Circular procurement is assumed to foster innovation and influence demand for and supply of goods through criteria setting and dialogue with suppliers. However, even in countries placed at the forefront of sustainability practices such as Sweden, examples of procurement that can truly be considered to be circular are rare. This paper examines circular public procurement practices in a selection of Swedish municipalities and regions through the lens of the Advocacy Coalition Framework. We propose a categorisation of municipalities by circular procurement uptake and identify factors that support the acceleration of the circular transition in Sweden.

Using the key informant approach, we conducted semi-structured interviews with employees of seven municipalities, one region and one external procurement agency, as well as seven suppliers of various sizes. We also analysed procurement documents received from municipalities. Participating organisations represented a variety of Swedish local government structures and local conditions.

We proposed a categorisation of circular procurement uptake. Notably, beginners differ from leaders in circular procurement, most importantly by the level of flexibility policy brokers have within their organisations and by policy brokers’ ability to accommodate changes that materialise between existing organisational structures and set routines. The fragmented uptake of circular procurement poses a challenge for local businesses interested in implementing circular business models. It also both highlights and exacerbates inequalities in access to resources between sparsely populated, rural municipalities and more urbanised areas.

Despite existing national government guidelines for the circular economy transition in Sweden, circular procurement is not fully realised at the local level. In this paper, we examine the Swedish experience with circular procurement and propose several steps to improve the uptake of circular procurement by the public authorities. Our findings concerning the role of policy brokers may well be generalised to similar socio-cultural context.
### How to increase the uptake of circular public procurement?
Lessons learned from local authorities in Sweden.

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Abstract

Purpose

Circular procurement is assumed to foster innovation and influence demand for and supply of goods through criteria setting and dialogue with suppliers. However, even in countries placed at the forefront of sustainability practices such as Sweden, examples of procurement that can truly be considered to be circular are rare. This paper examines circular public procurement practices in a selection of Swedish municipalities and regions through the lens of the Advocacy Coalition Framework. We propose a categorisation of municipalities by circular procurement uptake and identify factors that support the acceleration of the circular transition in Sweden.

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Using the key informant approach, we conducted semi-structured interviews with employees of seven municipalities, one region and one external procurement agency, as well as seven suppliers of various sizes. We also analysed procurement documents received from municipalities. Participating organisations represented a variety of Swedish local government structures and local conditions.

Findings

We proposed a categorisation of circular procurement uptake. Notably, beginners differ from leaders in circular procurement, most importantly by the level of flexibility policy brokers have within their organisations and by policy brokers’ ability to accommodate changes that materialise between existing organisational structures and set routines.

Originality
Despite existing national government guidelines for the circular economy transition in Sweden, circular procurement is not fully realised at the local level. In this paper, we examine the Swedish experience with circular procurement and propose several steps to improve the uptake of circular procurement by the public authorities. Our findings concerning the role of policy brokers may well be generalised to similar socio-cultural contexts.

Keywords: circular public procurement, Advocacy Coalition Framework, policy change, green procurement, Sweden, circular economy

1. Introduction

For the last thirty years, the concept of circular economy (CE) has been gaining popularity worldwide (Kalmykova et al., 2018). The circular economy is promoted at international and national level (McDowall et al., 2017; Ministry of the Environment, 2020; Yuan et al., 2006) as a way to resolve conflicts between economic growth and limited availability of natural resources.

While CE lacks a uniformly accepted definition and scope, most authors and practitioners agree on the principle of replacing extraction of virgin natural resources with recirculation of those already in use (Kirchherr et al., 2017). The Ellen MacArthur Foundation\(^1\) defines a circular economy as:

\(\ldots\) an industrial system that is restorative or regenerative by intention and design. \(\ldots\) It replaces the ‘end-of-life’ concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste

\(^1\) The Ellen MacArthur Foundation, a non-profit organisation established in 2010 in the United Kingdom, is considered a pioneer of CE in Europe.
through the superior design of materials, products, systems, and, within this, business models.”

