

Regulatory Opportunities and Challenges of Circular Public Procurement in the European Union

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Abstract

Public procurement, the processes by which public authorities purchase works, goods, or services, can support transitions to circular economies. To date, discussions on circular public procurement (CPP) have been predominantly limited to operational dimensions, focused in particular on the need to develop ‘circular criteria’ when specifying selection, performance and award criteria for tenders. This perspective instead recommends shifting the focus to the regulatory framing of CPP. This is particularly poignant, as public procurement is increasingly included as a possible measure within European Union (EU) environmental laws, including those focused on resources and waste, to support environmental as well as circular economy aims. The presence of public procurement in EU environmental law is expected to increase, as further laws need to be adopted specifying public procurement requirements pursuant to recently adopted EU laws on ecodesign and particular types of waste. These laws may be relevant to CPP discussions and also provide an opportunity to shape the CPP agenda. Based on a mixed-methods review, this perspective proposes three areas of focus for the regulatory framing of and further research on CPP: explicit integration of social issues, needs assessments, and embedding circular criteria throughout the procurement process and beyond.

Keywords Circular Public Procurement · Public Procurement · EU Law · EU Environmental Law · Circular Economy Law

1. Introduction

Transitions to circular economies (CEs) require actions from all actors in society including public authorities, who can have a critical role as a result of their purchasing power and economic significance (Kristensen et al., 2021). In the EU, for example, public procurement – the processes by which public authorities purchase works, goods, or services – accounts for around 14% of GDP (European Commission, 2017a, 2025a) and is increasingly recognized as a key tool to facilitate CE transitions (e.g. Stahel, 2019; Iurascu, 2023; European Investment Bank 2025). Between 2020 and 2024, there was, for instance, an increase from 53% to 63% of cities and regions in Europe leveraging public procurement to support CEs (European Environment Agency, 2025). Through circular public procurement (CPP), public authorities can promote sustainable circular practices across supply chains by integrating circular criteria (e.g. durability, life-cycle costing, take-back schemes, recycled content targets) in procurement, promoting services instead of products, and creating new markets or expanding existing ones to include greener products.

This perspective highlights three areas critical to the regulatory framing of CPP identified through a mixed methods review, which entails combining review approaches (Grant & Booth, 2009). In particular, this paper draws on different forms of literature reviews undertaken by the authors previously in relation to CPP

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combined with doctrinal insights.² The latter comprises identifying, analyzing, and synthesizing the content of law (e.g. Dobinson & Johns, 2007; Hutchinson, 2013). A gap analysis between the different reviews and doctrinal approach identified critical areas for future research. The three recommended areas set out in this perspective are predominantly based on the EU (environmental law) context, but many are relevant more widely. The next section discusses the definition of CPP and how it aligns with other forms of public procurement. Section 3 then very briefly outlines the expected changing regulatory landscape of public procurement that may impact CPP. This perspective concludes by outlining directions for further research and areas on which the evolving regulatory and policy landscape should focus.

2. Defining and Distinguishing ‘Circular Public Procurement’

There is no uniform or legally-binding definition of CPP. Most definitions focus on life-cycle dimensions and minimizing negative environmental impacts (Alhola et al., 2017; European Commission, 2017b; Alhola et al., 2018; van Oppen et al., 2018; EIT Climate-KIC, 2019; Qazi & Appolloni, 2022). Most of these definitions also capture economic elements (except in European Commission, 2017 and EIT Climate-KIC, 2019). None, however, capture the social dimensions – perhaps unsurprisingly, as this omission is also common in CE definitions (Velenturf & Purnell, 2021; Kirchherr et al., 2023). Yet, embedding social considerations is an “absolute necessity” (Lesniewska & Steenmans, 2023, p. 146) to enhance legitimacy and avoid compounding long-standing distributional, recognition, and procedural injustices (Maitre-Ekern et al., 2020; Steenmans & Lesniewska, 2023). The term circular society has therefore been introduced to “comprehensively include the three pillars of sustainability and see circularity as a holistic transition, where issues of ... social justice also have to be addressed” (Friant et al., 2020, p. 10; see also e.g. Jaeger-Erben et al., 2021; Friant et al., 2024). The introduction of this term may signal a shift to moving social issues to the forefront of discussions, but currently they remain mostly absent.

Various other terms have been developed to describe public procurement practices with a focus on environmental dimensions. Table 1 briefly defines these and other forms of public procurement, identifies the main focus of the form as the distinguishing feature of each form, and sets out the link to other forms. Despite these pre-existing concepts and overlaps between them, CPP is valuable as it directs focus to (reducing) resource use and waste generation for sustainable development. Some literature on CPP, however, has conflated these terms, likely as a result of the nascent nature of CPP (e.g. Sönnichsen & Clement, 2020).

