

Green Public Procurement practices in EU¹

Randi Ann Fagerholt¹[0000-0002-9300-4785], Katrin Knoth¹[0009-0007-1125-6035], Marianne Kjendseth Wiik¹[0000-0001-9365-9434] and Aileen Yang¹[0000-0001-7686-9309]

¹ SINTEF AS, P.O. Box 274 Alnabru, 0614 Oslo, Norway
aileen.yang@sintef.no

Abstract. This paper presents findings from an exploratory survey conducted within the Green Responsible Innovative Procurement (GRIP) project to assess the current status, drivers, barriers, and innovative practices of green public procurement (GPP) across 14 European cities. GPP is most established in high-impact areas, e.g., construction, transport and mobility, food, and circular economy-related purchasing, where environmental impact and political priorities are the main drivers. Organisational capacity is decisive, dedicated staff, strong political commitment, and clear policies, enable successful GPP implementation. Simultaneously, cities face persistent challenges in tender design, contract management, monitoring, and supplier engagement, often compounded by limited internal resources and varying market readiness. Respondents highlight a range of innovative GPP practices. Overall, the results show how municipalities operationalise GPP in practice and highlight the need for practical tools, peer learning, and capacity-building efforts to strengthen the strategic use of procurement as a climate action tool across European cities.

Keywords: Green public procurement, GPP, environmental impact

1 Introduction

Green public procurement (GPP) has gained increasing attention as a practical and strategic approach for advancing climate and sustainability objectives at national and local levels [1]. As major market actors, public authorities have significant potential to influence production and consumption patterns through their purchasing decisions. GPP is defined by the EU commission as “*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*” [2], and it plays an important role in translating climate ambitions into concrete action.

Despite its growing relevance, the uptake and implementation of GPP across European cities remain uneven [1], [3]. Cities differ substantially in their institutional capacity, governance frameworks, and practical experience with integrating environ-

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mental criteria into procurement processes [4], [5]. While some cities have developed advanced and strategic approaches to GPP, such as Oslo which has clear climate targets and standardized criteria to drive zero-emission construction [6], other cities are still at earlier stages. Gaining a clearer understanding of these differences, as well as the factors that enable or hinder progress, is essential for strengthening the role of GPP in local and regional climate action. This paper presents findings from a survey conducted within the Green Responsible Innovative Procurement (GRIP) project, a multi-city initiative supporting European cities in using procurement as a climate action tool. The aim of the survey was to map the status of GPP practices, identify key drivers and barriers, and highlight innovative approaches with potential for replication or scaling. In contrast to narrower interpretations of innovative procurement that focus on stimulating markets for new technologies, GRIP adopts a broader understanding of innovation, emphasising the strategic and forward-looking application of existing procurement frameworks to achieve environmental objectives with a focus on building and construction, transport and mobility, and circular economy.

2 Methodology

A web-based questionnaire tool (Walr) was used to develop an online survey. The survey consisted of 22 closed questions (single- and multiple-choice options and matrix formats) and nine open-ended questions to collect qualitative input on successful GPP practices. The survey was structured into four sections: (i) Background information (respondent role, city, city size, and country), (ii) Current status of GPP, (iii) Drivers and barriers and (iv) Innovations in GPP. The anonymous survey was distributed online via the NetZeroCities (NZC) newsletter, LinkedIn posts, event-based QR codes and direct outreach to potential respondents by the GRIP partners.

The target groups consisted of municipal staff, procurement professionals, sustainability officers, and other actors involved in public purchasing in European cities, including both members of the NZC network and other cities. Responses were collected between July and December 2025, resulting in 17 responses.

3 Results and discussion

3.1 Background information

The survey managed to reach the target groups, as the responses were dominated by procurement officers and sustainability coordinators/experts (n=11). However, we also received responses from three climate policy advisors, a municipal department head, head of unit and an international/European cooperation role. Although the small number of respondents limits broader generalization, but the professional background represented in the sample will provide sufficient knowledge about the focus areas of the survey.