(Ellen MacArthur Foundation, 2013, p. 7),

Given that the above definition is quite broad, more concrete insights into what constitutes a circular economy can be gleaned from the report of the Organisation for Economic Co-operation and Development (OECD), describing five distinct circular business models (CBMs) (OECD, 2019). In this paper, CE is understood as a system that supports maintaining the (economic) value of resources in use, through recirculation, increased utilisation, or product longevity (value retention over time) (Boyer et al., 2021). The use of the word “system” is intentional, as a functioning circular economy requires interactions of different interdependent actors, such as circular suppliers and consumers of circular products, plus a set of broadly understood rules (e.g., legal, societal, behavioural) that enable and support the emergence and functioning of CBMs.

Many authors postulate that system-level changes are required to successfully transition to CE, such as reorganisation of existing value chains and logistic networks (Brydges, 2021; Ranta et al., 2018) or change from product ownership to collaborative consumption (Hunka & Habibi, 2023) or to peer-to-peer sharing (He et al., 2021).

More cautious and critical voices of the circular transition postulate that the industrial CE boom might result in various green-washing attempts, where circular initiatives are used to boost the environmental credentials of companies (Hofmann, 2019). Another common critique of CE pertains to its potential environmental impact (Warmington-Lundström & Laurenti, 2020; Zink & Geyer, 2017). Lack of tried-and-tested CE indicators and emerging evidence of rebound

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2 According to OECD, a circular supply model replaces virgin resources with renewable, recovered or bio-based materials (1); a resource recovery model focuses on recycling and diverting waste from disposal (2); product life extension models aim to prolong the use-phase of products (for instance, through manufacturing of long-lasting products) (3); sharing models promote increased utilisation of underused resources through, for example, peer-to-peer sharing, aiming to reduce demand for new products (4); and finally product-service systems, replacing sales of products with services, are seemingly offering incentives for more efficient utilisation of resources (5).
effects, demonstrated for some CBMs, such as sharing (Warmington-Lundström & Laurenti, 2020), are two commonly cited reasons for uncertain environmental impact of circular products and offers. Indeed, evidence for positive (or negative) environmental effects for all five types of CBMs is still scarce. Nonetheless, recirculated or reused products have been demonstrated to have lower environmental impact (measured as Global Warming Potential (GWP) compared to their counterparts manufactured from virgin materials (Linder et al., 2020). One of the postulated solutions to potential drawbacks of CE is steering, incentivising, and regulating circular business through public procurement (Alhola et al., 2019). The authors argued that by setting CE-related criteria and requirements, procurers could incentivise transition to CBMs.

In this paper, we analyse attempts at implementation of circular public procurement (CPP) in Sweden through the lens of a policy change theory, namely the Advocacy Coalition Framework (Sabatier, 1998; Sabatier & Jenkins-Smith, 1993). CPP is relatively new both as a concept and practice, and although there have been attempts to study inclusion of circular criteria in procurement (e.g., Kristensen et al., 2021), the process of policy change required for a widespread adoption of CPP is not fully understood. This paper aims to address this gap.

Sweden has ambitious goals to achieve zero net emissions of greenhouse gases by 2045 (Klimatlag (2017:720), 2017), and CE has been promoted as a viable way to achieve climate, environmental and sustainability goals outlined in Agenda 2030 (Ministry of the Environment, 2020; Regeringskansliet, 2022). At the same time, the Swedish public procurement amounts to over 800 billion SEK per year (https://www.upphandlingsmyndigheten.se/en/about-public-procurement, accessed January 9), approximately one fifth of the country’s annual GDP. It could be expected that local authorities embrace and actively engage in circular procurement given that similar, non-obligatory green policies have resulted in increased uptake of green
procurement (Lindström et al., 2022). However, we note that CPP in Sweden is highly fragmented and while the process accelerates in some regions, others proceed more cautiously. Public authorities function within a wider structure of institutions and our goal is to identify the main factors behind the aforementioned fragmentation and to provide steps for a wider and systematic adoption of CPP. The unique combination of ambitious environmental goals at the national level and voluntary green policies at the local level make Sweden an interesting case for a policy change study. Additionally, the prevalent culture of consensus and transparency allows for a closer look at the system-level negotiations between the status-quo and new policies (Götz & Marklund, 2015).

Our aims with this study are threefold:

1) Identify the policy discourse around circular economy and CPP;

2) Propose a framework to identify the level of CPP uptake by public authorities on the basis of the analysis conducted in the first step;

3) Identify capacities, and factors with a high potential for CPP acceleration, assuming that CPP could potentially contribute to improved operational costs for the local government (e.g. through procurement of refurbished goods or car sharing) and offer environmental benefits at the same time.