Table 1. Brief overview of forms of public procurement. The links between these are simplistically identified.

Concept	Definition	Central focus	Link to others
Circular public procurement (CPP)	Integrating circular economy principles throughout procurement processes (including of the object of procurement)	Circular economy	CPP is a subset of SPP. CPP can overlap with GPP, but includes impacts beyond environmental ones
Green public procurement (GPP)	Reducing the environmental impact of public procurement (European Commission, 2008, 2025c)	Environmental impacts	GPP is a subset of SPP
Innovation procurement	Promoting initiatives to procure innovative solutions (European Commission, 2025c)	Innovative solutions	Innovation procurement can overlap with the other types of procurement, but innovation is neither necessary nor sufficient for any other procurement forms
Low emissions public procurement (LEPP)	Aiming for near-zero emissions in public procurement (Andhov & Muscaritoli, 2023)	Low greenhouse gas emissions	LEPP is a subset of GPP

² The reviews on which this paper builds are those predominantly conducted for and set out in: Lesniewska & Steenmans, 2023; Steenmans & Lesniewska, 2023; Muscaritoli, 2025; Steenmans & Muscaritoli, 2025a, 2025b, as well as generally relying on the authors' expertise developed in researching circular economy and the law, environmental law, and procurement law more broadly.

Table 1 (cont.). Brief overview of forms of public procurement. The links between these are simplistically identified.

Concept	Definition	Central focus	Link to others
Socially responsible public procurement (SRPP)	Using public contracts to achieve positive social outcomes (European Commission, 2025c)	Social outcomes	SRPP is a subset of SPP
Sustainable public procurement (SPP)	Achieving value for money on a whole life cycle basis by generating benefits for the organization, society and the economy, while significantly reducing negative impacts on the environment (10YFP, 2015; UNEP, 2025)	Society, economy, and environment	Other forms (CPP, GPP, LEPP, SRPP) can contribute to SPP

3. A Growing Regulatory Presence in the EU

Since 2014, the EU Directive on Public Procurement allows procurement and pricing criteria to be set based on a life-cycle perspective. This may help ensure environmental criteria and externalities are considered throughout a product's life-cycle. Procurement criteria now appear in several environmental laws (Semple, 2015; Janssen & Caranta, 2023; Andhov et al., 2022). In the EU Waste Framework Directive (WFD) (European Parliament and Council, 2008, as amended), for example, they are listed as an example to promote preparing for reuse (Article 11). The EU Batteries and Waste of Batteries Regulation (European Parliament and Council, 2023, as amended) requires public procurement requirements to be set out in delegated acts that take account of and aim to minimize the environmental impacts of batteries over their life-cycle (Article 85). Incorporation of public procurement requirements into environmental law, however, is often not smooth, as they conflict with EU procurement rules, which are more than a decade old, and their economic principles (Muscaritoli, 2025).

Moreover, many environmental laws remain without any procurement requirements. Public procurement requirements are expected to gain further prominence as a result of the delegated, implementing and other acts to be implemented to comply with some of the previous listed laws as well as others. In particular and critically, the 2025 Ecodesign for Sustainable Products Regulation (ESPR) (European Parliament and Council, 2024) provides that contracting authorities and entities have to award public contracts complying with minimum requirements that are to be set that "incentivise the supply of and demand for environmentally sustainable products" (ESPR, Article 65). Delegated acts are to be implemented over the coming years (ESPR, Article 65).

The increased number of laws on public procurement to be developed brings many challenges, including implementation and monitoring challenges at Member State level, potential conflicts between complex economic, circular, and social criteria, and lack of strategic maturity (e.g. Grandia & Meehan, 2017; European Court of Auditors, 2023; Paraskeva & Tsoulfas, 2025). Nonetheless, they also provide opportunities for promoting, specifying, and reframing CPP within the EU. Three proposed focus areas are discussed in the following section.

4. Regulating for Circular Public Procurement

Given the growing links between public procurement and environmental law, the following opportunities within the regulatory landscape for CPP exist:

1. Integrate social issues explicitly: Defining CPP to include social dimensions can help shape emerging agendas. This can be achieved, for example, by linking CPP to the circular society concept or *all* the key elements highlighted in Kirchherr et al.'s (2017) commonly cited definition: *CPP embeds into procurement processes the principles of a circular economy, which are: (1) reducing resource use and preventing waste, (2) reusing, recycling, or recovering any used resources or generated wastes, (3) for the purpose of sustainable development, (4) at any scale, and (5) to create social equity for the benefit of current and future generations.*