The geographic distribution of cities that responded to the survey is located across Northern, Western, Southern, and Central Europe, indicating a broad, though uneven,

European coverage. Majority of the responses originate from Northern Europe, particularly from cities in the Nordic region such as Oslo, Bærum, Trondheim, Bodø, Helsingborg, Helsingfors, Helsinki, Tampere, and Reykjavík. Western and Central Europe are represented by cities including Paris, Ghent, Aachen, and Košice. In Southern Europe, responses were received from Barcelona and the Basque Country. This population is relatively small and dispersed across diverse administrative contexts, making the participation of 17 practitioners a meaningful sample for an expert-oriented study. While the sample size constrains the extent to which general conclusions can be drawn, the results nevertheless reveal indicative tendencies in the status of GPP across European cities.

Moreover, despite the limited number of participating cities, the responses reflect a geographically diverse range of European contexts, encompassing differences in governance structures, market conditions, and climatic zones: factors that shape GPP design and implementation. As such, though not fully representative, the dataset offers a varied snapshot of current GPP practices in European cities.

3.2 Current status of GPP

Respondents were asked to assess the maturity level of GPP within their city. The largest share of respondents (35%) reported having *advanced* experience with GPP, defined in the survey as a situation where GPP is “*systematically integrated into procurement policies and practices across departments*”. A smaller proportion (12%) reported an *intermediate* level, meaning that GPP is “*implemented in some areas or projects, but not consistently*”. Furthermore, 24% of respondents indicated that their city remains at a *basic* level, where GPP is “*in early stages or only occasionally considered in procurement decisions*”. Lastly, 29% of respondents selected “*I don’t know*” or provided no answer. This relatively high share likely reflects either limited internal awareness of GPP activities or uncertainty about how to judge the level of implementation.

The respondents were asked to report on which procurement categories the cities are implementing GPP, see Figure 1. All cities replied that GPP is applied in *transport and mobility* and *construction (buildings and infrastructure)*. Majority of the cities (>10) also implemented GPP in the categories *Food and catering services* and *circular economy, energy, office supplies and equipment*, and *waste management*. This indicates that GPP practices are relatively well integrated across a range of operational procurement areas. Lower levels of implementation were reported for *IT and electronics*, where nine cities indicated the use of GPP criteria. Only three cities selected *other*, including items such as workwear, sleeping bags for kindergarten, and city merchandise, timber, paper, communication elements, events and exhibitions, office furniture, textile cleaning services, building management and green spaces.

Environmental impact and *political priorities* were given by cities as the reason they focus on certain GPP categories. A second tier of motivation was *alignment with national or EU targets*, selected by eight cities, indicating that external policy frameworks also play an important role in shaping local procurement priorities. Fewer cities (<5) reported *available funding or incentives* and *local stakeholder interest* as the

reason for focus. Overall, the pattern suggests that cities primarily prioritise GPP categories based on expected environmental benefits and political direction, with policy alignment acting as an additional driver, while funding availability and local stakeholder pressure appear to be secondary considerations.

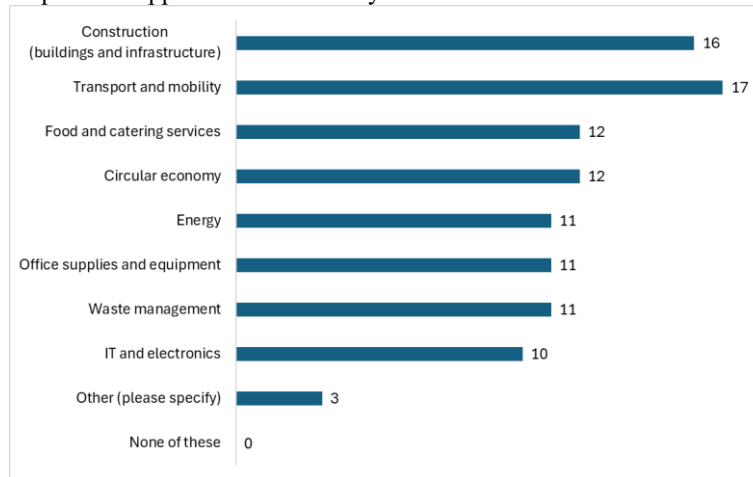


Fig. 1. The categories the city is implementing GPP.

As seen in Figure 2, *Digital procurement platforms or software* and *internal guidelines or checklist* are the most consistently used tools (only one city reports never using them). This indicates that digital procurement systems are well embedded among the responding cities and internal guidance plays an important role in supporting procurement practices. *Standardised environmental evaluation criteria* are frequently used, with most cities reporting that they apply them often.