The structure of this paper is as follows. The concepts of circular and green procurement are outlined and defined in Section 2. In Section 3 we present the theoretical framework used in the study, followed by the outline of the employed methodology and the data collection process in Section 4. Data analysis is presented in Section 5, followed by discussion and conclusions in Section 6 and conclusions in Section 7 outlining implications of our findings for circular business models and avenues for further research.
2. Policy background - Circular and Green Public Procurement

The European Commission defines public procurement as the “process by which public authorities, such as government departments or local authorities, purchase work, goods or services from companies” (European Commission, accessed 4th July 2022). This area is governed by a European legal framework, which currently comprises the 2014 so-called “new generation public procurement directives”: 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.

Similarly, European Commission defines “green” public procurement 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” (European Commission, 2008).

Public procurement has increasingly gained traction among the policy makers for its promising capacity to play a leading role in the CE transition, as demonstrated, for instance, by the European Union’s Circular Economy Action Plan from 2020 (European Commission, 2020).

These assumptions are usually presented alongside the substantial purchasing power of public authorities. For example, the value of goods, services and works procured by public authorities within the EU amounts to, on average, 14% of EU’s GDP (European Commission, 2020, p. 5).

However, some authors argue that public procurement’s potential to drive demand for sustainable consumption does not only stem from its economic power (Alhola et al., 2019; Witjes & Lozano, 2016). They postulate that the force of public procurement to shift market practices resides in its strategic nature, and materialises across several dimensions (Witjes & Lozano, 2016). First, bidders must necessarily comply with the contracting authorities’
sustainable or circular requirements, which can be monitored due to the relationship between the
contracting authority and the awarded bidder (Halonen, 2021). Furthermore, the purchasing
habits followed by public authorities set a specific benchmark, which contributes to promoting
the societal acceptance of those products, services or works purchased (Arrowsmith, 2010).
Finally, the scoping phase, or pre-procurement consultations, can impact the procurement
criteria, with public authorities acting as intermediaries and promoters of CE, as Rainville (2021)
demonstrated in a study conducted in the Netherlands.

Whether green procurement actually drives environmental gains is not clear. For
instance, results from Swedish studies on procurement of organic food demonstrated a positive
impact of green policy goals on procurement of organic food (Lindström et al., 2020, 2022)
which in turn increased conversion to organic production by suppliers responding to demand
steered by procurement (Lindström et al., 2020). Several studies demonstrated positive impacts
of organic (versus conventional) farming on biodiversity (Hole et al., 2005), thus a measurable
positive effect of procurement on the environment can be observed. On the other hand, empirical
evidence from other sectors such as cleaning services, indicated that green criteria lacked clear
links with environmental policy objectives and had limited impact on the number of bidders
(Lundberg et al., 2015). In the same study, only 10% of procurements included plans for
monitoring the fulfilment of green criteria (Lundberg et al., 2015). A similar trend was identified
in the Swedish road maintenance contracts studied by Faith-Ell et al. (2006). Although
environmental criteria were included in a majority of the contracts, they were often ambiguously
defined and not followed-up. Similarly, findings from the construction sector showed that in over
50% of the analysed cases (27 out of 48), only basic environmental criteria set up in the
procurement contracts were applied (Varnäs et al., 2009). Moreover, a review by Cheng et al.
(2018) identified only limited use of environmental criteria in the contract selection, even though
such criteria were listed in calls for tenders. Additionally, Bryngemark et al. (2023) found that
larger Swedish municipalities (measured by the total public expenditures) were less likely to
introduce green criteria in procurements than smaller ones. It can be gleaned from these findings
that the difficulty in determining the environmental impact of GPP lies partially in highly
fragmented follow-up strategies and somewhat haphazard inclusion of green criteria.

Circular public procurement (CPP) is a relatively new area for scholars and practitioners
alike (Klein et al., 2020). Interestingly, finding a non-circular definition of CPP proves difficult.
For instance, the United Nations Environment Programme (UNEP) defines CPP as a
“procurement (that) occurs when the buyer purchases products or services that follow the
principles of the circular economy, supporting the assessment of designing, making, selling,
reusing and recycling products to determine how to get the maximum value from them, both in
use and at the end of their life.” (United Nations Environment Programme, 2021, p. 5). CPP is
also understood as a case of green or sustainable procurement (European Commission, 2020) and
as a way to achieve the environmental objectives of green procurement through purchasing
products and/or services manufactured or offered through circular business models (Alhola et al.,
2017).

