REGIONAL GUIDEBOOK

on Circular Procurement

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Introduction

The project CircPro (Smart Circular Procurement)[1] aims at promoting the transition to a more circular economy related national and regional decision-making by increasing the implementation of the circular procurement. The project is funded by Interreg Europe Program (European Regional Development Fund) and it gathers 11 partners from 9 EU regions and Norway.

Main barriers that hinder the systematic implementation of the circular procurement are general lack of knowledge and expertise, procedural and legal barriers, and procurers´ preconceptions about using, as well as lack of, recycled materials. CircPro tackles the challenge to analyse whether Circular Economy (CE) principles and Circular Procurement (CP) criteria could be included into the regional Policy Instruments as a general principle or as an award criterion to encourage applicants to systematically implement CPs.

The project also focuses on exchange of experience within and between regions, at regional level by interacting with key stakeholders (procurers, suppliers, Academia, decision-makers and other valid parties) in regional stakeholders' groups, and at interregional level by organizing interregional stakeholders' meetings for fostering the interregional learning.

One of the main project outputs of the project is the development of 10 Regional Guidebooks including region-specific overviews and supporting material for the regional decision-makers, procurers and suppliers on circular procurement procedures and practices. The aim of these guidebooks is to:

i. Raise the awareness of the regional stakeholders on the emerging needs of CP application, recent trends and developments;
ii. Analyse the obstacles faced by procurers while implementing the real CP in their entities; and
iii. Provide tools and suggestions to them on how to implement the CP in an effective and efficient way also by boosting the involvement and participation of the regional companies in the circular procurement process.

1 www.interregeurope.eu/circpro/

This latter outcome will be achieved by an ad-hoc project tool, the "Joint Method for involving companies in the circular procurement process", that is outside the scope of this document.

These 10 Regional Guidebooks would support further CircPro activities implementation, incorporating the strategic level to establish practice and policies of municipalities and towns' procurement processes.

CHAPTER I - Circular Procurement as an Emerging Concept in EU

1.1. Circular Economy concepts and political framework in EU

The current linear "take-make-dispose" economic system is based on limitless economic growth and requires large quantities of natural resources. As a result of this current system, the planet's natural resources are being depleting which will only increase with the growth of global population if we continue business as usual.

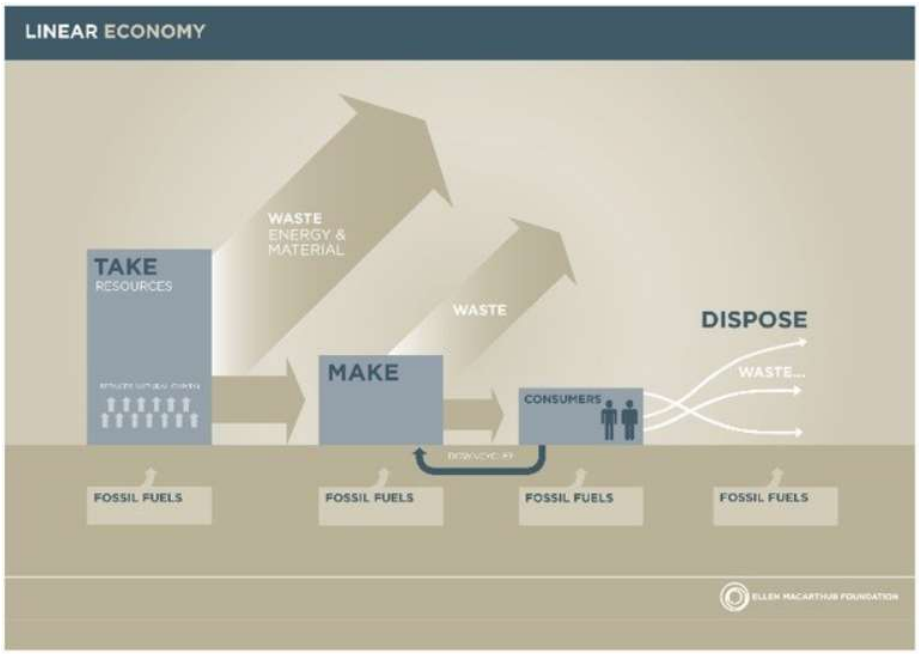

Fig. 1: The linear economy as portrayed by Ellen MacArthur Foundation
(Source: https://www.ellenmacarthurfoundation.org/circular-economy/concept)

In 2011 the EU Commission[2], acknowledged that the pressures on resources were increasing and that continuing with the usual patterns of resource use was not an option. As a result, the EU Commission started putting emphasis on the need to develop new products and services and find new ways to reduce inputs, minimize waste, improve management of resource stocks, change consumption patterns, optimize production processes, management and business methods, and improve logistics.

2 COM (2011) 21 final, Communication from the Commission to the EU Parliament, the Council, the EU Economic and Social Committee of the Regions, A resource-efficient Europe – Flagship initiative under the Europe 2020 Strategy, 26 January 2011.

This circular economy model proposed by the EU follows three principles:

1. Design out waste and pollution;
2. Keep products and materials in use; and
3. Regenerate natural systems.

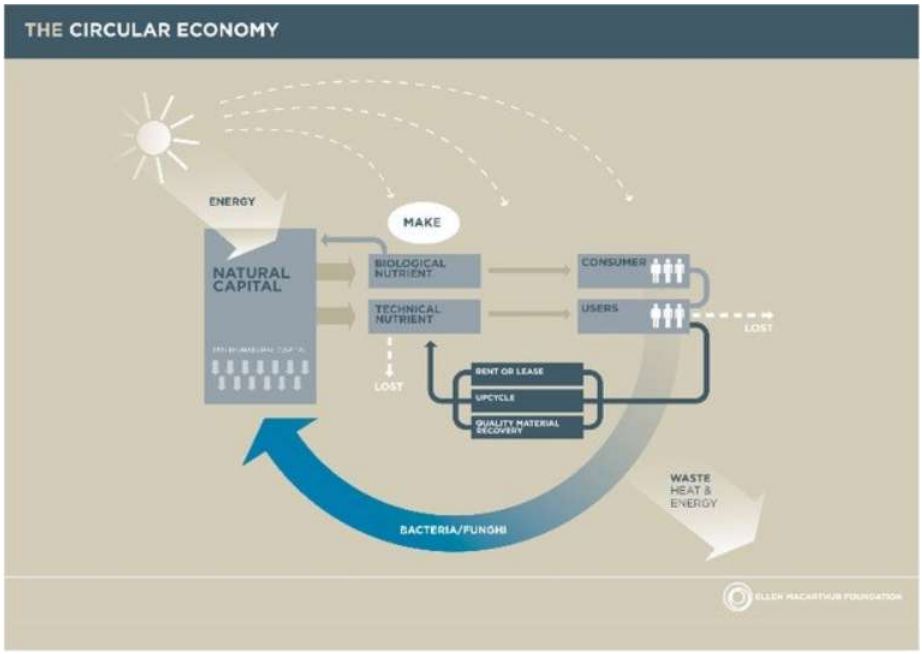

Fig. 2: The circular economy as portrayed by Ellen MacArthur Foundation
(Source: https://www.ellenmacarthurfoundation.org/circular-economy/concept)

But the transition from linear to circular economy is not immediate though, it rather requires full systematic change throughout value chains and innovation not only in technologies, but also in organization, society, finance trends and policies.

To achieve this approach, a policy mix capable to optimize synergies and address trade-offs between different areas was needed. Amongst others, it was suggested that increasing recycling rates would reduce the pressure on demand for primary raw materials, help to reuse valuable materials which would otherwise be wasted and reduce energy consumption and greenhouse gas emissions from extraction and processing. Before getting to recycling, attention was on the life-cycle, which means on the entire value chain.

Circular economy focus is on resource flows more than on products, as it comes out from the policy pathway that has eventually brought to the definition of a circular economy strategy and to its transposition into a circular economy package at European level.

Based on this strategy, the EU Commission set a coordinated roadmap for guaranteeing a long-term framework for action in many policy areas, supporting agendas for climate change, energy, transport, industry, raw materials, agriculture, fisheries, biodiversity and regional development. A number of medium-term measures were considered, including "a strategy to make the EU a circular economy, based on a recycling society with the aim of reducing waste generation and using waste as a resource".

The EU overall vision at the basis of the roadmap was defined as follows:

> *"By 2050 the EU's economy has grown in a way that respects resource constraints and planetary boundaries, thus contributing to global economic transformation. Our economy is competitive, inclusive and provides a high standard of living with much lower environmental impacts. All resources are sustainably managed, from raw materials to energy, water, air, land and soil. Climate change milestones have been reached, while biodiversity and the ecosystem services it underpins have been protected, valued and substantially restored*".

Given the vision, resource efficiency was identified as the route allowing the economy to create more with less, using resources in a way to minimize their impacts on the environment.

Changing the consumption patterns of economic operators and public purchasers was preliminarily necessary, as useful to generate direct net cost savings and increase demand for more resource-efficient services and goods.

In such a scenario, even waste was expected to become a resource to be fed back into the economy as a raw material to the utmost extent possible.

These policies were resumed by the EU Commission in 2014[3], as further developed in the Seventh Environment Action Program (7th EAP)[4].

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3 COM (2014) 398 final/2, Communication from the Commission to the EU Parliament, the Council, the EU Economic and Social Committee and the Committee of the Regions, Towards a circular economy: A zero waste programme for Europe, 25 September 2014.

4 Decision No. 1386/2013/EU of the EU Parliament and of the Council of November 2013 on a General Union Environment Action Programme to 2020 "Living well, within the limits of our planet".

"Whereas economies have developed a take-make-consume and dispose pattern of growth - that is a linear model based on the assumption that resources are abundant, available, easy to source and cheap to dispose of - moving towards a more circular economy was deemed essential to deliver the resource efficiency agenda established under the Europe 2020 Strategy for smart, sustainable and inclusive growth".

In this, circular economy definitively keeps the key principles characterizing green economy, while developing a systematic view though. Such understanding is clearly confirmed by the EU Commission, which considers circular economy as a way to address green growth.

Fig. 3: Green growth and circular economy
(Source: https://ec.europa.eu/environment/green-growth/index_en.htm)

At the very end, the idea behind green economy and circular economy is quite the same, on the assumption that the environment has natural limits in terms of how much it can provide and absorb, with a basic difference though.

"Instead of accepting the linear model as it is and trying to replace polluting elements with greener ones, circular economy looks at innovating production and consumption models in their deployment".

Ultimately, any circular economy approach aims the same goal: design out waste and typically involve innovation throughout the entire value chain, rather than relying solely on solutions at the end of life of a good.

Any approach of Circular Economy includes: reducing the quantity of materials required to deliver a particular service; lengthening products' useful life; reducing the use of energy and materials in production and use phases; reducing the use of materials that are hazardous or difficult to recycle in products and production processes; creating markets for secondary raw materials; designing products that are easier to maintain, repair, upgrade, remanufacture or recycle; developing the necessary services for consumers in this regard; incentivizing and supporting waste reduction and high-quality separation by consumers; incentivizing separation, collection systems that minimize the costs of recycling, and reuse; facilitating the clustering of activities to prevent by-products from becoming wastes; encouraging wider and better consumer choice through renting, lending or sharing services as an alternative to owning products, while safeguarding consumer interests.

This vision was consolidated in 2015 with the EU Circular Economy Action Plan[5] which aiming at setting the conditions for closing the loop and making residuals not discharged into the environment but reusing in the economy or using to produce secondary raw materials.

Later, on December 2019 the EU Commission presented the EU Green Deal[6], a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all.

The EU Green Deal covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries such as steel, cement, ICT, textiles and chemicals, and provides a roadmap with actions to boost the efficient use of resources by moving to a clean and circular economy, and stop climate change, revert biodiversity loss and cut pollution.

This Green Deal is an integral part of this Commission's strategy to implement the United Nation's 2030 Agenda and the sustainable development goals.

5 COM (2015) 614 final, Communication from the Commission to the EU Parliament, the Council, the EU Economic and Social Committee and the Committee of the Regions, Closing the loop – An EU action plan for the Circular Economy 2 December 2015.

6 COM (2019) 640 final, Communication from the Commission to the EU Parliament, the EU Council, the Council, the EU Economic and Social Committee and the Committee of the Regions, The EU Green Deal, 11 December 2019.

Fig. 4: Sustainable Development Objectives (SDOs)
(Source: https://sdgs.un.org/2030agenda)

As part of the Green Deal, the Commission favours the United Nations' sustainable development goals to put sustainability and the well-being of citizens at the centre of economic policy and the sustainable development goals at the heart of the EU's policymaking and action[7].

The circularity criteria in public procurement has a relevant role to play in the pursuit of the goals set out in the 2030 Agenda for Sustainable Development, specifically Goal 12, which provides a specific target for promoting sustainable public procurement practices.

Lastly, on March 2020 the European Commission released a new Circular Economy Action Plan[8], which is one of the main blocks of the European Green Deal.

This new action plan announces initiatives along the entire life cycle of products. It targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.

According to the new Circular Economy *Action Plan as of 2021 the European Commission plans to propose minimum mandatory Green Public Procurement (GPP) criteria and phase in compulsory reporting to monitor the uptake of GPP.*

7 https://sustainabledevelopment.un.org/post2015/transformingourworld

8 https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

1.2. The role of public procurement in EU circular economy transition

In this previous context, integration of circular economy requirements into public procurement has been expressly mentioned amongst the implementation actions, all under the heading of circular procurement, which has been so introduced as neologism in the field of procurement.

The public procurement is no longer recognized as a mere administrative procedure to purchase goods, services or work, but rather as a tool for achieving strategic goals.

As such public procurers can truly be a role model and drive transition to circular economy. Every year public authorities spend around 14% of GDP on the purchase of services, works and goods and in many sectors public authorities are the principal purchasers. That is why, especially in times of strained national budgets, procurement could be a powerful tool for spending public money in an efficient, sustainable and strategic manner.

In particular, as recently emphasized by the EU Council, public buyers should use their purchasing power strategically to obtain better value for money and support the transition to a greener, more innovative and circular economy, in particular by investing in sustainable infrastructure, in reusable, recyclable, repairable, and resource efficient products and in the renovation of public buildings to improve their sustainability and optimise life cycle costs in particular in target sectors where public demand has a significant impact, such as medicinal products, medical devices or IT, also taking into account considerations about resilience, risk management and security of suppliers[9].

According to the EU Council, public authorities should invest in the expertise and in the professionalization of public buyers, for example of Central Purchasing Bodies and reinforce the capacity of public buyers in order to address green and circular solutions.

To achieve innovative and sustainable procurement member states and other Institutions of the European Union should promote cooperation between public buyers within and among the Member States and set-up joint strategies while bearing in mind the specific needs

9 EU Council Conclusions, "Public Investment through Public Procurement: Sustainable Recovery and Reboosting of a Resilient EU Economy" Brussels, 25 November 2020.

and interests of SMEs including setting platforms that allow interactions between buyers and suppliers for better sourcing strategies.

The Commission and the Member States should cooperate in developing guidelines and criteria through a common methodology to support the public sector in sourcing through transparent, reliable, flexible, and diversified supply chains with the aim to strengthen the European economy, and reduce strategic dependence on third countries, especially in certain sectors of the European economy which are crucial for the functioning of public services and public health care, e.g., medicinal products and medical devices[10].

Moreover, the Public Procurement Directives provide for strategic procurement possibilities that nonetheless, despite their potential benefits, are not sufficiently used at the moment.

A change of approach is definitively needed and a broad collaborative partnership among national, regional and local authorities, the EU Commission, businesses and stakeholders is expected in this direction[11].

In consideration of that, the EU Commission strongly encourages demand driven strategies and in fact in its website provide information about GPP and SPP as well as procurement methodologies, support, education material, best practices and learning events[12]. In addition, the EU Commission has already prepared specific guidance tools for procurers on circular procurement[13].

The vision is that, starting from systematic implementation of green procurement criteria, the application of circular approaches to public procurement could really lead to considerable results not only in terms of reduced environmental impacts, but also in terms of effectiveness and efficiency of public spending.

10 EU Council Conclusions, "Public Investment through Public Procurement: Sustainable Recovery and Reboosting of a Resilient EU Economy" Brussels, 25 November 2020.

11 COM(2017) 572 final, Communication from the Commission to the EU Parliament, the Council, the EU Economic and Social Committee and the Committee of the Regions, Making Procurement work in and for Europe.

12 https://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm.

13 EU Commission, Public Procurement for a Circular Economy – Good Practice and Guidance, 2017.

To this end, six strategic priorities shall be followed:

1) Ensuring wider uptake of strategic public procurement;
2) Professionalizing public buyers;
3) Improving access to procurement markets;
4) Increasing transparency, integrity and better data;
5) Boosting of the digital transformation of procurement; and
6) Cooperating to procure together.

