tools and methodologies and tailored training activities.
2	ANI – National Innovation Agency	Responsible for the Innovation in Portugal at policy level
3	FCT – Fundação da Ciência e Tecnologia	Responsible for R&D activities in Portugal
4	ESPAP - National Procurement Agency	Responsible for the National Action Plan on Green Public Procurement
5	APA – National Environment Agency	Responsible for the National Action Plan on Green Public Procurement
6	IMPIC - Institute of Public Markets, Real Estate and Construction	Responsible for the National Action Plan on Green Public Procurement A ANI e o IMPIC - Instituto dos Mercados Públicos, do Imobiliário e da Construção formalizaram, no passado dia 4 de dezembro, um Protocolo de Colaboração para as Compras Públicas de Inovação (CPI). O acordo visa a promoção de um quadro estratégico para as CPI, contribuir para o desenvolvimento de um centro de competências nesta área, bem como explorar instrumentos financeiros para apoiar o setor.
7	SPMS – National Procurement Agency in Health Sector	Responsible for the National Action Plan on Green Public Procurement; interest in Procurement for Innovation activities.
8	DGPM - Directorate General of Performance Management	Currently running a PCP project
9	CCDRC – Commission for Regional Coordination and Development of Centro Region	Responsible for RIS3 Centro; actually running a project with 19 local/regional authorities in circular procurement
12	CCDR Alentejo – Commission for Regional Coordination and Development of Alentejo Region	Responsible for RIS3 Strategy Alentejo

LGW Activities

First meeting: ANI premises, Campus IAPMEI, Lisboa, 29th May 2019

Participants: ANI – National Innovation Agency / LNEG - National Laboratory of Energy and Geology / IMPIC - Institute of Public Markets, Real Estate and Construction / SPMS – National Procurement Agency in Health Sector / FCT – Fundação da Ciência e Tecnologia / CCDRC – Commission for Regional Coordination and Development of Centro Region / CCDR Alentejo – Commission for Regional Coordination and Development of Alentejo Region

This meeting was organised by ANI, together with LNEG, to discuss PPI in Portugal at policy level. Thus, the participants shared initiatives in Portugal related with PPI, as well as worked out a shared definition on GPP and PPI. Existing and future programs to finance PPI activities were also discussed. ANI presented a European pilot project to develop a Competence Centre on PPI in Portugal. Possible measures at political level to promote PPI were discussed, although at a very incipient level. LNEG presented the GREENIN project and it was decided that the GREENIN DOP will be used not only to define political measures for PPI, but also to design the Competence Centre on PPI.



Regional workshop held on Torres Vedras, 5th July 2019

Participants: CCDR Centro, LNEG, Centro Hospitalar da Universidade de Coimbra, CIM Médio Tejo, CIM Oeste, CIM RC, CIM RL, CIM VDL, CM Famalicão, CM Fundão, CM Seia, Instituto Politécnico Coimbra, Instituto Politécnico Viseu, Universidade da Beira Interior.

The event was organised by CCDR Centro, together with LNEG, with the participation of 14 local authorities from Centro region. The framework for this meeting was the Regional Agenda for Circular Economy of Centro Region, which is linked to the RIS3 Regional Strategy. Within this framework, the CCDR Centro is developing the Green Deal Centre pilot project.

This project was inspired in the Green Deal Circular Procurement developed in the Netherlands. It involves an agreement with the participating 14 local authorities from Centro region which committed to implement two procurement procedures integrating Circular Economy principles. Additionally, the CCDR Centro aims to develop a community of practice within these 14 local authorities to share experiences.

One of the participants, the Municipality of Torres Vedras, is organising meetings with suppliers of food & catering, together with LNEG.

Regional workshop held on Coimbra, 16th July 2019

Participants: CCDR Centro, LNEG, Centro Hospitalar da Universidade de Coimbra, CIM Médio Tejo, CIM Oeste, CIM RC, CIM RL, CIM VDL, CM Famalicão, CM Fundão, CM Seia, Instituto Politécnico Coimbra, Instituto Politécnico Viseu, Universidade da Beira Interior.

The event was organised by CCDR Centro, together with LNEG, with the participation of the 14 local authorities participating in the Green Deal Centre pilot project. This meeting aimed at working with these local authorities in food and catering procurement procedures, including the involvement with relevant food and catering suppliers.