In the last ten years, an increasing number of academic and grey literature has sprung
focusing on CPP and highlighting barriers and opportunities in European countries such as
Finland or Spain (Alhola et al., 2019; Fuertes Giné et al., 2022). Several reviews of green,
sustainable and circular procurement have also been published with a main focus of analysing
private and public sectors (Xu et al., 2022) and offering more effective approaches and tools
(Sönnichsen & Clement, 2020). Several case studies have been conducted as well (Huulgaard et al., 2022; Kristensen et al., 2021).

Huulgaard et al. (2022) analysed a CPP case of workwear and laundry services in Denmark. A CPP guide was developed in the project and tested with the municipality of Aalborg. Kristensen et al. (2021) analysed CPP practices in eight Danish municipalities. The authors noted that CPP was mainly focused on particular products or product groups and lacked a system-level perspective. All interviewed municipalities found it difficult to work with CPP on a strategic level, hence the focus on single products.

Witjes and Lozano (2016) proposed a framework that links CBMs with circular procurement, highlighting the role of collaboration between suppliers and procurers in fostering CBMs. Moreover, it has been argued that CPP could indeed spur innovation and open new markets (Ntsonde & Aggeri, 2021). In parallel, at the policy and regulatory level the European Commission has postulated circular procurement as an enabler for transitioning to sustainability, first in the Circular Economy Action Plan 2015 and then in the European Green Deal (Halonen, 2021). The updated Circular Economy Action Plan (European Commision, 2020) has reinforced this notion by outlining the gradual introduction of mandatory requirements for green/circular criteria and targets.

Theoretically, all types of CBMs could be sourced in procurement. Product-Service Systems (Tukker, 2015) have become established ways to acquire equipment such as coffee machines (Neamtu & Dragos, 2015) or photocopiers. Evidence for other types of CBMs being systematically utilised either internally by public authorities or by suppliers is fragmented. For example, Öhgren et al. (2019) found that some municipalities (five participants in the study) have purchased reconditioned furniture at least once. Crafoord et al. (2018) found a similar trend in
procurement of computers. Two out of six public authorities interviewed procured
remanufactured computers with cost-effectiveness as the main motivation. These findings
suggest that CBMs focused on recirculation (remanufacturing, reuse, refurbishing) and increased
utilisation (such as product-service systems) could be considered good candidates for CPP.
However, these findings also indicate that the uptake of CPP (understood as procurers actively
choosing to buy circular products or services) is still marginal.

3. Theoretical background - Advocacy Coalition Framework

A shift towards CPP can be characterised as a policy change. Policy scholars describe policy
change as a gradual shift in existing institutions and structures (Sabatier & Jenkins-Smith, 1993).
There is an important distinction between a policy change and a reform. Whereas policy change
can result from more general and long-lasting cultural and social discourse shifts, reforms are
intentionally implemented and do not necessarily result in policy changes (Howlett & Cashore,
2020).

Our study applies a systematic lens of policy change theory by employing the Advocacy
Coalition Framework (ACF) to identify and analyse the discourse around CE and CPP in local
authorities and investigate (circular) procurement as a process. ACF has been developed for
policy areas best described as having conflicting goals, many actors and high uncertainty. The
framework has been applied to highly polarising disputes, such as those surrounding drug
policies (Kübler, 2001) but mainly in the field of environmental policies (Hunka et al., 2015;
Nohrstedt & Olofsson, 2016). It has several characteristics that make it suitable to study CPP,
outlined below.

It has been argued that institutions are “path dependent”, i.e., designed to be difficult to
change, where the costs of maintaining the status-quo are lower than the costs of policy
reversal/change (Pierson, 2000). ACF takes this factor into account by assuming a long-term
perspective (at least 10 years) for a new policy to be first implemented and subsequently
accepted as the new status quo (Sabatier, 1998). The time perspective allows for documenting an
ongoing policy change as a process, making ACF especially applicable to CPP. Moreover, the
main unit of policy analysis is the so-called advocacy coalition, comprising actors from a variety
of institutions (civil servants, elected officials, researchers, industry, community leaders, etc.)
who share a belief system (values, beliefs about problems and their solutions) and common
resources, such as access to information and expertise. Additionally, AFC takes into account the
role and the availability of technical information, the network (and relations) of actors at
different governmental levels, and so-called implicit theories, which organise value priorities
and perceptions actors have related to different phenomenon, such as efficacy of different policy
interventions. These premises of ACF have been outlined in detail in Sabatier and Jenkins-Smith
(1993) and Sabatier (1998). Figure 1 below outlines the main structure of ACF (adapted from
Sabatier (1998)).