For the sake of circular procurement, ensuring wider uptake of strategic public procurement results even more relevant[14]*: "Strategic public procurement should play a bigger role for central and local governments to respond to societal, environmental and economic objectives, such as the circular economy. Mainstreaming innovative, green and social criteria, a more extensive use of pre-market consultation or qualitative assessment (MEAT) as well as procurement of innovative solutions at the pre-commercial stage requires not only a highly competent pool of procurers but above all policy vision and political ownership".*

In this context, various procurement concepts have emerged to promote more sustainable consumption of public sector. The main concepts that are used now are sustainable procurement, green public procurement, innovation procurement and circular procurement. These are sometimes used simultaneously as synonyms, even though there are many similarities, there are also some differences. In the following chapter these concepts are explained and linkages between them are described.

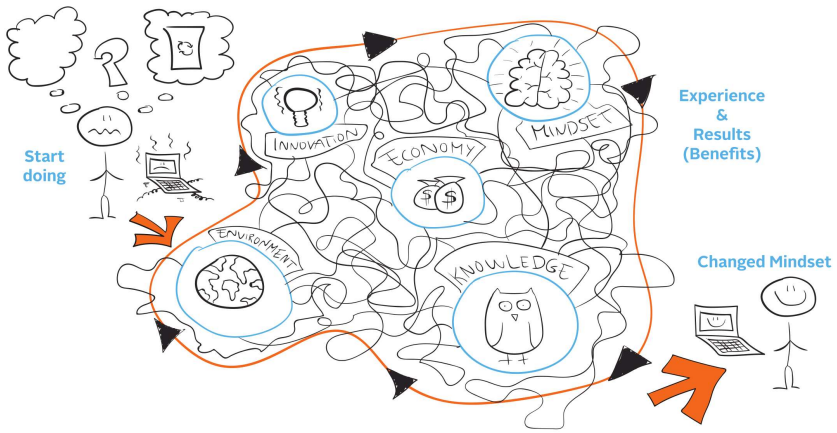


Fig. 5: The roadmap to Circular Public Procurement
(Source: Circular PP project co-financed by Interreg Baltic Sea Region[15]*)*

14 COM (2017) 572 final, cit (page 8).
15 http://circularpp.eu/

Sustainable Public Procurement (SPP)

SPP is the broadest concept.

Sustainable Public Procurement is a process by which public authorities seek to achieve the appropriate balance between the three pillars of sustainable development (economic, social and environmental) when procuring goods, services or works at all stages of the project.

Economic aspect (especially saving financial resources) is an important goal of all public procurement, but sustainable procurement also takes into account both environmental and social aspects. For example, the procurement of catering services aims to reduce the environmental impact by asking for organic food and requiring waste (both packaging and food waste) prevention measures. In addition, the social criterion requires both fair trade food and the involvement of disabled and / or unemployed people.

Thus, sustainable procurement is used by both public and private sector organisations to ensure that their purchasing reflects broader goals linked to climate change, social responsibility, human rights, resource efficiency, and economic resilience. Additionally, to procure in a sustainable way involves looking beyond short-term needs and considering the longer term impacts of each purchase.

Green Public Procurement (GPP)

Green Public Procurement is part of sustainable procurement, which only covers environmental aspects, but not social and/or societal aspects and criteria.

GPP means that public authorities seek to purchase goods, services and works with a reduced environmental impact throughout their lifecycle compared to goods, services and works with the same primary function which would otherwise be procured.

Circular Procurement (CP)

Circular Procurement can be defined as the process by which public authorities purchase work, goods or services that seek to achieve closed energy and material loops whilst minimising, and in the best case avoiding, negative environmental impacts and waste creation across their whole lifecycle.

CP initiatives can be seen as part of the GPP and/or SPP although having a clear focus on a procurement of goods, services and sys-

tems that lead to extended lifespans, value retention and/or remarkably improved and non-risky cycling of biological and technical materials, compared to other solutions for a similar purpose in the market[16].

This can be achieved through the promotion of products designed to last longer, with materials that can be upcycled, and by focusing on the use of the products and associated services rather than on their ownership[17].

As Circular Procurement is aimed at reducing environmental impact, all Circular Procurement is also Green Public Procurement, but not all Green Public Procurement is Circular Procurement.

For example, those GPP which criteria are aimed at reducing noise or increasing biodiversity, are not directly circular.

At the same time, it is difficult to draw a specific line, as different environmental criteria are often used in procurement and there is no clear definition of what exactly is a Circular Procurement: whether one criterion is enough or whether a broader circular approach is needed in the procurement process.

However, as circular procurement are often not only for purchasing just products, but may affect the whole product/service system or supply chain, it can therefore be aimed at procuring innovative solutions, which would make such processes innovation procurements.

As such CP can significantly stimulate demand for products and services that are made according to circular economy principles and support the new and innovative circular business models and related networks. Therefore, the CP can be seen as a strategic instrument that plays important role in the transition towards circular economy.

Innovation Procurement (IP)

IP does not have an explicit focus on sustainability, but it has a potential to address sustainability challenges.

Innovation procurement (IP) allows the purchase of innovative, new and emerging products (or sometimes services), especially in areas such as information technology, drones, medical products or military equipment.

16 CIPRON, 2017: Circular Public Procurement in the Nordic Countries, Project Report, TemaNord 2017:512.

17 Local Governments for Sustainability, ICLEI, 2017.

Innovation procurement can involve buying the process of innovation, or buying the outcomes of innovation. Innovation procurement thus contributes to the design of new products.

In this sense, there may be strong links between innovation and sustainable performance where, for example, new technologies extend the lifetime of a product therefore reducing the need of replacing it in the short term, or where better access to information translates into public services being provided more effectively and inclusively.

Innovation procurement may, but not always, overlap with circular, sustainable and green procurement.

If the innovation achieved in the procurement helps to reduce the environmental impact or is aimed at procuring circular products or services, then it is also an (green) circular procurement. If additional social aspects have been taken into account in the procurement, then the procurement is already sustainable.

Procuring innovation that leads to increased sustainability through the inclusion of environmental and social criteria provides an important contribution to ongoing sustainability commitments such as the SDGs that specifically mention sustainable public procurement.

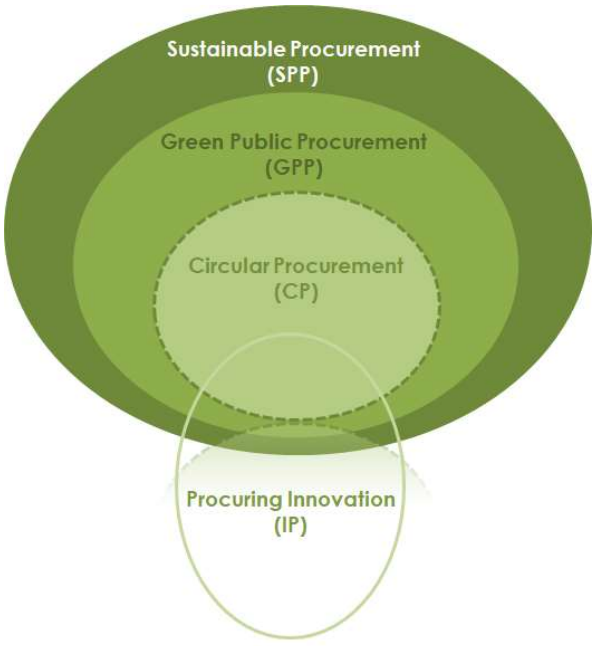


Fig. 6: Links between different procurement concepts
(Source: prepared by Andalusian partner)

In conclusion, it can be argued that Green Public Procurement is often also defined as Sustainable Public Procurement, but Sustainable Public Procurement is a slightly broader concept, including social aspects.

However, Circular Procurement is again a slightly narrower concept than Green Public Procurement, focusing mainly on material and energy efficiency and waste prevention and reduction.

If the product or service procured is clearly innovative, it is an Innovation Procurement that may or may not be sustainable, green and/or circular at the same time.

Circular Public Procurement has been realised in different forms and different sectors (e.g. construction, waste management, food and catering as well as certain product groups such as furniture textiles). It is possible to define different procurement categories or approaches to circular procurement. One is clear, a circular procurement process has a broader scope than just placing the order for a product.

The focus of the circular procurement approach can shift from better quality in circular terms to new and innovative products and services, new business models and finally to the creation of circular ecosystems.

The choice of the focus in the circular procurement depends on the procurement strategy, ambitions and priorities of the authority or public organisation.

Therefore, it is important that public organisation has defined its strategic view and ambition concerning the circularity and how it can be integrated into existing procurement practices before it starts with circular procurements.

The procurers should also understand the critical points within the procurement process and what influence the public authority would like to have on bidders. This helps to define the scope of the procurement and choice of the procurement approach they would like to follow.

The approaches to circular public procurement can be grouped/categorised as follows (based on CIPRON, 2017):

Procurement of improved products and services by adding GPP-based "circular criteria"

Circular procurement can be promoted by adding "circular criteria", i.e. criteria for recyclability, reuse of materials, use of recycled materials, etc. This means buying improved products and services, such as paper made from 100% recycled material.

Some of these criteria that support circular elements can be found in the GPP criteria palettes or eco-labels. This may be considered the simplest way or the first phase of buying in a circular manner.

Procurement of new & innovative products, services & materials promoting circular economy-based business

Public procurement could provide conditions that stimulate innovative solutions/products and create new business and markets for new products. Such products are remarkably better in terms of recyclability, recycled materials, disassembly, long lifespan, etc. These are products/services that are commercialised but have not been on the market for a long time, or products that would be developed as a result of the procurement process. This approach highlights the procurer's ability to conduct an innovative procurement process. Examples of such products are textiles with 100% recycled content or building components made of recycled plastic.

Procurement of services and new business concepts

This approach involves more performance-based procurement and procurement of services instead of products. Such procurements give the producers/service providers the possibility to retain greater control over the items they produce/offer and the embodied energy and materials, thus enabling maintenance, reconditioning and recovery. The procurers usually benefit from this type of procurements, as they only pay for the service they require and use, and often receive a better service as the producer/service provider has a greater interest in providing a product that lasts. Examples of such new business models are product-service systems, leasing concept, shared use, buy-per-use and buying and selling back. More traditional examples include furniture leasing and car hiring. New thinking is needed for buying services instead of products, e.g. lighting for the next 30 years instead of lamps.

Procurement promoting industrial symbiosis and circular ecosystems

This approach addresses the investments and creation of specific circular co-operation networks, industrial symbiosis schemes and other circular ecosystems that call for commitment from different stakeholders. Circular ecosystems could be efficient platforms in supporting closed loops and creating net-works in which the waste or excess energy from one actor would be used as a raw material/input for another. Examples include buses using locally produced bioenergy, or construction sites that utilise waste material from other processes.

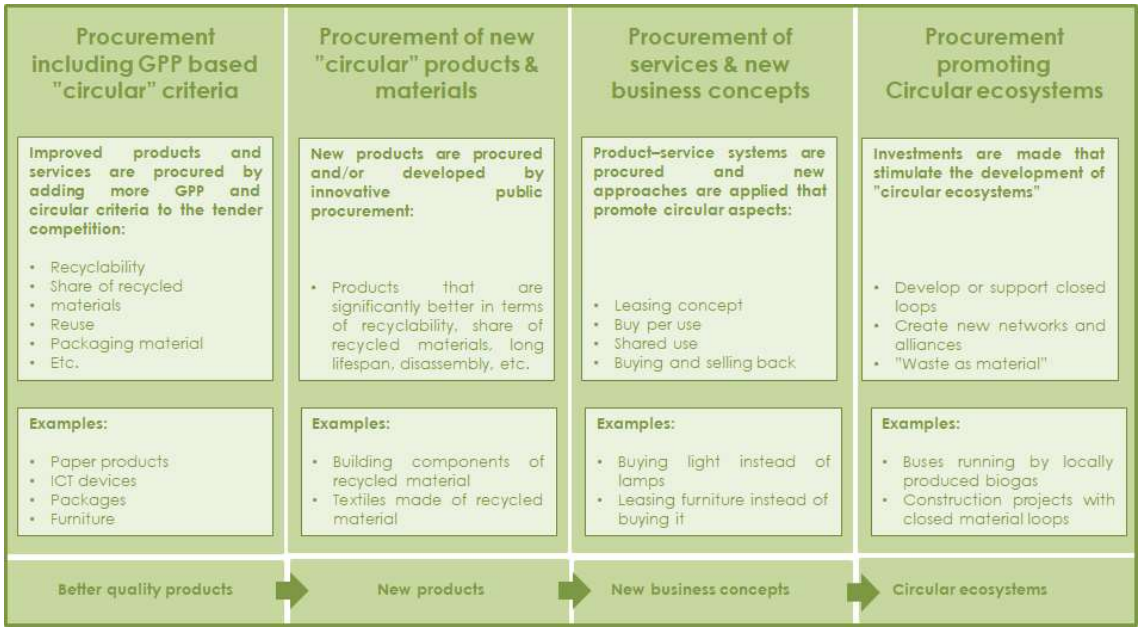


Fig. 7: Four approaches of Circular Procurement
(Source: Circular Public Procurement in the Nordic Countries, 2017)

1.3. The European programs supporting the implementation of Circular Procurement

The EU supports the uptake of the new, green, innovative and circular procurement practices and this is highlighted in several EU programs supporting and financing the implementation of Circular Procurement initiatives. The main objectives of these EU programmes is to encourage the circularity in purchasing decisions, helping to apply environmental considerations from the very beginning of the procurement procedure and develop holistic understanding of environmental impacts and waste creation across the whole life-cycle of goods and services.

In order to support this transition to circular economy, the EU Commission has called for a commitment at all levels, from Member States, regions and cities, to businesses and citizens from the publication of the 2015 EU Action Plan on Circular Economy. To facilitate transition acceptance, the EU Commission has then promoted a number of research programs and capacity building initiatives promoting systemic change. In order to rethink our ways of producing and consuming, and to transform waste into high value-added products, new technologies, processes, services are needed and business models capable to shape the future of our economy and society are expected.

The development of a circular economy definitively requires public and private sources of financing to scale-up improved technologies and processes, develop infrastructure and increase cooperation[18]. In this sense, Europe is making a lot first of all by means of its cohesion policy[19].

The EU Commission has adopted on March 2020 the new Circular Economy Action Plan[20] "For a cleaner and more competitive Europe" to increase recycling and reuse of products in the EU. This new action plan is due to speed up the EU's transition towards a circular economy by strengthening EU industry, helping fight climate change and preserving the EU's natural environment. The new Action Plan announces initiatives along the entire life cycle of products, targeting for example their design, promoting circular economy processes, fostering sustainable consumption, and aiming to ensure that the re-

18 Joint Public Procurement and Innovation: Lessons Across Borders
19 https://ec.europa.eu/regional_policy/en/faq/
20 COM (2020) 98 final, Communication from the Commission to the EU Parliament, the EU Council, the Council, the EU Economic and Social Committee and the Committee of the Regions, A new Circular Economy Action Plan – For a cleaner and more competitive Europe, 11 March 2020.

sources used are kept in the EU economy for as long as possible. It introduces measures targeting areas where action at the EU level brings real added value.

In September 2020, the European Commission presented another initiative named "2030 Climate Target Plan". With this initiative, the Commission proposes to raise the EU's ambition on reducing greenhouse gas emissions to at least 55% by 2030. The Commission's proposal sets Europe on a responsible path to becoming climate neutral by 2050. The new proposal delivers on the commitment made in the Communication on the European Green Deal to put forward a comprehensive plan to increase the European Union's target for 2030 towards 55% in a responsible way. It is also in line with the Paris Agreement objective to keep the global temperature increase to well below 2°C and pursue efforts to keep it to 1.5°C. The impact assessment accompanying the proposal prepares the ground for adapting climate and energy policies to help decarbonise the EU economy[21].

In the investment framework for 2014-2020, significant funding has been devoted to improved recycling, improved waste management, resource and energy efficiency, strengthening the bio-economy, novel solutions in product design, new business models. In addition, resource efficiency becomes part of other cohesion policy priorities, following a horizontal commitment to sustainable development.