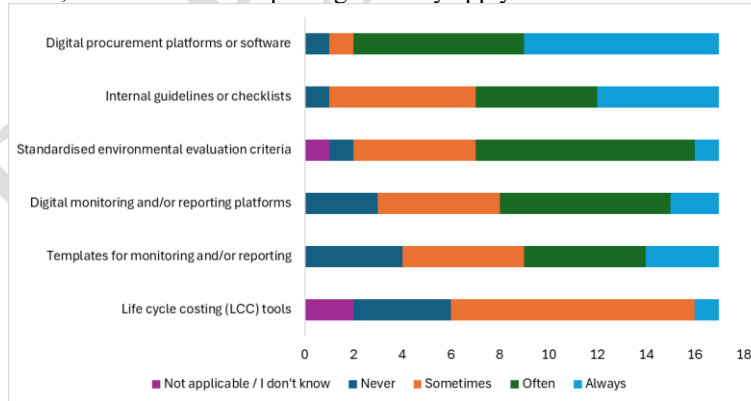


Fig. 2. Operational tools.

In contrast, *monitoring-related* tools show more variation. *Digital monitoring or reporting platforms* and *templates for monitoring and reporting* are used inconsistently across cities, with several respondents reporting sometimes or never. This suggests

differences in monitoring practices and digital capacities beyond the procurement phase. *Life-cycle costing (LCC) tools* are the least consistently applied. Most respondents (n=10) report using LCC tools sometimes, while several reports never using them. Only one respondent reports always applying LCC, indicating that this method has not yet become a standard component of procurement practice in European cities.

There is no clear link between tool use and the GPP maturity level of the cities. Among the cities that report always using internal guidelines, one is classified as basic, one as advanced and three have not assessed their maturity level. Among the ten cities that report using these criteria either often or always, five are classified as advanced, four have not assessed their maturity level, and only one is assessed as basic. This distribution suggests that higher maturity cities are more likely to integrate standardised environmental evaluation criteria, although the number of unassessed cities prevents firm conclusions.

Overall, the results indicate that cities most frequently rely on digital procurement systems, internal guidelines, and standardised environmental criteria, while tools requiring more advanced analytical capacity, particularly LCC, are applied less consistently.

In response to how environmental criteria are incorporated in public procurements, the majority responded that they use a combination of instruments (9 of 17). *Technical specifications* (minimum requirements) are next most common (6 of 17), followed by *award criteria* (5 of 17) and *contract performance conditions* (3 of 17).

Figure 3 shows the indicators to evaluate the success or impact of a tender. *Purchase cost* remains the most consistently applied criterion, with few instances of “never” or “not applicable”, underscoring the enduring salience of price in public tenders [7]. By contrast, environmental externalities, including *consumption and waste*, *life cycle GHG emissions reduction/carbon footprint* and *air pollutants* are now commonly considered. *LCC* is referred by many respondents, yet the frequency of use varies, indicating that the method is recognised but not systematically implemented.

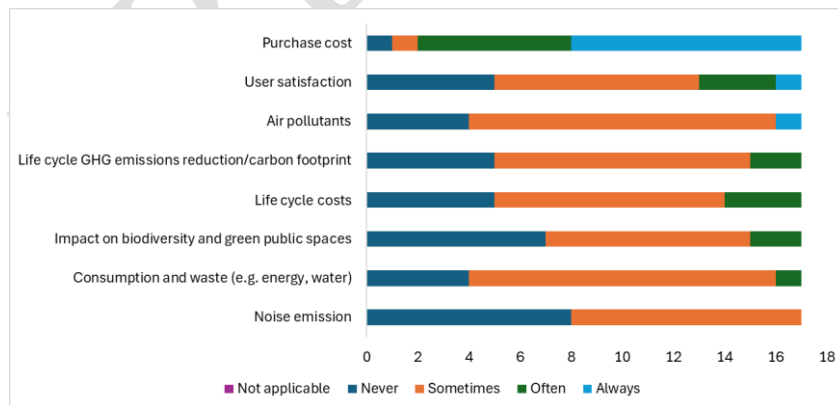


Fig. 3. Use of indicators to evaluate success or impact of a tender (n=17).