Figure 1. General overview of the framework (ACF). The figure appears in Sabatier (1998).

The left side of Figure 1 describes external variables. The variables in the upper-left corner
include “natural resources” of a political system and remain relatively stable, or at least resistant
to change. The External (System) Events, in the lower-left corner are more likely to evolve over
time (e.g., within a decade). The box in the middle of Figure 1 comprises resources available to
policy subsystems and local constraints. The right side describes elements of a policy subsystem and their interactions.

An important step is to clarify our classification of CPP uptake in this paper. As the analysis applies the ACF premises to the procurement process, the classification of CPP uptake (procurers choosing to buy circular products and services) also follows the framework.

There are several typologies that have been used in research on the public sector. Probably the most recognised one is the Technology Readiness Level (TRL) scale, developed by the National Aeronautics and Space Administration (NASA) of the United States (Mankins, 2009). Originally, the scale was developed as an assessment tool for technologies originating in research (Level 1) to be deployed successfully in space (Level 7). There have been several attempts to transpose TRL to measure latent and complex concepts, such as innovation readiness in the public sector. Innovation Readiness Level scales were developed by, among others, Lunner and Worrmann (2018) and Lee et al. (2011); while the Service Innovation Readiness tool that measures innovation specifically in the service sector was developed by Yen et al. (2012).

While these scales help to assess the innovation readiness (as defined by the authors of each scale) of a single setting, their validity and reliability has not been tested enough to warrant an application outside the original context or in a comparative setting (Héder, 2017; Olechowski et al., 2020). Additionally, as Héder (2017) noted, TRL-inspired scales often employ fuzzy terms and lack methodological rigour of the original TRL tool.

In this paper, we attempt to avoid these possible drawbacks by proposing a framework based on the basic premises of ACF and mapping the study participants along the criteria for a process of policy change outlined in that framework (Sabatier, 1998). This ensures theoretical validity and a possibility to partially replicate the results following a similar approach.
Another noteworthy framework that has been used in the context of policy recommendations is the Technological Innovation Systems (TIS) approach of Carlsson and Stankiewicz (1991). The framework has been applied at a local level such as implementation of cleantech innovations in Finland (Lukkarinen et al. 2018). However, as the names suggest, the original TRL focuses on appraisal of technological maturity, and TIS focuses on the emergence and development of new technologies, whereas our interest is policy change: how CE guidelines developed at the national level (Regeringskansliet, 2020) are adapted and applied at the local level.

4. Methodology

This section outlines the study methodology step by step, starting from the selection criteria for participating organisations and proceeding to the process of data collection and analysis.

4.1 Selection of participants

Our aim was to reach a wide variety of stakeholders working with or taking part in public procurement in Sweden at the level of local government. As of 2022, there are 21 counties and 290 municipalities in Sweden. According to the Swedish Association of Local Authorities and Regions (SALAR) there are three main categories of municipalities in Sweden: a) large cities and municipalities near large cities; b) medium sized-towns and municipalities near medium-sized towns; c) smaller towns/urban areas and rural municipalities. We ensured that all three categories were represented in the study by at least two municipalities. Moreover, there are significant differences between the North and the South of Sweden. The South is generally much more densely populated, while in the North, the population density is lower and dispersed settlement is more prevalent. The population density in Sweden is also higher along the coast than in landlocked areas. Differences in median income between municipalities in Sweden are
relatively low, although the median income from employment and business is higher in category a) municipalities. These local variations were considered in the selection of participants. An overview of the respondents is presented in Appendix B.