On this line, Interreg Europe and Interreg Central Europe programs[22][23], financed by the European Regional Development Fund (ERDF) for 2014-2020 are addressed to three types of beneficiaries: public authorities; managing authorities/intermediate bodies; agencies, research institutes, thematic and non-profit organizations. Some of the projects supported by these programmes are the following, among them, the CirPro project:

21 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12265-2030-Climate-Target-Plan
22 https://www.interregeurope.eu/
23 https://www.interreg-central.eu

Project	Objectives
Interreg CENTRAL EUROPE PPI2Innovate	PPI2INNOVATE[24] targets directly public procurers on all administrative levels in central Europe with the aim to build regional capacities in PPI to change attitude towards PPI, to strengthen linkages among relevant stakeholders in regional innovation systems and to finally boost usage of PPI.
GPP4Growth Interreg Europe	GPP4GROWTH[25] aims to support public authorities to seize new opportunities for using their purchase power to stimulate eco-innovation, resource efficiency and green growth, mostly by using new award criteria in calls and tenders that pay particular attention to environmental considerations. More specifically the project aims to: increase the capacity of regional administrations to effectively implement resource efficiency policies, applying green public procurement; improve the implementation of national/regional resource efficiency policies, providing incentives to businesses to integrate environmental factors and costs when producing goods and/or providing supplies, services and works; unlock regional/national investments on green public procurement to promote the development of new green products and services; improve regional actors' readiness and create knowledge awareness on the of green public procurement on the adoption of sustainable consumption and production patterns by business operating in the region.
SYMBI Interreg Europe	SYMBI[26] aims to contribute to improve the implementation of regional development policies and programs related to the promotion and dissemination of Industrial Symbiosis and Circular Economy. SYMBI general objective is to empower regions to build sustainable economies, resilient environmental pressures and climate change. The project supports the implementation of policy instruments and measures for the diffusion of industrial symbiosis, to add value, reduce production costs and relieve environmental pressures through increased resource efficiency and green-house gas emissions. Through the development of these activities, SYMBI: encourage regional waste transformation systems; promote the use of secondary raw materials and the emergence of regional secondary raw materials market; prioritize green public procurement; unlock investments by regional and local financial actors; explore, assess, expand, and enhance current practices in ecosystems of industrial innovation; raise public awareness on industrial symbiosis and circular economy
CircPro Interreg Europe	CIRCPRO[27] aims at increasing the implementation of circular procurement under the targeted policy instruments so that the circular economy principles and criteria are incorporated or taken into account as a horizontal principle. CircPro targets the circular procurement from different approaches that have different levels of complexity: all of which facilitate closed loops, but where the focus shifts from better quality products to new and innovative products and new business concepts.

24 https://www.interreg-central.eu/Content.Node/PPI2Innovate.html
25 https://www.interregeurope.eu/gpp4growth/
26 https://www.interregeurope.eu/symbi/
27 https://www.interregeurope.eu/circpro/

Horizon 2020[28] is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. By coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation.

The Horizon 2020 work program already included a major initiative, "*Industry 2020 in the circular economy*", granting over €650 million for innovative demonstration projects supporting the objectives of circular economy and industrial competitiveness in the EU in a wide range of industrial and service activities, including process industries, manufacturing, and new business models[29].

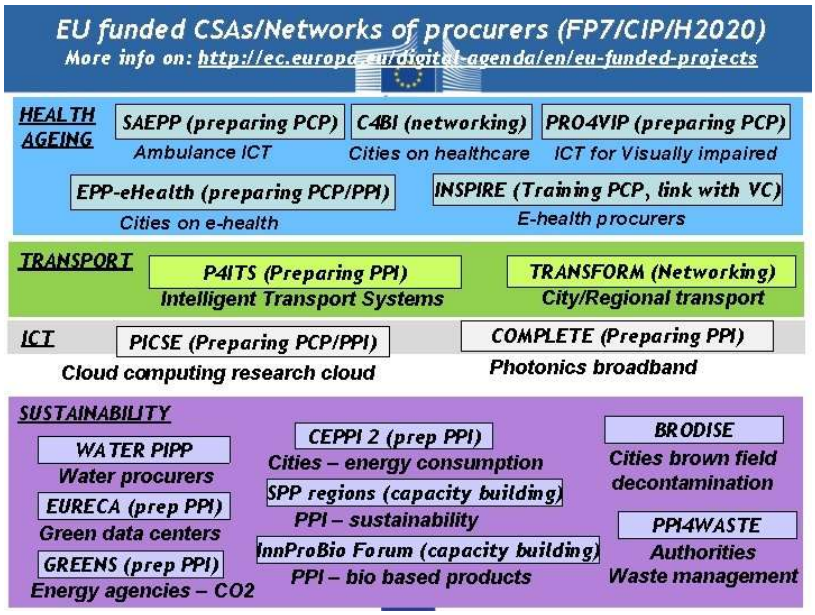


Fig. 8: Pre-Commercial Procurement (PCP) and Public Procurement of Innovative solutions (PPI) projects in EC Policies
(Source: https://digital-strategy.ec.europa.eu/en)

It particularly explored a pilot approach to help innovators facing regulatory obstacles (e.g. ambiguous legal provisions), by setting up agreements with stakeholders and public authorities (so called 'innovation deals'). This initiative adds to a wide range of existing Horizon

28 https://ec.europa.eu/programmes/horizon2020/what-horizon-2020.

29 Some examples of successful projects: CEPPI 2 (prep PPI) Cities –energy consumption; WATER (PIPP) Water procurers; EURECA (prep PPI) Green data centers; HAPPI (PPI) Heing; PRO-LITE (PPI) Cities/Metro Lighting; SPEA (PPI) Sustainable buildings; INNOBUILD (PPI) Sustainable buildings; GREENS (prep PPI) Energy agencies –CO_2; and PPI4WASTE (Authorities Waste management).

2020 programs supporting innovative projects relevant to the circular economy, in fields such as waste prevention and management, food waste, remanufacturing, sustainable process industry, industrial symbiosis, and bio-economy[30].

Amongst others projects which have received funding from Horizon 2020, the project SPP Regions is particularly noteworthy.

SPP Regions[31] aimed at promoting the creation and expansion of European regional networks of municipalities working together on sustainable public procurement (SPP)[32] and public procurement of innovation (PPI). The 7 networks involved in the project regional networks collaborated directly on tendering for eco-innovative solution, whilst building capacities and transferring and knowledge through their SPP and PPI activities.

On September 2020, the European Commission launched the last and biggest call under Horizon 2020, the European Green Deal Call[33], a €1 billion call for research and innovation projects aiming for discernible results to be delivered in eight thematic (1) Increasing climate ambition; 2) Clean, affordable and secure energy; 3) Industry for a clean and circular economy; 4) Energy and resource efficient buildings; 5) Sustainable and smart mobility; 6) Farm to fork; 7) Biodiversity and ecosystems; and 8) Zero-pollution, toxic-free environments) and two horizontal areas (1) Strengthening knowledge; and 2) Empowering citizens).

The LIFE program[34] is the EU's funding instrument for the environment and climate action. LIFE contributes to the implementation, updating and development of EU environmental and climate policy and laws by co-financing projects with European added value. The LIFE program is divided into two sub-programs, one for environment (representing 75% of the overall financial envelope) and one for climate action (representing 25% of the envelope). The LIFE program is making an important contribution to Europe's transition away from a linear economic model. Since the beginning of the seven-year multiannual financial framework in 2014, LIFE has further increased its support for circular economy-related actions.

30 Horizon 2020 R&I projects supporting the transition to a circular economy: https://ec.europa.eu/research/environment/index.cfm?pg=output&pubs=thematic

31 http://www.sppregions.eu/about-spp-regions/

32 http://ec.europa.eu/environment/gpp/versus_en.htm

33 https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1669

34 https://ec.europa.eu/easme/en/life

Among the projects funded under the LIFE scheme, REBus (Resource Efficient Business Models)[35] has been dedicated to illustrate how public procurement can enhance circular business models. The project supported procurement departments, users and suppliers of goods and services 'think circular' and about how to retain value of materials within the supply chain from the very first request for a product or service through to an intensive market dialogue on the solutions needed. This notably includes the possibilities for reuse and recycling of the materials on offer.

COSME is the EU program for the Competitiveness of Small and Medium Sized Enterprises (SMEs) running from 2014 to 2020. The COSME program addresses four main objectives: ease access to finance for SMEs by providing loan guarantees and risk capital (access to finance); help companies access new markets, within and outside the EU (access to markets); create a business-friendly environment by reducing the administrative burden on SMEs (improving conditions for businesses); encourage an entrepreneurial culture (encouraging entrepreneurship). The Executive Agency for Small and Medium-Sized Enterprise (EASME) manages the parts of the COSME work program addressing access to markets, improving conditions for businesses and encouraging entrepreneurship on behalf of the European Commission. Financial instruments under access to finance are managed by the European Investment Fund (EIF).

In addition to the abovementioned programs, there are a lot of initiatives at European level that support circular economy, such as the following EU Platforms:

Platform	Objectives
European Circular Economy Stakeholder Platform	European Circular Economy Stakeholder Platform[36], a joint initiative by the EC and the EU Economic and Social Committee, which allows for sharing of news, events and good practices on circular economy and circular public procurement as well
PROCURA+	PROCURA+ European Sustainable Procurement Network[37] of European public authorities and regions that connect, exchange and act on sustainable and innovation procurement.

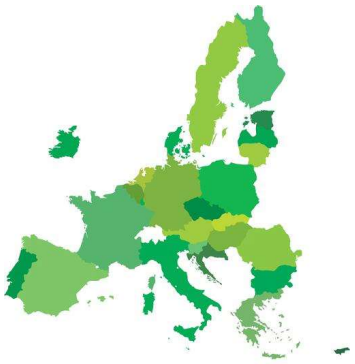
35 http://www.rebus.eu.com
36 https://circulareconomy.europa.eu/platform/en
37 http://www.procuraplus.org

INNOVATION PROCUREMENT PLATFORM	The Procurement of Innovation Platform[38], which is an online hub that targets public authorities, procurers, policy makers and researchers. The Platform consists of three elements: website, Procurement Forum, and Resource Centre. Innovation procurement empowers public authorities to obtain pioneering, innovative solutions customized to their specific needs. It helps local and central governments to provide tax payers with the best possible quality services, while at the same time saving costs

38 https://procurement-forum.eu

CHAPTER II - The Regulatory and Policy framework for Circular Procurement

2.1. The EU legal and regulatory framework



The scope of this chapter is to set out the policy and regulatory framework for circular procurement, provided that there is no specific act regulating circular procurement as such. So far, circular procurement is conceived as "an approach to greening procurement which recognizes the role that public authorities can play in supporting the transition towards a circular economy"[39], while the common rules on green public procurement constitute the basis for its definition, and the rules for social and innovation procurement represent the reference for broadening its construction and set the stage for a systemic change of approach to production and consumption.

In this sense, the chapter will provide a preliminary overview on the recent policy and regulatory developments, in order to identify the existing instruments for implementing circular procurement, at first at European level, then at national and regional level.

The 1st notion of Green Public Procurement (GPP) stems from the 1996 Green Paper, EU presented as a consequence of the amendments made to the EC Treaty by the Single Act and the Maastricht Treaty and in consideration of Article 130 of the EC Treaty, which provided that environmental protection requirements had to be integrated into the definition and implementation of other Community policies[40]. While the Green Paper paved the way, the subsequent Communication entitled "Integrated Product Policy – Building Environmental Life-Cycle Thinking" - which the EU Commission adopted on 18 June 2003 - definitively pinpointed the core idea at the heart of green procurement[41].

39 EU Commission, Public Procurement for a Circular Economy – Good Practice and Guidance, cit.

40 COM (96) 583 final, Green Paper Public Procurement in the EU: Exploring the Way Forward, 27 November 1996.

41 COM (2003) 302 final, Communication from the Commission to the Council and the EU Parliament, Integrated Product Policy – Building on Environmental Life-Cycle Thinking.

According to the Communication at stake, green procurement implies five key principles:

(i) *Life-cycle thinking*, which considers a product's life-cycle and aims for a reduction of its cumulative environmental impacts, from the cradle to the grave;
(ii) *Working with the market*, which sets incentives so that the market moves in a more sustainable direction by encouraging the supply and demand of greener products;
(iii) *Stakeholder involvement*, which aims to encourage all those who come into contact with the product to act on their sphere of influence and to foster cooperation between the different stakeholders;
(iv) *Continuous improvement*, as improvements can often be made to decrease a product's environmental impacts across its life-cycle, whether in design, manufacture, use or disposal, taking into account the parameters set by the market; and
(v) *A variety of policy instruments*, because there are such a variety of products available and different stakeholders involved.

Fig. 9: Principles of Green Public Procurement
(Source: prepared by Andalusian Partner)

In this respect, as common procurement practices were far from embracing such principles, the EU Commission committed to establish the framework conditions for the continuous environmental improvement of all products throughout the production, use and disposal phases of their life-cycle.

Such commitment was eventually transposed in Directive 2004/18/EC[42], though it was thanks to the 2008[43] that public authorities gained the guidelines to effectively include environmental protection objectives in their procurement procedures and processes. This Communication was in fact to provide guidance on how to reduce the environmental impact caused by public sector consumption and thence on how to use green public procurement to stimulate innovation in environmental technologies, products and services, on the assumption that:

The Green Public Procurement 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".

Being that the background, the existing framework for Green Procurement is primarily based on:

EU Directives on Public Procurement, meaning Directive 2014/24/EU[44] and Directive 2014/25/EU[45]; and
Green public procurement criteria adopted from time to time through specific acts designed to make it easier for public procurers to purchase goods, services and works that have a reduced environmental impact.

The criteria are formulated in such a way that they can, if deemed appropriate by the individual authority, be (partially or fully) integrated into the authority's tender documents with minimal editing. Before publishing a contract notice, contracting authorities are advised to check the available offer of the goods, services and works they plan to purchase on the market where they are operating.

The green public procurement *criteria are split into exclusion grounds, selection criteria, technical specifications and labels, award criteria and contract performance terms and conditions*[46].

42 Directive 2004/18/EC of the EU Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.

43 COM (2008) 400 final, Communication from the Commission to the EU Parliament, the Council, the EU Economic and Social Committee and the Committee of the Regions, *Public procurement for a better environment*, 16 July 2008.

44 Directive 2014/24/EU of the EU Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC.

45 Directive 2014/25/EU of the EU Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal service sectors and repealing Directive 2004/17/EC.

46 EU Directive 2014/24: articles 57, 58, 42-43, 67-68, and 70-73, respectively.

The criteria can be distinguished in two types:

(i) Core criteria — which are designed to allow for easy application of GPP, focusing on the key area(s) of environmental performance of a product and aimed at keeping administrative costs for companies to a minimum; and

(ii) Comprehensive criteria — which take into account more aspects or higher levels of environmental performance, for use by authorities that want to go further in supporting environmental and innovation goals[47].

In addition to the above mentioned legal and regulatory acts, there are a number of supporting instruments, such as the new edition of the "Buying Green!", which has been specifically designed to explain how best to integrate environmental considerations into public procurement procedures[48]. It includes:

- Guidance on how environmental considerations can be included at each stage of the procurement process in the current EU legal framework;
- Practical examples drawn from contracting authorities across EU Member States; and
- Sector specific GPP approaches for buildings, food and catering services, road transport vehicles and energy-using products.

47 http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

48 http://ec.europa.eu/environment/gpp/buying_handbook_en.htm

2.2. The Spanish legal and regulatory framework

The **Spanish Circular Economy Strategy**[49] (also known as Spain Circular 2030) is addressed in a context in which there are already initiatives at national and regional level (and even local) from which to build in a coherent and systematic way a circular economy model, including:

Comunidad Autónoma	Situación actual	Denominación
Andalucía	Aprobada	Estrategia Andaluza de BioEconomía Circular 2030
Aragón	Plan GIRA aprobado EACCEL previsión de aprobación el primer trimestre de 2019 Documento estratégico de Economía circular planificado	Plan de Gestión Integral de Residuos de Aragón (GIRA), Estrategia Aragonesa de Cambio Climático y Energías Limpias (EACCEL) y documento estratégico de Economía Circular
Canarias	En fase de elaboración	Estrategia de Economía Circular
Castilla-La Mancha	Aprobada	Ley 7/2019, de 29 de noviembre, de Economía Circular de Castilla-La Mancha
Castilla y León	En fase de elaboración	Estrategia Regional de Economía Circular de Castilla y León
Cataluña	Elaboradas y publicadas dos estrategias complementarias	Estrategia de Impulso a la Economía Verde y a la Economía Circular y Estrategia Catalana de Ecodiseño, por una Economía Circular y Ecoinnovador
Extremadura	Aprobada	Extremadura 2030. Estrategia de Economía Verde y Circular
Galicia	Aprobada	Extratexia Galega de Economía Circular
Madrid	Web elaborada	Madrid 7R Economía Circular
Murcia	En fase de elaboración	Estrategia de Economía Circular de la Región de Murcia
Navarra	Aprobada Aprobada	Ley Foral 14/2018, de 18 de junio, de residuos y su fiscalidad Agenda para el desarrollo de la Economía Circular en Navarra
País Vasco	Aprobada	Estrategia de Economía Circular de Euskadi 2030

Fig. Regional Initiatives on Circular Economy in Spain
(Source: Spanish Strategy for Circular Economy*)*

49https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/estrategia/

This Strategy is approved in response to the EU Action Plan for Circular Economy[50] and incorporates, among other issues:

Ecological Public Procurement (CPE) as a fundamental element for the achievement of environmental policies related to climate change, use of resources and sustainable production and consumption.