3.3 Drivers and barriers

Figure 4 shows that *dedicated staff*, *strong political commitment* and *clear policies and strategies* are the most influential drivers for GPP implementation. This resonates with the earlier findings where political priorities and environmental impact were stated as the reasons why cities focus on certain GPP categories. This aligns with the European practice on zero-emission construction sites. The Zero Emission Resource Organisation (ZERO) shows that countries at the forefront (Norway and the Netherlands) combine procurement requirements with financial support and systematic learning from pilot projects, enabling them to translate ambitions into practical solutions [8]. Other frequently mentioned drivers include the *use of practical tools and guidelines* and *learning from other cities*, each referenced by around half of the respondents. *National or EU-level support* was identified by eight cities. In contrast, *collaboration with suppliers* and *financial incentives* were mentioned less often, suggesting that while helpful, they play a secondary role. Overall, the results indicate that organisational capacity and political direction are regarded as the primary enablers of effective GPP uptake [8], [9].



Fig. 4. Important driver of GPP.

We also asked the cities to identify at what stage of the procurement process they experience the most barriers to implementing GPP, see Figure 5. The most frequently reported challenge for GPP is *contract management and follow up and monitoring and reporting* selected by eight cities indicating substantial difficulties arise after awarding the contract. *Tender design and criteria development* and *market dialogue or supplier engagement* were also identified by at least five cities, indicating that difficulties arise both before and at the same time suggesting that interactions with suppliers remain a significant bottleneck. This aligns with results from an OECD survey, which identified insufficient support and guidance for practitioner-supplier engagement, with fewer than half of surveyed countries providing formal guidance on market engagement for GPP [1]. When asked more specifically about the cities' engagement with the market, only eight responded that early market dialogue was conducted prior to tenders. The most common practice is the organisation of supplier

information meetings or workshops (n=9 responses). This suggests that the cities might rely more heavily on low-threshold engagement activities, while more demanding approaches like co-creation/innovation partnerships are less common, potentially due to limited capacity or expertise. However, studies have shown that market consultation is vital before tendering to design appropriate and realistic procurement criteria [10], [11] and to mitigate potential barriers in the early phase [12], [13].

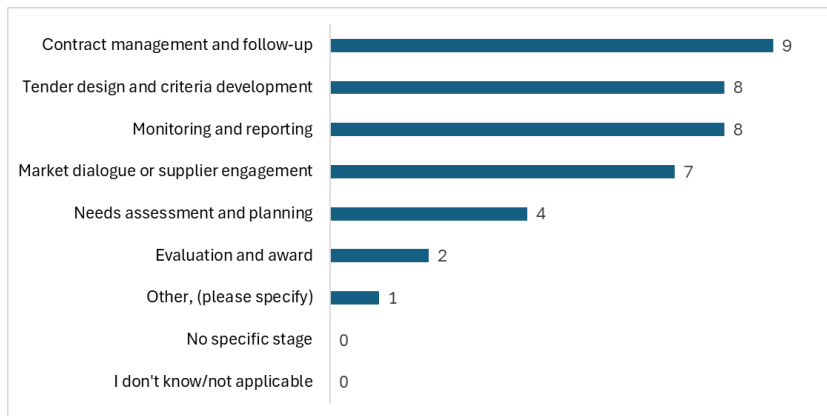


Fig. 5. Barriers when implementing GPP across different stages of the procurement process.

The stages of the procurement process that were less frequently considered as barriers were *needs assessment and planning*, identified by four cities, while *evaluation and award* were mentioned by two. Under other barriers, respondents highlighted the length of the process and the need to balance GPP with other priorities. Overall, the results suggest that operational and procedural challenges, particularly around contract management and effective monitoring, pose the greatest obstacles to successful GPP implementation. These findings are consistent with internal and external challenges limiting the cities' ability to carry out GPP. Internally, the most common challenges are the *lack of knowledge and training* (n=11 responses), *lack of coordination between departments* (n=11) and *limited time or staff capacity* (n=10), followed closely by *resistance to change*. Externally, the key challenges were *higher upfront costs* (n=13) and *lack of supplier readiness or capacity* (n=10), followed by *limited availability of sustainable products or services* (n=7), and *legal uncertainty or complexity* (n=7).

These patterns suggest that organisational capacity (dedicated staff), and political direction (strong political commitment supported by clear policies and strategies) function as the principal enablers of GPP uptake among the cities. These findings are in line with previous research showing that public bodies tend to progress on sustainable procurement when internal resources and leadership priorities are aligned, and where staff are equipped to translate high-level goals into procurement routines [1], [14].