Following the key informant approach, originating in ethnographic studies (Marshall, 1996), we contacted procurement departments by email and subsequently invited employees who responded to our initial email. All respondents were responsible for procurement and/or sustainability. Some Swedish municipalities, especially the smaller ones, outsource procurement to external agencies. Invitations were extended to such agencies. The goal was to encompass a wide variety of perspectives and local conditions. The sampling procedure was strictly purposive as we sought participants with predefined expertise operating within predefined conditions.

4.2 Data collection
The study employs a qualitative method of semi-structured interviews (see Appendix A). An interview guide with open-ended questions was used. The interview guide follows the premises of ACF outlined in the previous section, focusing on the 1) time perspective; 2) availability of technical expertise; 3) external and internal networks; 4) policy subsystems and 5) implicit theories and beliefs about the organisation of procurement and its role. Additionally, several questions describing various phases of the procurement process and common challenges were included. In total, we invited eleven public institutions and recruited eight municipalities, one regional authority, and one external procurement agency. One municipality declined the invitation. We conducted one or more interviews with persons responsible for procurement and environmental delimitations of the procurement process.

In addition to the interviews capturing the views of participants in a single time snapshot, we followed one green/circular public procurement process through all the phases, from drafting the
initial criteria to the announcement of winners in a series of regular, online interviews scheduled
to follow the process from start to finish. The procured goods were retirement gifts, and this
particular procurement was suggested by the study participant as a CPP test case - the
participating authority decided to include green criteria for the first time and chose retirement
gifts as a pilot case. For the test case, we employed an extended set of questions mapping all
steps in the process, but closely following and expanding the interview guide used throughout
the data collection process.

All interviews were conducted online, via Zoom or Microsoft Teams, throughout 2021
and early 2022. Participants were informed about the purpose of the research project, methods of
data collection and privacy preservation, and provided their informed consent prior to interviews.
In total, three researchers interviewed 21 representatives of nine public authorities and one
procurement agency. Additionally, the researchers interviewed 7 suppliers of goods procured by
the public authorities taking part in the study – workwear textiles, furniture, and IT equipment –
including three suppliers who were chosen in the test case CPP. These interviews were
conducted either online or by phone, with one supplier providing material over email (see
Appendix B). The interviews were conducted in parallel with preliminary data analysis and the
researchers continuously recruited new participants while reflecting on the incoming data. The
interviews took an hour on average. Additionally, we analysed two examples of tender
documents and six examples of local procurement policy guidelines provided by respondents,
including all available documents for the case study (published tender, revised tender, selection
criteria and the list of winning suppliers).

4.3 Data analysis
Interviews were either recorded verbatim, or when participants did not consent to being recorded, the interviewer(s) took notes during the interview. Subsequently, three researchers worked separately on coding and organising the transcripts, grouping and cross-referencing similar pieces of text. Interviews were divided into the smallest logical units (single ideas). The researchers cross-referenced them both within a single interview and against other interviews. Subsequently, they looked for text describing events, functions, networks, relations, decisive power, and timeline of events based on the principles of ACF. Coded interviews were then analysed by two researchers working independently from each other, who looked for emerging patterns, repeating topics, inconsistencies, or contradictions, to arrive at a general discourse around CPP in Swedish municipalities. In the following step, two researchers that had worked on the previous steps focused on themes common for all participants before moving to a detailed analysis and proposing a classification of CPP adoption, accompanied by challenges and opportunities characteristic of different levels. The following section presents the results of the analysis.

5. Results

The results are presented in a narrative form without any identifying information to preserve the anonymity of participants. However, all themes, trends, and patterns described in the next sections are supported by and derived from the interview data.

5.1 CPP discourse - general patterns and proposed classification of CPP adoption

This section presents general patterns common for all participants and the overview of the findings in line with the premises of ACF (outlined in Section 3). First, we identified common patterns present in all interviews, and subsequently proposed three levels of CPP adoption -
Beginners (Level 1), Intermediate level (2) and CE Promoters (Level 3). Table 1 outlines the classification and lists key factors that characterise each level.

Table 1.

In this section, we elaborate on the ACF premises: rows in Table 1 and the following sub-sections refer to the main factors affecting policy change outlined in ACF (Sabatier, 1998), namely: external ecosystem, level of technical knowledge, timeline (of change), policy subsystems, and policy beliefs/implicit theories. Patterns that characterise each level are described in Table 1 and outlined below.