Traditionally, it has been working with more intensity on the phase of the end of the production cycle, where, in particular, the Ministry for the Ecological Transition and Demographic Challenge (MITERD) developed various instruments, including the National Program for Waste Prevention 2014-2020 and the National Plan for Waste Management 2016-2022(PEMAR), in which Green Public Procurement (CPV) was already introduced as a mechanism through which public administrations could incorporate environmental criteria (prevention and even minimum percentages of use of recycled material) in public sector purchases. For example, it was established for Construction and Demolition Waste (RCD) that: *"The contracting bodies of the General State Administration and their public bodies, when determining the criteria that should serve as the basis for the assessment of the most advantageous offer, they will try to take into consideration the measures on prevention and recycling of RCD, as well as the use in the construction units of aggregates and other products from the recovery of waste"*.

However, since initiatives focused on the end of the production cycle are very important and necessary, the circular economy aims at concentrating efforts at the beginning of the chain: in the design phase to achieve the durability of the product and promoting its reuse, reform, recycling and reprocessing of components. In this way, the end-of-cycle phase will require less management efforts as the economy "circularizes".

The complex nature of the transition towards the circular economy, derived from a necessary structural change in the production and consumption models, implies that in order to achieve the goals and objectives set, it is necessary to influence practically all the public policies that currently developed by governments, both central and regional and local.

50 COM (2015) 614 final, Communication from the Commission to the EU Parliament, the Council, the EU Economic and Social Committee and the Committee of the Regions, Closing the loop – An EU action plan for the Circular Economy 2 December 2015.

In order to respond to this situation, the Spanish Strategy for Circular Economy is drawn up, in which the groundworks are laid to promote a new production and consumption model in which the value of products, materials and resources are maintained in the economy for as long time as possible, in which the generation of waste is reduced to a minimum and those that cannot be avoided are used to the greatest extent possible. The Strategy thus contributes to Spain's efforts to achieve a sustainable, decarbonized, resource-efficient and competitive economy.

In the transition to a circular economy, the specifier (prescriber) and the consumer stand as key pieces, since their decision-making capacity in the purchase conditions the production model towards sustainable and circular products:

- The administrations not only act as role models, but together with the large corporations they stand as driving forces for the conversion towards a sustainable economic model that transcends all types of suppliers in the production chain;
- In the image of the public process, large corporations within their corporate responsibility schemes are initiating the introduction of environmental criteria in their own contracting processes, becoming, ultimately, also, driving forces in the adoption of an economy circular.

Therefore, it is necessary to deploy a concerted public action under the leadership of the competent ministries on environment, economy, industry and innovation, and supported by those departments with responsibilities in tourism, agriculture and food, transport, mobility and urban agenda, health, consumption, social and labour issues, security, training and finance.

Public procurement represents an important part of consumption, due to the volumes of expenditure of the different public administrations within the market, which is why it is considered a key tool for the transition towards a circular economy. Therefore, actions should be promoted to implement Green Public Procurement, establishing measures or developing criteria to be used by the different contracting bodies.

In this line, the General State Administration has already approved the 2nd **Plan for Ecological Public Procurement 2018-2025**[51], designed

51 Approved by Order PCI/86/2019, of January 31, publishing the Agreement of the Council of Ministers of December 7, 2018, approving the Plan for Ecological Public Procurement of the General State Administration, its autonomous bodies and the managing entities of Social Security (2018-2025).

jointly between MITERD and the Ministry of Finance, and in which the concept of Ecological Public Procurement (CPE) is introduced.

Ecological Public Procurement (CPE) is understood as the "process by which public authorities acquire merchandise, services and works with a reduced environmental impact during their life cycle, compared to merchandise, services and works with the same primary function that were acquired instead".

This Plan is applied by the General State Administration, its autonomous bodies and the Social Security management entities in the public procurement of goods, works and services that are considered a priority by the EU[52]:

Food and restaurant services; Interior lighting of buildings; Outdoor public lighting and traffic lights; Electrical and electronic apparatus used in the healthcare sector; Water based heaters; Design, construction and management of office buildings; Design, construction and maintenance of roads; Electricity; Printing equipment; Events, Sanitary taps; Flush toilets and urinals; Furniture and wall panels; Computers and monitors; Copy paper and graphic paper; Textile products; Garden products and services; Cleaning products and services; Combined heat and power systems. Air conditioning systems; and Transportation.

The main objectives of this Plan are:

- Promote the acquisition by the public administration of goods, works and services with the least possible environmental impact;
- Serve as an instrument to promote the Spanish Strategy for Circular Economy;
- Support with concrete measures to achieve smart, sustainable and inclusive growth, guaranteeing, at the same time, a more rational and economical use of public funds, both from the point of view of investment and from the point of view of exploitation;
  Promote the incorporation of environmental clauses in public procurement; and
- Publicise, within the scope of the General State Administration, its autonomous bodies and the Social Security management entities, the possibilities offered by the national and international legal framework on ecological public contracting.

In addition to the plans, studies, strategies and set of communications aimed at promoting green public procurement in the EU, which have

52 Included in article 4.2 of the Order PCI/86/2019.

been described in Chapter I, it is necessary to refer to the development of European regulations that incorporate and define procurement objectives ecological public in different areas.

In 2004, two EU Directives on Public Procurement[53] were developed, which defined how environmental clauses can be integrated into public contracts.

The incorporation of these Directives into national legal system was carried out with the publication of the following laws on public procurement, which established the possibility of incorporating environmental and social aspects in public procurement:

- Law 30/2007[54], of 30 October, on Contracts of Public sector (LCSP).
- Law 31/2007, of 30 October, on contracting procedures in the water, energy, transport and postal services sectors.

But not only are cross-sectional regulations (that regulate public procurement and the inclusion of environmental criteria in public procurement processes) beginning to appear, but environmental criteria are beginning to be introduced in public procurement processes in sectoral regulations, as is the case of:

- In the field of waste → Law 22/2011, of July 28, on waste and contaminated soils, introduces the incorporation of environmental criteria and prevention of waste generation in public sector purchases;
- In the field of energy efficiency → Law 15/2014, of September 16, on the rationalization of the Public Sector and other administrative reform measures, establishes the principles and requirements of energy efficiency for the acquisition of goods, services and buildings by the public administrations integrated in the State Public Sector; and
- Finally → Royal Decree 163/2014, of March 14, which creates the carbon footprint registry, compensation and carbon dioxide absorption projects, established that the contracting body could include, among the environmental statements, the carbon footprint in public procurement.

53 Directive 2004/17/EC of the EU Parliament and the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors and DIRECTIVE 2004/18/EC of the EU Parliament and the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.

54 Integrated and harmonized by the Royal Legislative Decree 3/2011, of 14 November, approving the consolidated text of the Law on Contracts of Public sector.

In this legal framework, and in order to regulate the key role of public procurement, the three new EU Directives[55] appear, replacing the previous ones, concluding a process of review and modernization of the current regulations on public procurement and that make it possible to increase the efficiency of public spending and facilitate, in particular, the participation of small and medium-sized enterprises (SMEs) in public procurement.

The incorporation of these new Directives into the national legal system was carried out through the approval of **Law 9/2017, of November 8, on Public Sector Contracts**, which includes as an explicit objective:

"To ensure that public procurement is used as an instrument to implement both EU and national policies in social, environmental, innovation and development, promotion of SMEs, and defense of competition."

The main objectives are, firstly, to achieve greater transparency in public procurement and, secondly, to achieve a better value for money. To achieve this last objective, for the first time, the obligation of the contracting authorities to ensure that the design of the award criteria allows obtaining high-quality works, supplies and services, specifically through the inclusion of qualitative (environmental, social and innovative) aspects linked to the object of the contract.

In response to the requirements established in Law 9/2017, the Law 7/2021, of May 20, on Climate Change and Energy Transition, incorporates in its article 30 the inclusion by the General State Administration of reduction criteria emissions and carbon footprint aimed specifically at the fight against climate change as specific technical prescriptions in the procurement documents.

With the approval of Law 9/2017, the validity of the Green Public Procurement Plan (PCPV) of the General State Administration (AGE)[56], its public bodies and the Social Security management entities is terminated. This Plan was approved in 2008, which was framed in Directive 18/2004 / CE, transposed into our regulation by Law 30/2007.

55 Directive 2014/24/EU on public procurement, Directive 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors, and Directive 2014/23/EU on the award of concession contracts.

56 Order PRE/116/2008, of 21 January, publishing the Agreement of the Council of Ministers, approving the Plan on Green Public Procurement of the General State Administration, its autonomous bodies and the managing entities of Social Security.

The monitoring of the execution of this Plan was carried out in 2011 and 2015 through the preparation of respective reports, the results of which stood out among other aspects:

- Continue analysing the criteria and recommendations that the EU Commission is preparing for various groups of products and services, with a view to their future consideration and inclusion as requirements in the specifications of public sector contracts and in planning on CPV , as a measure aimed at facilitating compliance with the obligations to protect human health and the environment;
- Promote the exchange of information with experts in CPV, and elaboration, when appropriate, informative guides on CPV criteria for groups of products and services, in collaboration with the administrations involved; and
- Study how to incorporate into the CPV the new EU guidance in relation to the new Circular Economy Package and the Energy and Climate Package.

Hence the importance of Ecological Public Procurement (CPE) as an instrument to promote and facilitate economic growth, from the approach of a circular economy, low in carbon, efficient in resources, without waste, clean and eco-innovative. Hence also the importance of CPE, an effective tool to advance sustainable production, use and consumption, as well as sustainable economy and procurement practices.

However, although the Strategy for Circular Economy has a transversal character and aspires to become the reference framework for all public administrations, companies and citizens, the impulse from the policies described for the adoption of a circular production, consumption and reuse model will not have the same adaptation potential in all sectors.

In this sense, although many sectors (construction and demolition, agri-food, industry as a whole, consumer goods, tourism and textiles and clothing) have already begun to incorporate recycling practices that reduce the demand for new raw materials and help to alleviate the ecological deficit, we are still far from being able to establish a global circular economy model.

There are also many other initiatives that are being carried out to support and facilitate the transition towards a Circular Economy model for companies and administrations, among other:

Entity	Initiative

ihobe	• Contratación circular. Cómo promover la economía circular con la compra y contratación pública verde[57] • Guía para la Compra Pública Verde y el Análisis de Costes de Ciclo de Vida[58]
Generalitat de Catalunya	• Guía de publicaciones ambientalmente correctas[59] • Guía de solvencia técnica y gestión ambiental • Guía de ambientalización de comedores colectivos • Guía de eventos ambientalmente correctos • Guía de ambientalización de la contratación textil • Guía para la compra verde de vehículos • Guía para la adopción de criterios ambientales en contratos de mantenimiento e instalaciones de edificios • Guía para la cuantificación de emisiones GEI en los contratos públicos
GOBIERNO DE ESPAÑA	• Código de buenas prácticas ambientales para los contratos de mantenimiento y obras menores[60] • Código de buen uso del papel y las publicaciones • Código de buenas prácticas ambientales para la contratación de los servicios de limpieza de edificios
ObCP OBSERVATORIO DE CONTRATACIÓN PÚBLICA	• Observatorio de Contratación Pública[61]

57 http://www.ihobe.eus/publicaciones/contratacion-circular-como-promover-economia-circular-con-compra-y-contratacion-publica-verde

58 https://www.ihobe.eus/publicaciones/guia-para-compra-publica-verde-y-analisis-costes-ciclo-vida

59 https://territori.gencat.cat/es/01_departament/07_perfil_de_contractant/compra_contractacio_publica_verda/guies_per_a_lambientalitzacio/

60 https://www.miteco.gob.es/es/ministerio/planes-estrategias/plan-de-contratacion-publica-ecologica/cronologia_contratacion_ecologica.aspx

61 http://www.obcp.es/

2.3. The regional context, Andalusian Region

Currently, the **Law for Circular Economy in Andalusia (LECA)** project is in progress. This draft Law aims at addressing, transversally and with a structural scope, many of the changes that, with the rank of Law, are necessary to encourage and accelerate the transition towards an economy more sustainable, competitive and innovative, which establishes the groundworks to overcome the "use and throwaway" production and consumption model that is already becoming unsustainable.

The objective is to create an proper legal framework for the transition towards an environmental protection model that encourages the rational use of resources, lengthens the useful life of products and minimizes the generation of waste.

In this draft Law, aspects related to Ecological Public Contracting (CPE) are already included, incorporating environmental and circular considerations in the different phases of the Andalusian public contracting process (articles 12 and 13).

Andalusia, a pioneer in adapting the recent European Strategy to its legislation, is ahead of the State in this legal act, with the added challenge of contributing to sustainable economic growth and job creation. All this supported by three pillars:

- The promotion of the regional and local administrations;
- The company as an engine of change; and
- Society as a whole, from awareness and responsible consumption.

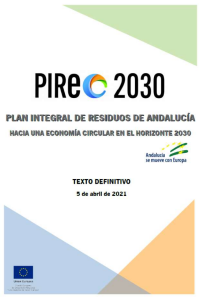
From this perspective, the aim is to put an end to the linear concept of "manufacture-use-throwaway" and take a chance on a cleaner and more competitive economy, capable both of renewing traditional productive sectors and of being decidedly open to new activities demanding of stable and quality jobs.

The Andalusian Office for Circular Economy (OAEC) will be the administrative body in charge of implementing the Law, as well as coordinating, energizing, advising and providing support to companies and local administrations. The future law will promulgate the drafting

of the **Andalusian Strategy for Circular Economy**[62] as a planning instrument and will lay the groundworks for the effective development of an Ecological Public Contracting (CPE).

The implementation of the circular economy model in Andalusia will be based on the life cycle analysis (LCA) and, therefore, of the ecological footprint of products and services, management of unsold goods, the promotion of repair, fight against food waste and strategic investments in circular economy.

This will be done by reinforcing the application of the principle of the hierarchy of waste and establishing the principles of the circular economy through the regulation of certain basic aspects of waste, such as prevention, preparation for reuse, recycling processes and material recovery. For this, special attention is paid to the concepts of "by-product" and "end of waste condition".



As a background, the **Integrated Plan for Waste of Andalusia. Towards a Circular Economy in the 2030 Horizon (PIRec 2030)**[63]**.** The PIRec 2030 arose from the need to review waste planning, which has become absolutely obsolete and requires urgently an adaptation to the new EU Directives on waste management. Therefore, it arises from the need to provide the Andalusia region and its local with the legal security necessary for the implementation of investments, new infrastructures and equipment.

The PIREc 2030 establishes 19 specific objectives and 36 measures, distributed among the main waste streams, among which the inclusion of circular purchase criteria is clearly identified, among them the following stand out:

62 Preceded by the Andalusian Strategy for Bioeconomy: https://www.juntadeandalucia.es/organismos/transparencia/planificacion-evaluacion-estadistica/planes/detalle/155202.html#toc-informaci-n-general

63 Approved by Decree 131/2021, of 6 April: https://www.juntadeandalucia.es/medioambiente/portal/landing-page-planificacion/-/asset_publisher/Jw7AHImcvbx0/content/plan-integral-de-residuos-de-andaluc-c3-ada/20151

Objective	Measure
Increase the amount of non-hazardous RCD destined for preparation for reuse, recycling and other recovery operations	Include the use of recycled RCD and / or the minimization in the generation of non-recoverable RCD in the criteria for the scale of public procurement documents
Increase the recycling of plastics	Integration of recycled plastic into public procurement criteria
Reduce the generation of sanitary waste in Andalusia	Promotion of clauses in public procurement that favour the use of less polluting materials and laboratory techniques that minimize the generation of waste and its danger

Therefore, it is an excellent opportunity to set, within its own territory, more demanding and ambitious objectives in the area of prevention, reuse and the promotion of circular economic models. It is time to change the paradigm not only in waste management, but also in the economic model.