3.4 Innovation in GPP

Cities were asked to report GPP-related actions they considered innovative across the provided categories. Table 1 summarizes examples provided by the different cities. The reported examples suggest that innovation in GPP across European cities is primarily practice-based, relying on the strategic use of existing procurement instruments to deliver environmental outcomes. Several of the cited innovative GPP examples were also undertaken in collaboration with research projects. To encourage sharing of good examples of GPP, the EU has made a specific platform for sharing case studies on successful implementation of GPP [15].

Table 1. Typical examples of success GPP provided by the cities by category.

Category	Examples of innovative practices, summarized
Construction (buildings&infrastructure)	Circular renovation (Paris, Ghent); mandatory secondary materials (Basque Country); reuse of components; low-carbon concrete pilots; material passports; zero-emission construction site (Bærum, Helsinki, Bodø)
Mobility and transport	Fleet electrification (Bodø, Ghent); electric buses and charging (Košice, Barcelona); shared e-mobility; active mobility infrastructure (cycling paths); regulatory requirements for zero-emission vehicles (Oslo, Basque Country)
Office supplies and equipment	Upcycled or circular furniture (Paris, Helsinki); environmental labels; hazardous-substance reduction; green framework agreements (Barcelona, Aachen)
Energy	Procurement of 100 % renewable electricity (Ghent, Basque Country); geothermal heating and heat pumps (Košice, Bærum); energy monitoring and management systems; reducing energy consumption in building renovation (Košice)
Food and catering	Mandatory ecological food, reusable materials (Barcelona); plant-based targets (Ghent, Tampere); extensive sustainability criterias (Tampere, Helsinki); food-waste reduction (Ghent, Tampere)
Circular economy	Circular procurement and reuse (Bærum, Barcelona, Oslo, Ghent); circular procurement model (Ghent)
Waste management	Biological waste collection (Paris); municipal reuse centres (Bærum); recycled-plastic waste bins and wood-waste recycling (Oslo); circular cleaning services and reuse of furniture (Ghent)
ICT and electronics	Circular ICT repair-reuse models (Ghent); responsible recycling and traceability (Tampere, Barcelona)
Other	Marathon with environmental requirements and award criteria

Innovative actions reported under construction and circular economy, such as circular renovation projects, reuse of building components, mandatory secondary material content, low-carbon concrete pilots, and zero-emission construction sites illustrate how cities apply procurement to drive material efficiency and reduce lifecycle emissions. These approaches are well supported by policy and research, with studies iden-

tifying construction and renovation as priority sectors for GPP due to their high environmental impact and their suitability for lifecycle-based criteria and circular approaches [16],[17].

Several cities, such as Bodø, Ghent, Košice, Barcelona, Oslo, Basque Country, report transport procurement such as extensive fleet electrification, deployment of electric buses, development of charging infrastructure and the inclusion of zero-emission requirements in tenders. Bryngemark et al. [18] show that transport procurement is one of the most advanced and impactful domains of GPP adoption at municipal level, particularly in relation to electrification and low-emission vehicles. OECD analyses likewise identify transport as a sector where public procurement can directly stimulate market uptake of low-carbon technologies, supporting the classification of these actions as innovative in practice, even when technically mature solutions are procured [1].

4 Conclusions

This exploratory survey of GPP practices in European cities conducted within the GRIP project provides early insights into how municipal practitioners are advancing green procurement. Despite the small sample, the results indicate that GPP is most firmly established in high-impact sectors such as construction, transport, food and circular economy-related procurement, where environmental considerations and political priorities most strongly drive action. Cities' emphases differ: GPP is often concentrated in construction and mobility, while some cities are front runners in other domains, making mutual learning important for spreading successful GPP practices. The survey highlights the central role of organisational capacity. Dedicated staff, political commitment and clear strategic direction emerge as key enablers for effective implementation. At the same time, cities continue to face challenges in tender design, contract management, monitoring and market engagement, with the latter varying according to the maturity of GPP efforts.

By examining both cities' progress toward climate neutrality and the presence of innovative procurement approaches, the findings shed light on how green procurement is operationalised in practice. Overall, they underscore the need for practical tools, peer learning and capacity-building initiatives, such as those developed within GRIP, to support wider uptake of GPP across European cities.

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