GREENIN Local Working Group (LGW) Extremadura (Spain)

LGW Structure

Extremadura	Responsible for
Consejería de Medio Ambiente y Rural, Políticas Agrarias y Territorio	Extremadura Verde 2030
Secretaría General de Ciencia, Tecnología e Innovación	Innovation Policy
FUNDECYT-PCTEX	Smart Specialisation Strategy (Technical Office)
Consejería de Sanidad y Políticas Sociales – General	Health
Confederación hidrográfica del Guadiana	Environment: water
Diputación Provincial de Badajoz / PROMEDIO	Environment: water
Diputación de Cáceres	County investments
Ayuntamiento de Badajoz	Municipal investments
Ayuntamiento de Cáceres	Municipal investments
CICYTEX	Research infrastructures (agriculture)
INTROMAC	Research infrastructures (raw materials)
COMPUTAEX	Research infrastructures (ICT)
Universidad de Extremadura	Research infrastructures (transdisciplinary)
CCMIJU	Research infrastructures (health)

LGW Activities

First meeting: held on PCTEX Badajoz, 12th December 2018

Participants: Diputación Provincial de Badajoz / INTROMAC / CICYTEX / Junta de Extremadura - Oficina Técnica RIS3 (FUNDECYT-PCTEX) / Junta de Extremadura - Secretaría de Ciencia y Tecnología / Asistencia Técnica Compra Pública Innovadora

Confirmed interest: Ayuntamiento de Cáceres / PROMEDIO / Consejería de Medio Ambiente – Extremadura Verde 2030 / FUNDESALUD / COMPUTAEX / CCMIJU / Ayuntamiento de Badajoz / Junta de Extremadura – Dirección General de Sanidad y Políticas Sociales

Agreements:

- ✓ Identification of Good Practices on GPPI (contribution to GREENIN questionnaire)
- ✓ Contributions to GREENIN DOP

- ✓ Regional workshops among procurers and regional enterprises. Proposal for the workshop: Identification of innovation needs by procurers, invitation to regional enterprises for B2B confidential meetings, and plenary session (regulations promoting SMEs participation on GPPI and business case presentation). Proposed date: 9th of April

Regional workshop held on PCTEX Badajoz, 14th May 2019

The event was organised following the conversations with the local stakeholders of the LGW, resulting in the definition of challenges for three of the participants:



The screenshot shows the GREENIN website interface. At the top, there is a navigation menu with 'Inicio', 'Retos', 'Soluciones', and 'Eventos'. Below the navigation, the title 'Retos planteados en GREENIN' is displayed. Three challenge cards are shown, each with a logo, a title, a description, and two buttons: 'Descargar PDF' and 'Proponer Solución'.

- Fundación Centro de Cirugía de Mínima Invasión 'Jesús Usón'**: Mejora en nuevas robóticas disponibles en el mercado, principalmente en laparoscopia y miniinvasión.
- DIPUTACIÓN DE BADAJOZ**: Utilización de las tecnologías Blockchain y Big Data para el desarrollo de servicios avanzados de Administración Local en la Administración Local.
- PROMEDIO**: Botonera para transmitir el estado de llenado de los contenedores de residuos. / Mejora en IPI-C.

The workshop included plenary sessions and B2B meetings between enterprises and the three regional challenges' proposers. The sessions included:

- Understanding PPI procedures, by a national expert
- Regional administration experience on PPI, by a representative of the procurers
- Enterprise experience on PPI, by a business owner awarded with a PPI contract



The screenshot shows the 'GREENIN Taller Compra Pública Innovadora Agenda' page. It includes contact information and a detailed agenda for the event on May 14, 2019.

GREENIN
Taller Compra Pública Innovadora
Agenda

Fecha: Martes, 14 Mayo 2019
Lugar: FUNDECYT PARQUE CIENTÍFICO Y TECNOLÓGICO DE EXTREMADURA
Avda. Elvas, s/n, Edif. Parque Científico y Tecnológico, 06071 Badajoz
Contacto: María García Rosa, 924014600-281

10:00h	Presentación de nueva ayuda CDTI para Compra Pública Innovadora
10:10h	La compra pública innovadora verde (CPIV): claves para entenderla y aplicarla. Dra. Carmen de Guerrero Manso, Profesora de la Fac. de Derecho de la Universidad de Zaragoza
10:50h	Experiencia práctica de una Administración licitante de CPI, en los proyectos MECAOLIVAR e INNOLIVAR. D. Jesús Antonio Gil Ribes, Catedrático de la Universidad de Córdoba – D. Jesús Ignacio Gil, Gestor del proyecto Innolivar
11:30h	Experiencia práctica de una empresa participante en licitaciones de CPI. D. Francisco Castrejón, Director de Desarrollo de Negocio de ISOTROL
12:00h	Encuentros bilaterales entre empresas y órganos de contratación (reservado a aquellas empresas que hayan propuesto soluciones a los retos planteados en Retos GREENIN)

Total participants to the event: 20

Total meetings between enterprises and challenges' proposers: 4 meetings (PROMEDIO challenge), 3 meetings (Diputación de Badajoz) and 1 meeting (CCMIJU).

As results of the meetings several proposals have been submitted to a national PPI call.