Indeed, Andalusia intends to adapt its legal framework to the new EU Directives on circular economy. The draft Law must necessarily be addressed under the cover of the EU Action Plan for Circular Economy and the new Directives for modifying environmental legislation on waste. With this, the Andalusian policy maker must also renew the reuse and recycling objectives, update the extended producer responsibility (EPD), consolidate some key concepts, incorporate environmental and circular considerations in Public Procurement in Andalusia, among others.

However, the key objective of this new Law must be to contribute effectively to sustainable development, which makes economic growth compatible with an adequate use of existing natural resources, seeking to create a proper legal framework for the development of the circular economy in Andalusia and establishing the bases that address the transition towards a new model of environmental protection, more efficient in the use of resources, reducing the generation of waste to a minimum.

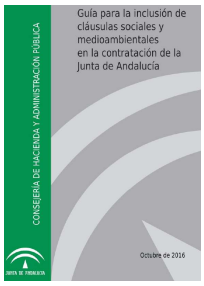
Likewise, in the scope of its contribution to the fight against climate change, this future Law also intends to be consistent with planning in the field of energy and climate, which is already being regulated by **Law 8/2018, of October 8, on measures against climate change and for the transition towards a new energy model in Andalusia**, and in

which the incidence of climate change in public procurement is also regulated, more specifically:

- The incorporation, whenever the contract allows it, of sustainability and energy efficiency criteria;
- The establishment of award criteria and special execution conditions that duly take into account the environmental impact generated by each product or service during the entire life cycle;
- The establishment of award criteria that preferentially value the processes of reduction, reuse and recycling of products, and the reduction of GHG emissions in the processes of production, marketing and distribution of the same;
- The contracting of electricity supply of certified renewable energy;
- In catering and restaurant service contracts, as well as in food supply contracts, especially in educational and health centers, award criteria will be promoted that affect the ecological origin and proximity of products and production processes;
- In public sector works and supplies contracts, at least the best cost-effectiveness ratio will be promoted, using the life cycle cost calculation to determine costs; almost zero energy consumption in new construction projects for facilities and buildings; the incorporation of renewable energy sources in adjacent or adjacent facilities and buildings or land; the sustainability of construction materials, and the optimization of the consumption of water resources in all phases of construction and operation;
- In contracts for the rental or acquisition of real estate, award criteria that affect efficiency, energy savings and the use of renewable energies will be taken into account;
- The acquisition or rental of hybrid or electric vehicles, provided it is technically feasible; and
- The specifications of specific administrative clauses may include at any stage of the procedure the need to have the carbon footprint of the products, services and supplies that are the object of the tenders in the sense indicated in the public procurement regulations.

In this context, in which there are and prevail various measures, Strategies, Action Plans, Laws, Decrees, etc., but in which the majority serve as guidance and not as an obligation, Andalusia had already been working on this type of projects and initiatives to promote and promote the inclusion of environmental criteria in Green Public Procurement (CPV) procedures, among them highlight:

Between 2010 and 2014, the Regional Ministry of the Environment and Spatial Planning of Andalusia participated in the **LIFE + Ecoedition project** for the sustainable management of publications from Public Administration, in line with the objectives set in the Strategy Europe 2020. The most significant environmental aspects of editorial production were studied, resulting in the proposal of a series of sustainability criteria for the publication of paper publications and at the same time the recommendation that these criteria be considered and included by the administrations in its procedures for contracting publishing services for paper publications.



Later, in 2016, the Regional Ministry of Finance and Public Administration published a Guideline for the inclusion of social and environmental clauses in the contracting of Andalusian Government, in which the mandatory clauses that will be included in the contracting specifications are included, as well as general recommendations that facilitate decision-making in all phases of the procedure, from the submission of offers, to the award and execution.

Searching experiences and measures to promote the inclusion of environmental criteria in the public procurement process, the Regional Ministry of the Environment and Spatial Planning of Andalusia participated as a partner in the **Interreg Europe SYMBI project** (Industrial Symbiosis for Regional Sustainable Growth and a Resource Efficient Circular Economy**)** with the aim at supporting the transition towards a resource-efficient economy through industrial symbiosis, establishing territorial synergies to manage waste and exchange energy & by-products as secondary raw resources. Furthermore, through the development of the activities, SYMBI will get: Encourage regional waste transformation systems; Promote the use of secondary raw materials and the emergence of regional secondary raw materials market; Prioritize Green public procurement; Unlock investments by regional and local financial actors; Explore, assess, expand, and enhance current practices in ecosystems of industrial innovation; and raise public awareness on industrial symbiosis and circular economy.

Since January 2017, Regional Ministry of the Environment and Spatial Planning of Andalusia participates as a partner in the **GPP4Growth project** (Green Public Procurement for resource-efficient regional growth) within the framework of Interreg Europe program with the aim at supporting and promoting the green procurement and public procurement in Andalusia through the exchange of experiences and practices with the rest of the participating regions. Among the expected results are:

- Prioritize Public Green Purchasing in Public Administrations;
- Increase the number of companies that integrate environmental factors and costs in the production of goods and / or supplies, services and works;
- Increase the capacity of public administration officials to effectively apply resource efficiency policies in contracting;
- Develop investments to promote new services and green products; and
- Increase awareness of the benefits of CPV in the adoption of sustainable consumption and production models by companies.

Giving continuity the lessons learned in the GPP4Growth project, but adapting to the new legal context faced by the European, National and Regional Governments in terms of Circular Economy, the **CircPro project** arises, in which the Regional Ministry of Andalusia participates again as a partner.

In this case, the aim is to increase the implementation of circular procurement within the scope of the EU financial instruments (ERDF), facilitating the reduction of waste, guaranteeing a proper quality and favouring the innovation.

In order to introduce innovations in Andalusia, the process of exchanging experiences among very relevant, establishing a cooperation and knowledge transfer project.

To this end, a phase of experiences exchange has been developed, from which some lessons learned have been extracted, based on the opinions gathered among partners and on reports and guidelines developed, and on the exchange of good practices among participating regions.

Lessons learnt from the Interregional Meeting and Deep Interviews

This Regional Guidebook of the Interreg CircPro project aims at showing the main lessons learned during the Exchange process that has taken place during the first two years of the project.

The interaction and cooperation with stakeholders provided by CircPro project has allowed EWAA on the one hand, to know in depth and take into account the needs and particularities of the priority sectors of Andalusia and, on the other hand, to learn from experts and professionals that have participated throughout the Interregional Meetings and Deep Interviews.

As a result of this interaction and cooperation, the EWAA will design and develop the next Action Plan in which concrete actions have been materialized, taking into account the Andalusian Strategy for Circular Economy, to improve the Circular Procurement among Public Administration of Andalusia. Likewise, this Action Plan is intended to answer, to the extent possible, to the majority Andalusian Stakeholder requirements, where the EWAA must focus its efforts.

The wide variety of institutions that have participated (Public Administrations of Andalusia, General Directorate for European Funds, Regional Ministry of Economic Affairs and Knowledge, Andalusian Health Service, Waste Managers, Private Providers, University of Seville, etc.) has allowed EWAA to know the different points of view and the way to implement in Andalusia the good practices learnt from the participating regions in the project on circular procurement. As a result of this interaction, the EWAA has learned how to transfer and implement these good practices in the legal and regulatory framework of Andalusia, giving response to the actual needs of these priority sectors.

Derived from the interaction with the project partners, the EWAA has learnt that the Andalusian Strategy for the inclusion of circular criteria in the Public Procurement is perfectly aligned with the Strategies of the rest participating regions/countries in the project. In fact, the evolution of public contracts with environmental criteria in Andalusia still continues to be positive and confirms that the Public Administration on Andalusia is working in the right direction.

The fact that the Strategies for the inclusion of circular criteria in the Public Procurement in all participating regions/countries are aligned

each other is proof of the clear commitment of the European Commission for the Circular Economy model.

It is with precisely this in mind that the EWAA is already working on improvement and understanding of the circular criteria inclusion in Public Procurement to overcome the main barriers faced by Public Administration to include, use and implement them. For this reason, the EWAA is working in close collaboration with the main Stakeholders of Andalusia in order to get to know their main needs and expectations and translate them into actions through in the next Action Plan.

Derived from the interaction with experts and professionals, the EWAA has learnt that successful efforts have been undertaken by Public Administrations to boost and consolidated the Circular Economy model within its respective territorial competences, providing real benefits to all involved actors.

Interaction and cooperation with Stakeholders (STH)

In order to continue working on the improvement of the circular procurement implementation, especially for overcoming some of the barriers faced by contractors and providers organizations, the EWAA is working hand in hand with the main key agents of its territory, who have actively participated as a Stakeholder Group in order to take action in Andalusia based on learning and exchange with the rest of the project partners of experiences and good practices in Circular Public Procurement.

The participation of these Stakeholders has been, is and will be crucial so that all actions carried out in Andalusia are effective and efficient, overcoming some of the barriers faced by Public Administrations and its providers.

As a start to this dialogue and collaboration a "multidisciplinary" Stakeholder Group has been set-up at the beginning of the project, participating a representation of the priority sectors and the most key actors in Procurement process in Andalusia. These Stakeholders have participated in the Interregional STH meetings and some of them in Deep Interviews held in the framework of the project and have provided its needs and particularities.

As can be seen from the following figure, all priority sectors have been represented through some of these organizations and institutions:

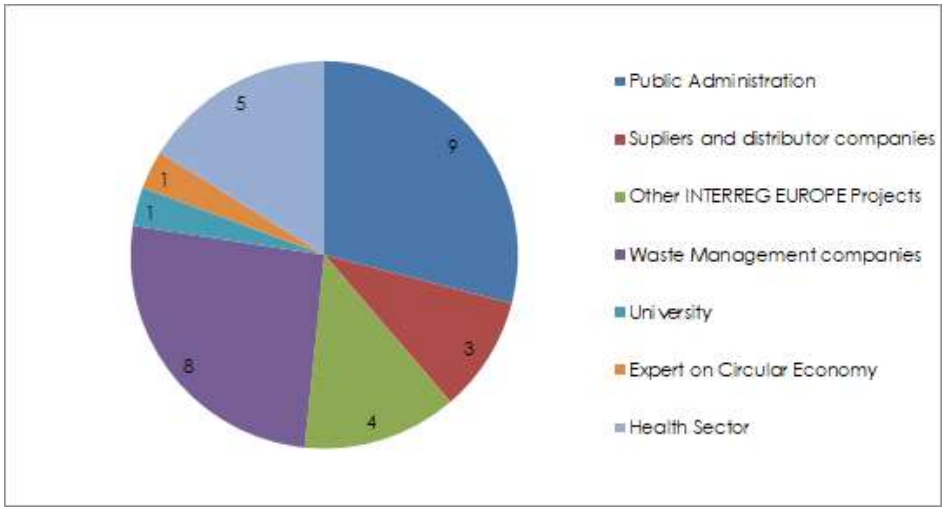


Fig 10. Stakeholders Group in Andalusia
(Source: prepared by Andalusian partner)

As figure shows, the **Health sector** has been priority and relevant throughout the project in Andalusia. This sector was selected by the CircPro Consortium as a priority sector to be in depth analysed.

Given the characteristics of the most of materials used in hospitalized patient care (single-use materials), the amount of plastic materials that appear in these wastes is very important. In 2018, 3.448,00 tonnes of sanitary waste were managed in Andalusia (except for drug packaging waste), almost entirely destined for disposal operations. Specifically, 69,6% is subjected to physical-chemical treatment prior to landfill disposal and 30,3% is used for intermediate operations with final destination for disposal.

RGA has also arranged "bilateral" meetings with specific sectors, specifically aquaculture sector, promoting SMEs growth and consolidation by promotion and development of EMAS. Searching for synergies and taking advantage of them with other Interreg projects in which RGA is involved, that is, SYMBI and GPP4Growth, has been a goal for us.

CHAPTER III – Best Practices on Circular Procurement

3.1. Best Practices on Circular Procurement in CircPro project

Different measures and means are being used in different EU countries to do that. For mapping these measures and learning from each other, each partner compiles Region Overview by identifying the most important initiatives in national and regional level, as well as main actors, organisations and networks that could promote the implementation of Circular Procurement. These already existing initiatives can play a big role in inspiring partners during the strategic thinking process leading to Action Plans.

Among all partners identified during the Kick-off Meeting 7-8 product/service sectors in public procurement to further investigate (***construction, (agro) food, waste, health and tourism sectors, water, recycling and paper***). Each partner studied agreed number of tender documents in each of these sectors to find CP elements and good practices, as well as trends in general, regarding the procurements implemented in a particular sector.

Additionally, the CircPro project partners have identified a number of ***good practices (GPs) from the partnership regions that could boost implementation of the circular procurement (CP)***.

The CircPro collection of GPs contains both operating models/policy framework and support measures facilitating CP in the regions and examples of actual circular purchases of goods and services. These GPs have already been published on the CircPro website and are briefly described below:

Country/Region	Good Practice	Brief description of GP
Finland	Procurement Specialist Services & Change Agent for Sustainable and Innovative Public Procurement	Procurement Specialist in the city of Kouvola in Finland offers free of charge consultation on procurement process and takes part in development of city's strategic management of procurements.
	Market consultations as a tool for achieving sustainable goals	Preliminary market consultations help to achieve a greater level of efficiency and sustainability in public procurement
Andalusia (Spain)	***Catalog of recycled aggregates of the Junta de Andalucía***	***The Public Works Agency of Andalusia in Spain has published a catalog of recycled aggregates, in compliance with the guidelines on environmental ef-ficiency.***
	Use of the carbon footprint as an award criterion in a tender	***The Andalusian Ministry of Agriculture, Livestock, Fisheries and Sustainable Development includes the carbon footprint as an award criterion in a tender***
Italy	Vending machines: a participative and eco-innovative tender process design	The practice relates to the delivery of vending concession services of food and drink for students and staff (around 70,000 people) for the University of Turin in Italy.
	Tender procedure for the purchase of 100% green electricity supply	Tender procedure for the purchase of green electricity supply for public administrations
	GPP for energy refurbishment of public building promoting recycled & short supply chain materials	To reduce the environmental impact of public building energy refurbishment works, new GPP models were tested and actions implemented within ECO-BATI project
Greece	Circular model of street lighting procurement	Implementation of a circular model of public procurement for improved en-ergy-efficiency and life-cycle management of municipal road lighting in the Municipality of Alexandroupolis in Greece.
	Procurement model for purchase of PV systems equipment in public buildings – schools	Implementation of a circular model of public procurement for installation of PV system equipment on municipal buildings (schools)
Portugal	FECA - Fórum da Economia Circular do Alentejo (Alentejo Circular Economy Forum)	FECA´s objective is to reflect, share, discuss and outline the main circular economy intervention pillars, contribute to the promotion and to encourage the transition to circular economy in Alentejo in Portugal.
	Central purchasing systems – Alentejo´s region case	Intermunicipal Communities Central purchasing systems as a centralised negotiation system available for contracting authorities.
Bulgaria	Boosting the construction and demolition recycling market	Measures to boost the recycling market in Bulgarian legislation through inte-grating construction and demolition recycled materials in construction
	Urban mobility	This practice was the first tender for purchase of electric buses and charging stations for public transport ever by Bulgarian authorities

Lithuania	Pre-Commercial Procurement of Nano Bitumen	Pre-commercial procurement in Lithuania aims to ensure circular economy principles in road construction by creating bitumen with extended lifetime and better durability.
	Promotion of Green public procurement by providing green technical specifications	Central procurement organization of Lithuania developed Green public procurement technical specifications in order to support and facilitate its uptake
Estonia	Green criteria in an electronic Procurement Register	Electronic platform for public procurement in Estonia that includes the built-in green public procurement (GPP) criteria for easy GPP implementation
	Financial support for businesses to cover the expenses of the activities related to the application of European Ecolabel	Financial support for businesses to cover the expenses of the activities related to the application of European Ecolabel
Norway	Designing implementation plan for local strategies and policy instruments in circular procurement	Municipal / Regional plans for circular procurement should have effective structure and seamless design to other plans related to sustainability, cli-mate, environment and energy. An example from Elverum Municipality in Norway.
	Strategy for use of wood / renewable materials in buildings	Buildings in steel/concrete have a high climate footprint due to energy-intensive production/transport. Hence, there is a need for strategy/handbook for sustainable construction. An example from Elverum Municipality in Norway
	Market dialog revealed envrionmental of public procurement of drugs to the health care sector	Collaboration and early market dialog revealed potential cut in environmental impact from procurement of drugs

3.2. Best Practices on Circular Procurement in Andalusia

The best practices at regional level for further detailed investigations were selected by a comprehensive desk review of currently available procurements containing circular components. All the available cases were analysed one by one and in order to identify the most relevant cases of Circular Procurement the European Commission's guideline/brochure "Public Procurement for a Circular Economy" 111, published in October 2017 was applied.