2. Assess the need(s): To align with the CE aim of minimizing resource use and waste generation, the first consideration in CPP should be to consider whether procurement of any work, goods, or services is definitively needed. A critical legal question is how can law make waste prevention the starting point of CPP? The waste hierarchy (i.e. the priority order of waste management: prevention, reuse, recycling, recovery, and disposal – Article 4 of the WFD) can underpin this, but to date the hierarchy has been weak in its implementation (e.g. Van Ewijk & Stegemann, 2016). Alternatively, CPP could require the use of life-cycle costing (with a focus on environmental and social issues) or for a ‘needs’ declaration, in which the contracting authority expresses the necessity of the purchase, to facilitate accountability and provide evidence of the initial step.
3. Embed circular criteria: Aligned with the need for CE approaches to be cognizant of life-cycle, circular criteria should be integrated throughout CPP processes – not only when specifying selection criteria for awarding contracts, but also within the terms of contract performance and beyond. Echoing the above discussion, these criteria should not be limited to environmental issues, but also integrate social dimensions. Including explicit contractual clauses will more clearly, and visibly incentivize compliance, and facilitate implementation and enforcement through contract law.

Figure 1 summarizes how these issues fit within the general public procurement process to highlight that there needs to be continuous assessment of the circularity throughout rather than only at the start.

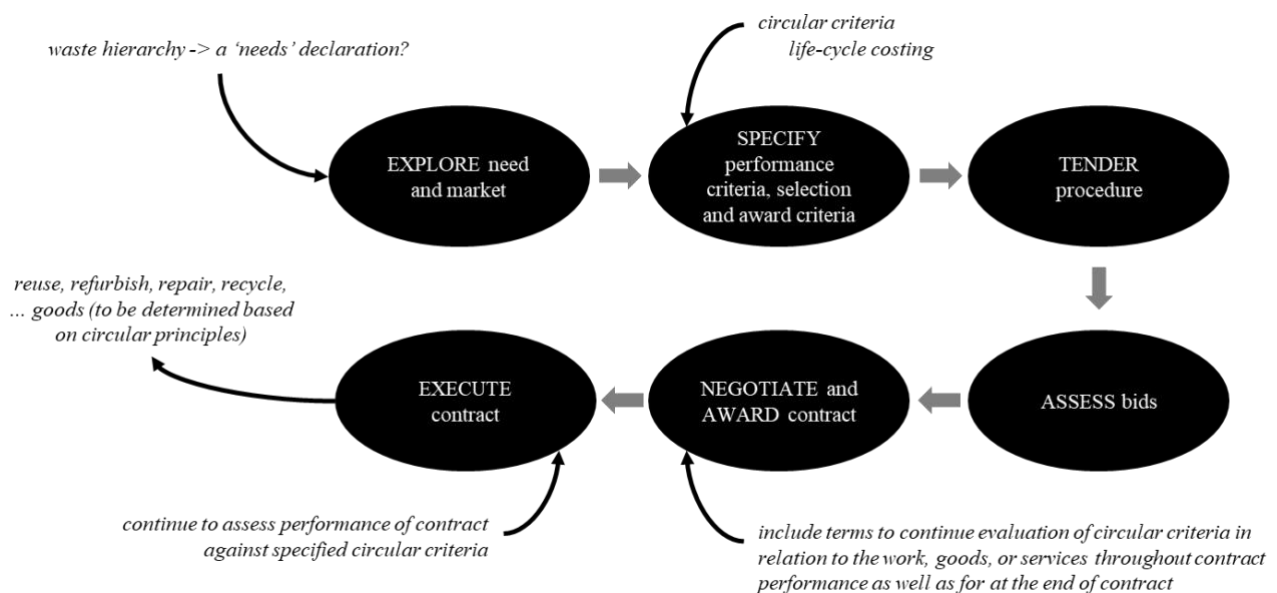


Figure 1. Example of how CE principles can be embedded into a public procurement process.

In this perspective, we briefly discussed emerging challenges and opportunities of CPP as public procurement related to the CE gains traction in resource and waste laws. Continued research on these and other areas, including empirical data, is needed as the regulatory landscape is shaped, as a result of mandated EU implementing and delegated laws, as well as other laws with implications for (circular) public procurement, including the potential EU Circular Economy Act on which consultation recently closed (European Commission, 2025b). As the policy landscape evolves, studies monitoring and assessing experiences will also become increasingly useful and necessary. Moreover, the three discussed opportunities each bring their own challenges, such as knowledge and capacity requirements, political will, and financial resources, that need examination. This perspective has thus only provided initial directions for investigating opportunities and challenges for the regulatory framing of CPP in the EU.

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Declarations

Competing Interests The authors declare no competing interests.

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