5.1.1 External ecosystem

Policy changes are influenced by external events, existing socio-cultural structures, available resources and basic constitutional structure (Cerna, 2013; Howlett & Cashore, 2020). Sweden is a developed country where sustainability concerns are traditionally high on the societal agenda. Moreover, the European Commission’s report ‘A Comparative Overview of Public Administration and Characteristics and Performance in EU 28’ (Thijs et al., 2017) ranks Sweden within the second quintile of the overall strategic planning capacity and the quality of government capacity.

Bouwer et al. (2005) place Sweden among the top countries by the rate of GPP uptake in the European Union (EU27). Indeed, GPP accounts for between 20% and 40% of the monetary value of procurements conducted in Sweden (Renda et al., 2012). The country is also on the 5th place on the Environmental Performance Index (Wolf et al., 2022). Since 2015, the Government of Sweden formulated an ambition for Sweden to become the first fossil-free developed country in the world (Regeringskansliet, 2022). In recent years, the policy discourse shifted towards recognising public procurement and the circular economy as a means to achieve that goal.
(Fossillfritt Sverige, accessed 23rd June 2022). At the same time, it is important to mention that environmental criteria are not compulsory according to the Swedish LOU (Public Procurement Act, Lag om offentlig upphandling). Chapter 4, paragraph 3 of the Swedish LOU states that: "a contracting authority should take into account environmental, social and labour law considerations in public procurement if the nature of the procurement justifies this." (Sveriges Riksdag, 2016) The should-rule or bör-regeln is enshrined in many local laws. Municipalities are encouraged to (should) include environmental criteria in procurements but still have freedom not to do so (Fuertes Giné et al., 2022). Our classification suggests that, depending on the number of external factors, such as local CE strategies, and prioritisation of green and circular goals by the local governments, the should-rule can either act as a hindrance for CPP, or as an opportunity for setting green and circular criteria. As of 2022, CE criteria are not outlined in the procurement guidance documents, although a general Circular Economy Strategy has been published in 2020 (Regeringskansliet, 2020). While Level 1 (Beginners) and Level 2 (Intermediate) respondents utilise such external circumstances to maintain status-quo, the same freedom of interpretation allows Level 3 (CE Promoters) municipalities to approach CPP creatively.

On the business side, there are many actors already pursuing a circular strategy: the Circular Map (Cirkulära Kartan, accessed 23rd June 2022) currently lists 41 private enterprises, public authorities, state-owned enterprises and research/education institutions. The interest in CE among decision- and policy makers appears to be high, and the mainstream policy discourse at the national level promotes CE as a way to achieve environmental sustainability goals.

5.1.2 Level of knowledge and availability of technical expertise
According to Sabatier (1998), it is the technical information “concerning the magnitude and facets of the problem, its causes and the probable impacts (including distributional impacts)” (pp. 99) that forms a major building block of policy change, and the understanding of a policy process needs to encompass the role and availability of expert knowledge and technical information. Interviews in this paper addressed the awareness and availability of expertise on CE and circular business models. The availability of technical expertise varied greatly among the respondents in the public sector. Most sustainability specialists we interviewed had a good grasp of what constitutes a circular economy and could describe several circular business models. However, they assessed the level of CE expertise in their organisation as, in general, lower than their own, especially in Level 1 and 2 municipalities.

Congruence between the level of CE knowledge (e.g., knowledge of various CBMs and understanding of what constitutes a CE) of the interview participant and their perceived level of CE awareness in their organisation varied. The highest congruence could be observed in municipalities that had bigger procurement teams and where the sustainability officers either had a dedicated role in the procurement department or were part of every procurement (Level 3). The lowest congruence between the perceived CE knowledge in the organisation and that of the respondent was observed in municipalities employing only one sustainability officer (typically Level 1). Those participants found themselves in circumstances where they felt that their expertise and skills were in high demand, but at the same time they also felt that they had very little decisive power and influence over key events, becoming more of an obligatory "sustainability add-on" in various projects without being involved in them. Not surprisingly, institutions with more resources also displayed more widespread awareness of CE and circular business models.
The most striking difference between the public sector and the businesses we interviewed was the knowledge of circular business models. Business actors were more focused on product-service systems (where the maker/seller retains ownership of a product and provides a service instead of selling a product that provides the service) and resource recovery through recycling, while the public sector respondents were more interested in other types of circular business models, such as those based on reuse. This difference could potentially result in a conflict of interest that could be resolved during the scoping phase. Indeed, Level 3 respondents invested more time and resources into initial procurement steps and market dialogue.