Following the guideline, the available cases were firstly screened by their "level" of circular procurement model application and were distributed for 3 possible level of CP application:

1. "System level" – checking the contractual methods, identifying whether the purchasers were applying supplier take-back agreements (the supplier returns the product at the end of its life in order to re-use, remanufacture or recycle it) to ensure circularity or whether the contract covered services and products.
2. "Supplier level"- identifying the circularity elements in the systems and process of the suppliers ensuring the supplier will offer products and services meeting CP criteria.
3. "Product level"- identifying the products that suppliers to public authorities may themselves procure further down the supply chain.

Several deep interviews with purchasing organizations responsible for the corresponding CP were carried out with the aims at studying each best case of CP, analysing: how the CP was designed and initiated; what the CP meant within the context of the responsible organization; the policies established aimed to increase their circularity (how the CP was integrated into existing procurement practices and systems); what targets, priorities and timeframes were in place, and how these were monitored; how the needs were identified "what is actually needed?" and how the central decisions were made on considering a service instead of buying a product; how the technical specifications (focus on product design (life-cycle impacts, environmental impacts), its use phase and end-of- life (using buy-sell back, buy-resell and Product Service Systems) of the objects for the procurement were identified and how the market consultation and supplier engagement was carried out; which tendering procedures and award criteria were applied; what other activities, such as training, support, and communication strategies, were put in place and finally what is more important which obstacles were faced during CP and how these obstacles were overcame.

The analyses of the interviews helped to identify the needs of stakeholders implementing Circular Procurement and served as a bases for the recommendations and guide-lines for CP application elaborated in detailed in the next sections of this chapter.

The results obtained in Andalusia from detail investigations and deep interviews with the selected Procurers (procurers who have implemented procurements with CP elements) and Stakeholders (target group for implementing the CP) are the following:

On the one hand, apart from the projects and initiatives mentioned in Chapter II, several **Procurement Procedures** were analysed to find good practices on enclosed CP elements, among other:

Type of measure	Measure	Proyect (tender)	Good Practice	Procurer
Subjet of contract	The subject of contract includes environmental criteria	Supply of magnetic resonance equipment for University Hospital Virgen Macarena (Seville) with lower environmental impact	Supplies with lower environmental impact	Regional Ministry on Health
		Supply of digital biplane angiograph for the unit of Interventional Neuroradiology from University Hospital Virgen del Rocío (Seville) with lower environmental impact		
		Drafting of the project for urbanization, environmental recovery and landscaping works, Technical Management and other works for the executionof the Metropolitan Park AR-RAIJANAL	Degraded environmental restoration	Regional Ministry on Environment and Spatial Planing
		Technical Management for works of improvement on Port-City Integration and new ecplanada with photovoltaic streetlight	Promotion of renewable energy	Regional Ministry on Development and Housing
Special conditions of execution	Requirements for typical electricity consumption (TEC, Typical Energy Consumption) established by the latest version of the Energy Star or equivalent	Supply of licences and infraestructures of servers and communications for IT system	Energy classification of equipments	Regional Ministry on Culture

	Do not exceed the emission levels of harmful substances according to the procedure defined in the Blue Angel ecolabel or equivalent		Emission level (Ecolabel)	Regional Ministry on Culture
	Use of vehicles with the DGT environmental mark or label in following categories: Zero emissions, ECO, C or B, for trips to the work area	Drafting of the project for urbanization, environmental recovery and landscaping works, Technical Management and other works for the executionof the Metropolitan Park ARRAIJANAL	Reduction of emissions from transport	Regional Ministry on Environment and Spatial Planing
Award critera	Assessment of environmental aspects of companies such as electric vehicles or environmentally acceptable	Tender for the project of the design and construction of sites for research and training in basement of University Hospital Virgen Macarena (Seville)		Public Foundation for research management of health in Seville (FISEVI
	Certificate of adherence of the company to the Andalusian Emissions Compensation System (SACE)	Development works for the Port of Barbate (Cádiz) adjacent to urban area	Calculating Carbon Footprint. Offsets.	Regional Ministry on Development and Housing
	Improvement of the performance of air conditioning equipment: A+++/A++	Infraestructure modernisation works in residential center for elderly people "LA ORDEN"	Energy efficiency	Regional Ministry on Equality and Public Policies
	Assessment of the inclusion of environmental efficiency improvements	Supply of collection vehicles by side loading system	Savings and energy efficiency of the vehicle; use of alternative fuels; CO2 emission; gas emissions into the atmosphere; and emission of noise	Public Cleaning and Environmental Protection S.A (LIPASAM)
		Tender for the service of construction and demolition wastes treatment collected by LIPASAM	Savings and energy efficiency; use of efficient and lower polluting alternative energies in vehicles; inclusion of saving measures in water consumption or its reuse and recycling; and decrease in atmospheric emissions)	

Technical Solvency	PEFC and FSC Chain of Custody certification in force	Tender for the leaftles printing services	Use of recycled and certified paper	Regional Ministry on Tourism and Sport

On the other hand, other examples of **Good Practices** of circular procurement in Andalusia were identified. Two of them were selected among all partners as Best Practices and in-detail described in INTERREG EUROPE Good Practices Database (as above), but other Good Practices as a Success Stories were identified and in-depth analysed, among them:

Good Practice	Brief description
New criteria for increasing recycling and reuse of hazardous containers in the public Health System	The public Health System is introducing interesting advances on Circular Economy: • Creation of purchasing platforms to manage their acquisitions, include environmental and ecolabelling requirements in large contracts; • Progressive implementation of EMAS in its centers; Adittionally, thanks to the collaboration with the main suppliers, 2 improvements stand out: • Containers of cutting waste: It guarantees an 80% recovery of its plastic. In addition, 20% of the recovered plastic is reused in containers of the same type; • Containers of infectious waste (LER 18 01 03); • Development of a washing and disinfection process to be reused (up to 100 times). Previous were for single use; • The capacity has been optimized and now different sized containers are used, which saves on handling, transport and washing. The containers traveled and were washed without being full; and • These containers now have a packaging process by which they can be transported separately, which improves, again, the handling, transport, washing and disinfection processes. With the implementation of these good practices, the use of plastics for this type of containers is reduced by more than 8 tons for the year 2018 Evidence of success (results achieved): ✓ Punctures (cutting waste): 80% recycled; ✓ Punctures (cutting waste: it recovers more than 15%. It involves 25,000 containers made with this mixture; and ✓ Infectious: 8 tons of waste avoided thanks to reuse. These improvements were proposed by the waste managers in the last tenders, and will be incorporated into the next specifications.
Program of organic food consumption in school canteens	Inclusion of organic food in the contracting specifications for school canteens in Andalusia. The collective catering companies have the optionthe option to offer for their menus the amount of organic food that they are going to supply. Evidence of success (results achieved): Since the program began in 2010, the consumption of these organic food has increased more than 12 times, reaching more than 5 million kg of organic food in Andalusia, served by more than 20 collective catering companies, 1.273 participating schools, 14.073.291 menus with some organic food during the 2018/19 school season have been distributed to an average of 143.013 schoolchildren per day.
Contract of 100% renewable electricity from the Regional Ministry on Finance, Industry and Energy to supply energy to more than 5.000 supply points of the public bodies attached to the Energy Network of the Junta de Andalucía (REDEJA) (2019)	It's the 1st experience that the Guarantee Certificates of renewable origin are required by the Regional Government of Andalusia to the trading company. The total electricity demand of the Regional Government of Andalusia is estimated at around 950 GWh (gigawatt hours). Evidence of success (results achieved): Thanks to the centralized contract, the Regional Government of Andalusia will pay, on average, 12.7% less than if it bought electricity directly at

	electricity market prices, which have increased by 21% on average in the last four years. Likewise, it's ensured that "by requesting guarantees of origin, the successful bidder is being forced to buy from renewable energy producers, which will result in a decrease in CO_2 emissions, estimated at almost 500.000 tons per year"
Remanufactured printing equipment (GM Technology)	Businness Model ➢ Extend life of equipments; ➢ Reuse of equipments and consumibles; ➢ Reduce environmental impact; and ➢ Save costs (public budget). Bussiness lines ➢ Remanufactured printng equipment; and ➢ Remanufactured printng consumables (toner and ink). Good Practice ➢ Remite management of printng equipment; ➢ Reconditioned equipment; ➢ Remanufactured original consumables; ➢ Automation of incidents; ➢ Automation of supplies delivery; ➢ Automation of meter reading; ➢ Equipment monitoring; ➢ Proactve consultation; ➢ Follow-up report; and ➢ Multi-brand software. Evidence of success (results achieved): • 45.000 remanufactured machines avoid the emission of 1.900 tons of CO2; 17.000 trees would be needed to absorb this CO2 during 40 years; • 120.000 original manufactured toners avoid the emission of 300 tons of CO2; 2.700 trees would be needed to absorb this CO2 during 40 years
Elaboration of recommendations on inclusion of environmental criteria in tenders related to purchase of paper, cleaning services and reprography	3 documents with technical recommendations to include environmental criteria in areas of common interest to the majority of public administrations have been prepared and distributed: 1) Copying and graphic paper; 2) Reprography machines and supplies; and 3) Cleaning services and products Non available data as evidence of sucess.
Selective collection system for light packaging in the hospital area of the Hospital de Valme (Seville)	The 1st formal experience on Circular Economy in the health sector with waste from group II (serum bags, oxygen humidifiers, gel containers for cleaning, containers of body milk, containers of hand sanitizers together with household items used by nursing (single-use plastic cups, water bottles, etc.). This is a very complex segregation point due to the great diversity of plastic sanitary consumables used during care activity in two hospitalization aeras: Surgery and Digestive Diseases. Non available data as evidence of sucess.

CHAPTER IV - Guidance for more systematic and efficient use of Circular Procurement

This chapter aims to provide a template on how to create an operating environment that enables more systematic and efficient implementation of the Circular Procurement (CP) practices. It is based on the EU directives provision with the Spanish Law on Public Procurement implementation and on the experience of Andalusia region.

4.1. Strategic level (for organizational executives)

There are 3 types or levels of models for implementing CP:

1. *System level* → the contractual methods that the purchasing organization can use to ensure circularity;
2. *Supplier level* → describes how suppliers can build circularity in their own systems and processes in order to ensure the products and services they offer meet circular procurement criteria;
3. *Zero waste design* → focused on the products that supplies to public authorities may themselves procedure further down the supply chain.

Clear ambitions and well-defined policies is an important precondition to make circular procurement successful.

The ambitions can be set down in, for example, the community part of the municipal plan, a strategic climate and energy action plan, a sustainability policy/environmental policy, an action plan for socially responsible procurement/green public procurement or a strategy for circular procurement. Such strategic ambitions would provide the strategic direction and operational tar-gets for incorporating circular economy into procurement.

Determine the CP ambitions of your organisation, in line with your definition of circular economy, and have them approved at executive level.

On the other hand, it is crucial to understand the difference between circular economy and circularity, as they refer to a different level. On one hand, circular economy is focussed on the economic system as a whole: it involves high-value reuse of products, components, and materials; it ensures that new products are non-toxic and makes use of renewable energy. In this way, products, components, and materi-

als retain their value in closed cycles. Depending on the definition, circular economy may also include social aspects, such as employment. On the other hand, circularity primarily concerns the high-value technical use and reuse of products, components and (raw) materials.

In this stage, one of the first practical steps is to consider how CP can be integrated into the existing procurement practices and systems of the organization. Creating a CP policy or incorporating circular economy principles into existing Green Public Procurement (GPP) or Sustainable Public Procurement (SPP) policy can be a good start to ensure it is visible as a priority, although not mandatory.

CP is a complex procedure in which is important to develop a clear procurement procedure or integrated procedures to ensure the purchase of circular products and services. Furthermore, circular procurement procedures should be aligned with the strategy. This should determine the following information:

- How the circular procurement process should be carried out?
- Who is responsible for which action during the procurement?
- Who should be involved inside and outside the organization?
- Which product groups should be covered with circular procurement?
- Principles to select CP approaches in each procurement project (product, service, system and level). Operational level (for procurers).

TIPS FOR POLITICAL AND ORGANIZATIONAL IMPLEMENTATION OF CP	
✓ Political decision of strategic action plan	✓ Include CP in the procurement strategy
✓ Political decision of procurement strategy	✓ Introduce circular principles and criteria in procurement routines and manuals
✓ Theme in politician training pro-gram	✓ Training program for employees

4.2. Operational level (for procurers)

There are different ways to describe the phases of the procurement process:

- Preparation
- Tender
- Contract
- Aftercare/Continuing improvement

Each of the four phases includes a set of specific steps starting from definition of the need, ambitions, and relevant strategic outlines.

Phase 1: Pre-award stage – needs analysis, zero waste design, risk assessment.

Legal framework:

(*) European Level: Annex V and VI of Directive 2014/24/EU and Directive 2017/25/EU, respectively

This pre-award stage is the starting stage and its appropriate implantation is vital for finding the right approach for the CP implementation.

By defining the appropriate circular approach will determine what procurement steps should take and where the CP criteria or considerations should be applied:

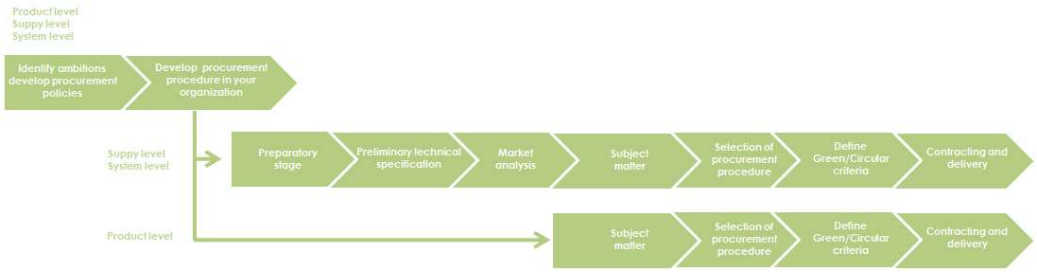


Fig 12. Step by step process of circular procurement of different CP approaches
(Source: prepared by Andalusian partner)

One of the first practical steps in this stage is to consider how CP can be integrated into the existing procurement practices and systems of the organization. Creating a circular procurement policy or incorporating circular economy principles into existing GPP or SPP policy[64] can be an effective first step to ensuring it is visible as a priority but it is not mandatory.

There are three types or "levels" of models for implementing circular procurement:

1) "system level"

Which concerns the contractual methods that the purchasing organization can use to ensure circularity. This ranges from supplier take-back agreements, where the supplier returns the product at the end of its life in order to re-use, remanufacture or recycle it, to product service systems, where the contract provides both services and products.

2) "supplier level"

Model describes how suppliers can build circularity into their own systems and processes, in order to ensure the products and services they meet circular procurement criteria. "Product level" is related to this, but is focused solely on the products that suppliers to public authorities may themselves procure further down the supply chain.

3) "zero waste design"

Focus on product design, its use phase and end-of- life (using buy-sell back, buy-resell and Product Service Systems). In some cases, the best solution may be to buy nothing at all. For example, the organization may be able to share resources or equipment with other authorities. Purchasing re-used, recycled or re-manufactured products can also contribute to the idea of a Circular Economy.

Procurers get to know the market (products, suppliers, manufacturers, service providers, etc.) to help them develop a greater understanding of what is already available and what is possible. Engaging the market can help to:

- Change and improve the procurement plan and management;
- Gathering information on how the market is structured and how it operates;

64 As IHOBE (Basque Country) has made through the publication of a Guideline for Circular Procurement: How Circular Economy can be promoted in the Green Public Procurement

- Increase your trust and credibility with suppliers and improving relationships with them;
- Create the market conditions needed to deliver the best solution;
- Help agencies to identify opportunities for sustainability and innovation.

All this information is needed to identify risks related to the specific subject matter.

By summarizing, especially three elements of procurement need to change or be in focus in order to promote more circular solutions:

1) Focus on service instead of product;
2) Focus on the product's design, use phase and end of life;
3) Focus on market dialogue.

TIPS FOR PRE-AWARD STAGE – NEEDS ANALYSIS, ZERO WASTE DESIGN, RISK ASSESSMENT POLITICAL AND ORGANIZATIONAL IMPLEMENTATION OF CP

- ✓ *Start with determine the needs of your organisation instead of the derived product request*
- ✓ *Make an assessment of your specific needs:*
  - *What are you really hoping to achieve? For example, do you need new office chairs or good office chairs (that need not necessarily be new)? or do you need lamps or do you need lighting?*
- ✓ *The needs analysis also has to take into ac-count what are the legal and administrative requirements. It is beneficial to take Life-Cycle Costing approach as part of your CP*

Phase 2: Functional/Technical specifications and labels

Legal framework:

(*) European Level: Articles 42-44 of Directive 2014/24/EU and articles 60-62 of Directive 2017/25/EU

The next step involves formulating preliminary technical specification of the procurement subject, which includes the general requirements for the procured product or service.

The organizations should identify whether a "technical" or a "functional" approach would be more appropriate for innovation procurement and for achieving a circular result.

A lot of calls for proposal are mainly based on technical specifications with the client dictating the required product specifications. On the other hand use of functional specifications opens up opportunities to reach innovative and often more circular solutions. These inno-

vative solutions were not prescribed, but they do better fit the client's needs. Functional specifications better fulfil the needs and at the same time allow you to take advantage of the market's knowledge and innovative potential.

Examples for functional specifications:

(*) "A healthy working environment for 500 employees" (functional specification) instead of "An office of 2,500 m^2 with measures X, Y and Z" (technical specification)

(**) "Environmentally-friendly packaging" (functional specification) instead of "Packaging made from X, Y and Z materials" (technical specification)

Functional specifications allow contractors to include the most recent developments and use their own creativity to fulfil the client's needs. Functional (or 'output/ performance-based') criteria will describe the desired result and which outputs (for example, in terms of quality, quantity, and reliability) are expected. However, in ordinary procurement the contracting authority defines technical specifications.

Additionally, functional specifications are not always the best choice. When dealing with an immature market or a simple product, technical specifications with due regard for circularity may provide the necessary guidance for market players.

Technical specifications have two functions:

- They describe the contract to the market so that companies can decide whether it is of interest to them. In this way they help determine the level of competition.
- They provide measurable requirements against which tenders can be evaluated. They constitute minimum compliance criteria. Standards have a major role in influencing the design of products and processes, and many standards include environmental characteristics such as material use, durability or consumption of energy or water.

Labels and Eco-labels can be used by contracting authorities that wish to purchase works, supplies or services with specific environmental, social or other characteristics, provided that the requirements for the label are linked to the subject-matter of the contract, such as the description of the product and its presentation, including packaging requirements.

Phase 3: Market analysis: Methodology for involving economic operators in the circular procurement process

Legal framework:

(*) European Level: Articles 40-41 of Directive 2014/24/EU and articles 58-59 of Directive 2017/25/EU

Circular procurement is most effective if there is a clear understanding of what it is and the reasons for its application.

Market analysis can be useful to determine whether appropriate alternatives are available which can reduce environmental impact. To keep the Stakeholders involved in circular procurement transparency has a crucial role.

The success of any procurement exercise will ultimately be determined by how the market responds to the request. Effective engagement with potential suppliers prior to tendering has several purposes:

1. Identify potential bidders and/or solutions;
2. Build capacity in the market to meet the requirement(s);
3. Inform the design of the procurement and contract.

The key steps for engagement of economic operators, resilience and interest raising towards participation in circular procurement tenders are the followings:

Fig 13. Key steps of the contractor Involvement

- ✓ *You can use market dialogue and negotiations to find solutions that are re-source efficient, where the products have a long life and can be recycled This is what you should keep in mind when entering into a **dialogue with the market**:*

  - Is the product made from renewable or recycled material? If so, how much? If not, what does it take?
  - Is the product free of substances that are harmful to health and the environment?
  - Can innovative design contribute to extended service life and lower environmental impact?
  - Are there other ways to arrange the procurement to have the need covered in a more resource-efficient way? For example, fewer products to get the performance we need?
  - Does the production or use require large amounts of water or energy, and can it be done more efficiently?
  - Can the product be repaired, upgraded or reused during its lifetime? Can you as a buyer influence the supplier to take greater responsibility for this?
  - Can the materials be recycled and utilized as raw material in a new product?

- ✓ *Set up a **market consultation** in a way that ensures the information ex-change works both ways:*

  - *First of all,* share *your own ambitions with market players.*
  - *In addition, you should ask market players for information you need: what are the customary requirements in the market, what circular opportunities can be identified, how would parties like to be challenged? Make an assessment of your specific needs.*
- ✓ *Depending on your objectives there are various ways to perform a market consultation. Your choice should reflect the efforts that market players have to make, i.e. the consultation should be in proportion to the size of the contract.*

- ✓ *The **result** of the market dialogue will form the basis for the procurement procedure and what criteria for circularity can be set.*

According to the National Law[65], the market consultations are an option and are not mandatory:

*The contracting authorities may carry out market studies and direct consultations with the economic operators in order to correctly prepare the tender and inform the aforementioned economic operators about their plans and the requirements that they will require to attend the procedure. For this, the contracting bodies may avail themselves of the advice of third parties, which may be independent experts or authorities, professional associations, or even, exceptionally, economic operators active in the market. Before starting the consultation, the contracting body will publish in the contracting profile located in the **Public Sector Contracting Platform or equivalent information service at the regional level**, the subject matetr of the consultation, when it will begin and the names of the third parties who are going to participate in the consultation, so that all possible interested parties may have access and the possibility of making contributions. Likewise, the reasons that motivate the choice of the external consultants that are selected will be published in the contractor's profile*

65 Article 115 of the Law 9/2017

Phase 4: Preparatory stage – defining the requirements and procurers needs, subject matter

Legal framework:

(*) European Level: Articles 18.2 and 70 of Directive 2014/24/EU, and articles 36.2 and 87 of Directive 2017/25/EU

In defining the best procurement strategy, the organization should consider at what stages will be able to apply CP criteria or considerations. This activity starts from exploration of the market and choosing the procedures. Before releasing the tender, it conducted market engagement, and completed a Life-Cycle Impact Mapping exercise to identify areas to focus on with regards to environmental and socio-economic risks and opportunities. A useful way to prioritize potential actions is by means of the "Procurement Hierarchy", which is based on the European Waste Hierarchy: reduce, reuse, recycle and recover.

Challenges include extending circular thinking beyond a "financing option", the commitment risk on part of the buyer, a lack of competition (especially within public tenders) and also improving inter-organizational collaboration. In most cases the shift in business model was simply the formalization of the collaboration.Based on the results of the previous steps the subject matter to be procured has to be defined or finalized.

Based on the results of the previous steps, the subject matter to be procured has to be defined or finalized.

The "subject-matter" of a contract is about what product, service or work you want to procure.

This process of determination will generally result in a description of the product, service or work, but it can also take the form of a functional or performance-based definition (see Phase 2). Choice of subject-matter is particularly important because it determines the permissible scope of specifications and other criteria you may apply as well as circular procurement approach.

When you have decided on your subject matter the procurement procedure can be chosen. Select the procedure on the basis of the value of the contract, the number of suppliers in the market and the extent to which you want to stimulate cooperation between parties. Public organisations must comply with regulations relating to public

procurement procedures (private organisations have more freedom). However, a private party is free to apply public procurement principles when selecting parties.

TIPS FOR A DEFINITION OF PROCUREMENT PROCEDURE
✓ *Choose a procedure that is proportional to the size of the contract.*
✓ *Always make room for a dialogue with market players in order to get better acquainted with the parties involved and enable them to under-stand your ambitions.*
✓ *Prevent high transaction costs for market players due to a procedure that is needlessly intensive.*

Phase 5: Exclusion grounds and Selection criteria

Legal framework:

(*) European Level: Articles 56-64 of Directive 2014/24/EU and articles 76-80 of Directive 2017/25/EU

Once the subject matter has been formulated and the procedure has been selected, you can formulate your criteria for circularity.

The circular criteria can be formulated through technical or functional requirements/criteria, and can be put as:

- **Selection criteria**: these criteria are applied at supplier level;
- **Minimum requirements**: these criteria are set in the technical specifications and apply for the product/service; and/or
- **Award criteria** (further information in Phase 7): these criteria are used during the evaluation of the bids.

The selection of tenderers consists in assessing the tenderers on the basis of the exclusion grounds[66] and the selection criteria[67] set out in the procurement documents.

These Rules aim to ensure a minimum level of compliance with environmental law by contractors and sub-contractors (see also EU Directive 2014/24, Art. 59, 60, 61, 62, 63 and 64 on European Single Procurement Document, Means of proof, Online repository of certificates (e-Certis), Reliance on the capacities of other entities, Quality assurance standards and environmental management standards, Official lists of approved economic operators and certification by bodies estab-

66 Art. 56 of EU Directive 2014/24; Art. 57 and 76 of EU Directive 2014/25; and art. 7 of EU Directive 2014/25.

67 Art. 58 of EU Directive 2014/24.

lished under public or private law). Techniques such as life-cycle costing, specification of sustainable production processes, and use of environmental award criteria are available to help contracting authorities identify environmentally preferable bids.

It is possible to exclude companies that have breached environmental law or have other serious defects in their environmental performance, although they must also be given the opportunity to "self-clean" and cannot be excluded for more than three years on this basis.

The 2014 Directives also allow exclusion for violation of a limited list of international environmental conventions[68].

Exclusion grounds are provided by EU Directives. Some of them are mandatory for all EU Member States other are voluntary implemented at national level by choice of EU Member States. National contracting authorities are obliged to use them as provided at national level.

Selection criteria provide a degree of certainty that a particular supplier would be able to supply the requested product and/or services. Selection criteria may be used by a contracting authority to establish whether an economic operator is qualified to perform a specific contract:

- Personal situation of the economic operator: (i) mandatory grounds for exclusion; (ii) optional grounds for exclusion;
- Suitability to pursue the professional activity;
- Economic and financial standing; and
- Technical and/or professional ability.

Violations of environmental law can also be used as grounds to refuse to award a contract to an operator, to reject an abnormally low tender, or to require replacement of a subcontractor.

68 E.g.: Vienna Convention on the ozone layer; Basel Convention on hazardous waste; Stockholm Convention on persistent organic pollutants; PIC Convention (hazardous chemicals/pesticides). E.g. Annex X of the EU Directive 2014/24.

Specifications can be categorised as Functional, Performance, or Technical. It is common though to use the term "Technical Specifications" to refer to specifications in general. Functional specifications can refer to performance requirements.

Phase 6: Award procedures

Legal framework:

(*) European Level: Articles 26-33 of Directive 2014/24/EU and articles 43-51 of Directive 2017/25/EU

There are a number of different tender procedures.

EU Directives on public contracts shall only apply to specific public service contracts for **Research and Development (R&D) Services**[69] provided two conditions are fulfilled:

a) The benefits accrue exclusively to the contracting authority for its use in the conduct of its own affairs, and
b) The service provided is wholly remunerated by the contracting authority.

R&D can cover activities such as solution exploration and design, prototyping, up to the original development of a limited volume of first products or services in the form of a test series. "Original development of a first product or service may include limited production or supply in order to incorporate the results of field testing and to demonstrate that the product or service is suitable for production or supply in quantity to acceptable quality standards"[70]. R&D does not include commercial development activities such as quantity production, supply to establish commercial viability or to recover R&D costs, integration, customisation, incremental adaptations and improvements to existing products or processes.

Research and development[71], including eco-innovation and social innovation, are among the main drivers of future growth and have been put at the center of the Europe 2020 Strategy for smart, sustain-

69 Which are covered by CPV codes 73000000-2 to 73120000-9, 73300000-5, 73420000-2 and 73430000-5.

70 WTO Government Procurement Agreement, article XV.

71 Art. 14 of EU Directive 2014/24 and art. 32 of EU Directive 2014/25.

able and inclusive growth. Public authorities should make the best strategic use of public procurement to spur innovation and circular procurement0[72].

Pre-commercial procurement is intended to describe an approach to procuring R&D services other than those where "the benefits accrue exclusively to the contracting authority for its use in the conduct of its own affairs, on condition that the service provided is wholly remunerated by the contracting authority. PCP can be used when there are no near-to-the-market solutions yet that meet all the procurers' requirements and new R&D is needed to get new solutions developed and tested to address the procurement need. PCP can then compare the pros and cons of alternative solutions approaches and de-risk the promising innovations step-by-step via solution design, prototyping, development and first product testing. PCP is a public procurement of R&D services that does not include the deployment of commercial volumes of end-products.

Pre-commercial Procurement "deals with the procurement of those R&D services not falling within the scope of this Directive. Those models would continue to be available, but this Directive should also contribute to facilitating public procurement of innovation and help Member States in achieving the Innovation Union targets".[73] "Pre-commercial procurement" regards a R&D activity which has the aim of reaching the development of a prototype and a different set of agreement can be provided for the Intellectual property of the prototype that could be developed (not only for CA but also permitting the private company to use it, that's way pre commercial procurement can be awarded without the payment of all the research activity and cost less to Ca because of the common effort to develop a solution that satisfy the need of CA and potentially can become the new solution also for others).

Public Procurement of Innovative Solutions (PPI) can be used when challenges of public interest can be addressed by innovative solutions that are nearly or already in small quantity on the market. PPI can thus be used when there is no need for procurement of new R&D to bring solutions to the market, but a clear signal from a sizeable amount of early adopters/launch customers that they are willing to purchase/deploy the innovative solutions if those can be delivered with the desired quality and price by a specific moment in time. A PPI may still involve conformance testing before deployment.

72 Recital No. 47 of EU Directive 2014/24 and Recital No. 57 of EU Directive 2014/25.

73 EU Commission, Pre-commercial Procurement: Driving innovation to ensure sustainable high quality public services in Europe, 14.12.2007, COM (2007) 799 final.

Innovation procurement refers to any procurement that has one or both of the following aspects:

- Buying the process of innovation – research and development services – with (partial) outcomes;
- Buying the outcomes of innovation created of others.

In the first instance, the public buyer buys the research and development services of products, services or processes, which do not exist yet. The public buyer describes its need, prompting businesses and researchers to develop innovative products, services or processes to meet the need. In the second instance, the public buyer, instead of buying off-the-shelf, acts as an early adopter and buys a product, service or process that is new to the market and contains substantially novel characteristics[74].

Innovation partnership can be established if a certain product or service is not currently available on the market. Innovation partnership is a new type of public procurement procedure provided for in Directive 2014/24/EU[75].

The main feature of the innovative partnership is that the innovation occurs during the performance of the contract. In most other procedures48, the public buyer already knows what type of solution it is buying: innovation occurs in the pre-contracting phase and usually ends with the conclusion of the contract when the exact features of the solution are agreed. In an innovation partnership, the public buyer is entering into a contract with the best potential supplier(s) of innovation. The supplier(s) is (are) expected to create the innovative solution and ensure its real-scale implementation for the public buyer. The public buyer's needs should be described with sufficient precision to allow potential tenderers to understand the nature and scope of the challenge and have sufficient information to decide whether or not to participate[76].

The innovation partnership process takes place in three phases:

1) The selection phase occurs at the very beginning of the procedure, when one or more of the most suitable partners are selected on the basis of their skills and abilities. The contracts establishing the innovation partnership are subsequently awarded

74 EU Commission, Guidance on Innovation Procurement, 15 May 2018, COM (2018) 3051 final.

75 Art. 31 of EU Directive 2014/24; Art. 65 and 66 below; Art. 49 of EU Directive 2014/25.

76 EU Commission, Guidance on Innovation Procurement, cit.

based on the best price-quality ratio proposed. This phase is similar to a restricted procedure;
2) In the next phase, the partner(s) develop the new solution in collaboration with the public buyer. This research and development phase can be further divided into several stages designated for evaluating concepts, developing prototypes and/or testing performance. During each stage the number of partners may be reduced on the basis of predetermined criteria; and
3) In the commercial phase, the partner(s) provide the final results[77].

The other procedures applied by procurers are as follows[78]:

Open procedure[79]: a procedure that consists of a single stage: an award stage. Suitable for tenders with either a small number of potential suppliers or a short lead time.

Restricted procedure[80]: a procedure that consists of two stages; first, a selection stage, and next, an award stage. This is suitable for tenders with a lot of potential suppliers. In the selection stage you make a selection based on your organisation's vision. The environmental technical capacity in a prior stage can be assessed and also limit the number of operators invited to tender.

Competitive negotiated procedure[81]: a restricted procedure where negotiations are started with the winning tenderer in order to arrive at an improved proposal. Procedure can be used by public authorities for purchases which require an element of adaptation of existing solutions; design or innovation; or in certain other circumstances.

Competitive dialogue[82]: a restricted procedure with an added dialogue stage after the selection stage and before the award stage. The dialogue stage creates additional opportunities to add more depth to your project or ambitions. Procedure can be used by public authorities for purchases which require an element of adaptation of existing solutions; design or innovation; or in certain other circumstances.

The competitive dialogue, in which any economic operator may submit a request to participate in response to a contract notice by providing the information for qualitative selection that is requested by the contracting authority. In this case contracting authorities have to

77 EU Commission, Guidance on Innovation Procurement, cit.
78 Art. 26 of EU Directive 2014/24; Art. 44 of EU Directive 2014/25.
79 Art. 27 of EU Directive 2014/24; Art. 45 of EU Directive 2014/25.
80 Art. 28, 65 and 66 of EU Directive 2014/24; Art. 46 of EU Directive 2014/25.
81 Art. 29 of EU Directive 2014/24/EU.
82 Art. 30 of EU Directive 2014/24; Art. 48 of EU Directive 2014/25.

provide information on needs requested. Competitive dialogues may take place in successive stages in order to reduce the number of solutions to be discussed during the dialogue stage by applying the award criteria laid down in the contract notice. Only in exceptional situations (e.g. where extreme urgency brought about by events unforeseeable by the contracting authority concerned that are not attributable to that contracting authority makes it impossible to conduct a regular procedure even with shortened time limits), contracting authorities should have the possibility to award contracts by negotiated procedure without prior publication.

Only in exceptional situations (e.g. where extreme urgency brought about by events unforeseeable by the contracting authority concerned that are not attributable to that contracting authority makes it impossible to conduct a regular procedure even with shortened time limits), contracting authorities should have the possibility to award contracts by **negotiated procedure without prior publication**[83].

Moreover, **framework agreements** can be award with an open procedure has been widely used and is considered as an efficient procurement technique (not an award procedure) throughout Europe. Its use can favour innovation and access to the relevant markets[84].

Framework agreements may be concluded according to five different models. With one or more economic operators by establishing all the terms of the agreement to be signed[85], or *vice versa*, without establishing all the terms[86] providing a reopening of competition (so-called "mini-competition") so that contracting authorities may tailor the requests to their needs in the purchasing phase. The 2014/24 Directive provide for a mixed or hybrid model "closed but with the possibility to reopen the competition" (EU Directive 2014/24/EU, Art. 33(4b)). The hybrid model allows public entities can purchase directly through the framework agreement (as in the "closed" model) or reopen the competition among the economic operators party to the FA (this is possible only if allowed by the terms and conditions indicated in the procurement documents). It is the contracting authority that needs to use FA which decides whether it might be convenient to reopen the competition among the economic operators inside the master contract.

83 Art. 32 of EU Directive 2014/24; Art. 47 and 50 of EU Directive 2014/25.

84 Art. 33 of EU Directive 2014/24/EU; Art. 51 of EU Directive 2014/25.

85 So-called "closed" framework agreement.

86 So-called "open" framework agreement.

The main difference between technical specifications and award criteria is that whereas the former is assessed on a pass/fail basis, award criteria are weighted and scored so that tenders offering better environmental performance can be given more marks.

Phase 7: Award criteria

Legal framework:

(*)European Level: Articles 45, 67-69 of EU Directive 2014/24 and articles 64, 82-84 of EU Directive 2014/25.

It is important to define clear award criteria if you want to select the best supplier and the best proposal.

Design the criteria to

- Promote extended product life
- Promote closed material cycles
- Promote clean life cycles

Determine the circularity of the proposal in a way that is appropriate for the requested product group. Find out what measuring methods are commonly used within that product group. Consider focussing on a limited number of products in the tender and asking the winning supplier to demonstrate the circularity of the remaining products.

Make sure to define clearly targeted criteria. This will allow market players to distinguish themselves in areas that are important to your organisation. Using too many different criteria makes it harder for parties to make a difference.

Price

The evaluation of tenders should be evaluated according to the award criteria with their relative weighting. In the past, procurement projects often focussed on **lowest price**. In circular procurement, it is recommended to use **most economically and advantageous (MEAT)** in order be able to prioritise circular aspects[87].

87 Art. 67 of EU Directive 2014/24; Art. 82 of EU Directive 2014/25.

Make sure you maintain the right price to quality ratio when you define your criteria.

This allows market players to distinguish them-selves in terms of quality, which includes circular ambitions. However, if the weighting shifts towards quality and circularity, there is a risk that the price will increase. To prevent this from happening, it may help to delimit the scope for solutions with clear (financial) conditions. This means you could consider setting a ceiling price and maybe a floor price.

A ceiling price will ensure that that offers you receive are not too high. After all, proposals that exceed the ceiling price will be excluded from the award of the contract. A floor price could prevent price cutters from winning the contract: by offering a very low price, they hope to win the contract with a minimum quality score. Using a ceiling price and a floor price would prevent this. An additional benefit of using ceiling and floor prices is that this allows you measure the price performance on an absolute scale. A tender with the floor price gets a maximum score, while a tender with the ceiling price gets a minimum score, with the other prices on a linear scale between ceiling and floor. In this way, if price differences between tenderers are small, their price scores will not vary widely. However, setting a ceiling and/or a floor price would require you to conduct good market research prior to putting out the tender.

Life Cycle Costing

When focusing on resource efficiency, products tools like Total Cost of Ownership (TCO) or Life Cycle Costing[88] becomes relevant.

Many different backgrounds and disciplines have been interested in calculating the optimal allocation of budget by estimating the costs that incur during the whole life cycle of a product, service, project, investment, etc. The main cost categories that can be included in an LCC analysis[89] are those related to the following five different life cycle stages: Research, development and design; Primary production; Manufacturing; Use; Disposal.

The awarding phase is not the only relevant moment for using LCC in the procurement. Analyzing the whole life-cycle costs of a product or service can be useful at different stages (Adell et al., 2011):

88 Art. 68 of EU Directive 2014/24; Art. 83 of EU Directive 2014/25.

89 Huppes et al., 2004.

- At the preparatory stage: to assess the LCC of the current situation.
- Before tendering: to roughly assess different proposals to help guide market engagement activities before tendering, or to narrow down the different technological solutions to be considered.
- During tendering: to compare the LCC and the anticipated CO2 emissions of different offers, during the evaluation phase.
- After tendering: to evaluate and communicate the improvements of the purchased product in comparison to the current situation and/or other products and to communicate results.

One of the recommendations of the EU Commission working group on Life Cycle Costs in Construction is to carry out LCC at early design stage, where the opportunities for modifying the costs of a project are greatest.

There are many external factors that can affect enormously the outcomes of an LCC analysis.

Market price variability of products and services

- Electricity, water and gas prices
- Taxes, subsidies and incentives
- Inflation, discount rate and other economic elements
- Waste disposal regulations

Thus, the final result of an LCC can be highly dependent on these external factors, which usually are not related at all with the environmental quality of the product or service analyzed.

The conclusions highlighted that the final costs (and thus the LCC results) depends highly on the tax policy of the different Member States.

LCC analysis would be then just one piece of a wider number of elements to take into account when preparing and evaluating a public procurement process. Environmental impacts, as well as social conditions or innovation could be other additional issues to take into account in the procurement process.

Variants

Public buyers may allow tenders with "variants": one or more alternative solutions usually based on alternative technologies or processes, can accompany the offer that closely matches the technical specifi-

cations. Suppliers can propose, alongside a traditional "safe" solution, a more innovative solution[90]. This may attract the attention of public buyers because of the potential for better-than-expected results in terms of cost, quality or flexibility. Public buyers may even require the submission of variants only (complying with the minimum requirements).

The use of variants is most efficient when combined with functional requirements and award criteria that enable to compare various solutions in terms of their performance, efficiency, cost effectiveness, versatility or durability. Without these parameters, it is difficult to compare the variants.

TIPS FOR AWARD CRITERIA
✓ *Give sufficient weight to quality in the price to quality ratio.*
✓ *Use criteria relating to circularity in both the selection stage and the award stage.*
✓ *Make sure to define clearly targeted criteria to ensure market players can distinguish themselves*
✓ *Use a measuring method that has been agreed with market players in that sector. Validate this with a market consultation.*

Phase 8: Contract performance terms and conditions

Legal framework:

(*) European Level: Articles 70-73 of EU Directive 2014/24 and articles 87-90 of EU Directive 2014/25.

Contract performance clauses are used to specify how a contract must be carried out.

Environmental considerations can be included in contract performance clauses[91].

Suppliers may be required or encouraged to take responsibility for keeping a product or material in the cycle after use. Circular procurement contracts usually fall into one of four categories:

90 Art. 45 of EU Directive 2014/24; Art. 64 of EU Directive 2014/25.

91 Art. 70 of EU Directive 2014/24; Art. 87 of EU Directive 2014/25.

- **Agreement on upgrading existing products**: This applies to contracts to upgrade, further develop, repair, renovate or rehabilitate instead of buying new.
- **Agreement on new equipment with a long service life and/or used equipment**: If more products are needed, clients can request products that are designed to last a long time. These products usually achieve high quality requirements, can be repaired, have spare parts available, can be dismantled and can be recycled. Clients should also consider the possibility of meeting their needs with used equipment in dialogue with the market.
- **Agreement on repurchase/resale**: Repurchase means that the sup-plier buys back a product and ensures optimal value preservation via reuse. The resale agreement includes an agreement on who (i.e. a third party) will have the product after use, usually for reuse or recycling. Alternatively, it is possible to introduce separate contracts that specifically deal with reuse.
- **Agreement on reuse and recycling services**: Can be used both by a main supplier of new equipment joining a subcontractor (third party) who specializes in re-use and recycling of the equipment in question. Can also be entered into as a separate agreement, especially useful when the equipment has already been purchased.
- **Product/service agreement**: The supplier retains ownership of the product, and the user pays after use or according to performance, e.g. rental / leasing with the aim of extending the life of the products.

Compliance with contract clauses should be carefully monitored during the execution phase, with responsibility for compliance and reporting clearly indicated in the contract. In case of modification of the contract during its execution EU limits should be respected[92]. In order to discourage breaches of environmental commitments, adequate sanctions should be provided[93].

92 Art. 72 of EU Directive 2014/24; Art. 89 of EU Directive 2014/25.

93 Art. 73 of EU Directive 2014/24; Art. 90 of EU Directive 2014/25.

CONCLUSION

Once acknowledged that the definition of circular procurement cannot ignore that of green procurement, quite plainly it comes that ***circular procurement does not end with implementation of green procurement criteria***. Differently from green procurement, which is very related to goods, circular procurement tends to put products in relation with processes. Its aim is indeed that to close the loop and so achieve a sustainable balance between economic, social and environmental aspects.

In order to make this happen, public procurers shall consider that there is no one-fits all solution to implement circular procurement and that implementation of circular procurement eventually calls for an original understanding of the existing rules and an original combination of the existing instruments.

The diffusion of circular procurement is in fact still at a preliminary stage and guidance tools are essential in order to transpose what is written in the policy papers recently adopted at European level on circular economy and circular procurement in particular in common procurement practices. As mentioned, ***serial application of green public procurement criteria constitutes the basis, but then implementation of circular procurement needs a step further***.

The decision on which model fits best really depends on the needs of the public authority at stake, the sustainability improvements it wants to pursue, its organizational capacity.

Strictly speaking, circular procurement is expected to reflect the European Waste Hierarchy: re-duce, reuse, recycle and recover.

Practically, that means to reduce the procurement of new products; increase reusability of available products; recycle products that cannot be reused anymore; recover waste to use it for a different purpose and, whenever possible, purchase recovered products. That is the very essence of circular procurement and there are various ways to implement it. Whatever the model of procurement would be, in the end though, what makes the difference is the ability to scale up circular practices and take them at a systemic level.

In order to make ***a change at systemic level***, combination of green procurement criteria and social criteria could definitively be an option. That would help to shift focus from goods/services to processes

and thence make public procurement a strategic tool to drive social policies forward.

In the end, circular procurement it is not only a matter of procurement intended as mere acquisition of products, works, services, but rather of control of possible relationships between procurer and supplier in the entire contract life-cycle, if not between procurer and multiple suppliers.

In this sense, circular procurement calls for forms of ***collaboration between procurer and supplier*** that could make it easier to meet the objectives of reduce, reuse, recycle, recover in procurement, in a way to fulfill the needs of the procurer by delivering social impact at the same time.

In the current health emergency situation caused by COVID-19, interaction with the market may offer good opportunities to take into account strategic public procurement aspects, where environmental, innovative and social requirements, including accessibility to any services procured, can be integrated in the procurement process.

The cooperation between public buyers and industrial and innovation ecosystems can ***stimulate innovation and increase efficiency of public investment*** in order to facilitate the matchmaking of demand, including through setting platforms that allow interactions between buyers and suppliers for better sourcing strategies.

Often, ***buying responsibly and ethically*** can create incentives for entrepreneurs to commit to a more sustainable management of the production process, which eventually can bring benefits in terms of more sustainable management of the consumption process as well. In this regard, it might be useful to consider that in 2011, the European Commission has adopted a guide on taking account of social considerations in public procurement, titled "Buying Social", and that such guide is now expected to be updated.

In this regard, another interesting document is "Making Socially Responsible Public Procurement Work: 71 Good Practice Cases", edited by the European Commission in May 2020. The document is a collection of Socially responsible public procurement (SRPP) good practice and it shows the diversity of the current application and the range of opportunities available to public buyers to use their procurement strategically to deliver real social outcomes, improving the quality of human lives in Europe and beyond.

As evident from the above, in the ***absence of comprehensive legislative*** provisions specifically focusing on circular procurement, given the provisions contained in the Public Procurement Directives, the regulatory framework of reference can very much vary depending on how much procurers intend to engage with circularity and transpose it in procurement processes. That is a decision that eventually results from the level of understanding of circular principles and the needs assessment.

That acknowledged, the regulatory framework of reference can further vary depending on whether on the market are already available solutions that, in relation to the specific needs at stake, could sufficiently help to develop practices compliant with reduce, reuse, recycle, recover, principles. In case the solutions available on the market are not sufficient, innovation procurement could definitively be an option to explore innovative ways to implement life-cycle management and so spur circular transition from the demand side.

Among the lessons learnt throughout the CircPro project, the ***identification of*** obstacles while applying CP, among other:

- Identification of priorities and principles to be clarified at the beginning of Procurement;
- Market engagement to ensure transparency and the confidence of suppliers, and to understand the potential challenges of certain solutions;
- Engagement of technical and environmental experts for identifying the right approach and choosing the right solutions;
- The complexity of the sector to structure the tender on the basis of a needs; and
- The question of subdivision of the tender into the lots to promote accessibility to small and medium-sized enterprises sometimes can be tricky and have an opposite result.

Circular Economy in Spain is regulated in the Spanish Strategy for Circular Economy, which seeks to lay the groundwork for promoting a new production and consumption model. In the same way, Andalusia has approved its own legal act on Circular Economy: the draft Law on Circular Economy in Andalusia.

Both are aligned with the two European action plans (European Green Deal and Agenda 2030), and therefore both include measures to promote Green Public Procurement. However, as mentioned above, both references serve as guidance and not as an obligation.

It is time to take a further step in the regulation of Strategic Public Procurement, moving from a voluntary and programmatic to a legal

and compulsory development, which emphasizes the obligation to purchase specific environmental benefits, especially in relation to benefits where it is possible to obtain results of double environmental and economic gain (we are not only talking about an economic benefit for the contracting authority, but for society as a whole, such as the creation of new markets and business opportunities or the expansion of competition and the reduction of prices of environmental technologies).

We cannot miss a tool for economy transformation, with a high potential to reinforce its resilience and its competitive and innovative capacity, such as green and circular public procurement, in the hands of voluntarism.

The draft Law on Circular Economy introduces general measures that encourage public administrations to promote the use of green and circular public procurement. These measures are "voluntary" and generally ignored or directly unknown by the contracting authorities. In this sense, the National Law on Public Purchasing should provide an annex that includes sectoral rules with obligations or specific exhortations for strategic purchasing in order to make these requirements visible in the general contracting regulations.

Additionally, it would be necessary to launch at a strategic level a national process to define common criteria for green and circular public procurement, based on those already defined by the European Commission, for the identification of good practices and national experiences by types of contracts and the development of methodologies for calculating the life cycle of products, which is accompanied by a commitment to the professionalization of the staff of the contracting bodies and the use of the Public Sector Procurement Platform (and the regional), as a centralization and dissemination space for said information and tools.

However, the effort and determination made by the Regional Ministry of Agriculture, Livestock, Fisheries and Sustainable Development to promote the legal bases on the new circular economy model should be highlighted.

The draft Law on Circular Economy in Andalusia aims at addressing, transversally and with a structural scope, many of the changes that, with the rank of Law, are necessary to encourage and accelerate the transition towards a more sustainable, competitive and innovative economy, and to lay the groundworks for overcoming the "throwaway" production and consumption model that is already becoming unsustainable.