5.1.3 Timeline

According to ACF, a time perspective of at least a decade is necessary, to fully understand the processes that have led to a policy change. Thus, what we observed in our interviews represented relatively early stages of the process. The conceptualisations of CE in scientific literature are relatively recent, dating back to the 1990s and early 2000s (Fengzhong & Guomei, 2002; Zhu, 1998). However, the European Union (EU) adopted its first official Circular Economy Action Plan much later (2015). However, a voluntary inclusion of environmental procurement criteria had been enshrined already in the legal framework preceding LOU (Regeringskansliet, 2016). Therefore, for most of our respondents at all CPP uptake levels, GPP was not new. In fact, all interviewed public authorities had at least one environmental expert on board who in principle could take part in drafting the environmental criteria for any procurement. However, CE was mentioned by the participants as something that had become a topic of discussions for only the last 2-3 years, especially among Circular Beginners (Level 1). Among the respondents, two municipalities had already taken part in CPP or were in the process of planning a CPP, two municipalities were in the process of planning a GPP or considering an inclusion of
environmental criteria in future procurements, and the rest were routinely employing GPP
criteria but have not implemented CPP criteria yet. Two respondents worked strategically with
CPP, while all other CPP cases were singular occurrences rather than systematic processes.
The companies taking part in procurement expected CPP criteria to be similar to existing
environmental requirements. They also described CPP and CE in general as something that has
only started gaining popularity in the last 2-3 years.

5.1.4 Policy subsystems and networks
Groups of actors that share the same set of beliefs and goals remain the most important element
of ACF. Our respondents described various levels of networking and congruence in their
organisations. In general, respondents that have organised at least one CPP were also working in
bigger teams with a clear vision of how a circular transition should be implemented at all levels
of the organisation, starting with local policy makers. This could be especially observed at Level
3 with a trickle effect noted from policy makers setting environmental goals to dedicated teams
spreading information and awareness of these goals in the whole organisation. Another aspect
was the extent of and the emphasis on the scoping phase in the procurement process. Extensive
dialogue with suppliers and a dedicated market analysis team strengthened the network of
procurers and suppliers and afforded more power to influence other actors in the network either
towards a change or maintaining the status quo.

Probably the most important role in the process turned out to be environmental specialists
(miljöösmordnare), who acted as policy brokers in all institutions we interviewed. This was
particularly visible in smaller municipalities where there were usually few environmental
specialists working across all departments. This unique role within the organisation was best
placed to increase awareness of CE and foster policy change. At the same time, a single person
all too often did not have enough mandate and authority to promote ideas that would be considered novel or unusual by others within the organisation and the local network. Change triggers often originate from external events and the policy brokers have an opportunity to amplify these events across their workplace and beyond. However, in smaller organisations, the environmental specialists did not see themselves as policy brokers and some openly expressed frustration over not being heard and over low awareness of both GPP and CPP (Level 1 and 2). This problem could be addressed in a dialogue with suppliers provided the environmental specialist took part in all initial stages of the procurement. However, the fact that often a single environmental specialist was working across many departments affected their ability to get involved in different tasks and processes beyond basic reviews, such as suggesting environmental criteria for procurements that in some cases, the respondents recollected, were either dismissed entirely or significantly weakened.

Organisations that could potentially fulfil the role of the policy broker are the external procurement agencies. Such agencies often provide services for municipalities that are not big enough to employ their own procurement teams. Respondents from the external agency we interviewed confirmed that their agency provided GPP as a standard. However, the agency also operated using a typical set of existing environmental criteria, with little to no room for innovative or creative solutions. Since the majority of Level 1 and some Level 2 participants saw CPP as something costly and time consuming, this could potentially create a vicious circle where CPP is neither offered to, nor sought after by actors with limited budgets.

Smaller municipalities located in a proximity of bigger ones showed a distinct type of policy subsystems. It was common for those actors to partner with the large neighbour and learn from more advanced cases of CPP to transfer these experiences into local procurements. These
municipalities also demonstrated more CE expertise during the interviews despite relative lack of experience with CPP.

5.1.5 Implicit theories (policy beliefs)

Among all municipalities at Level 1 that have not tried implementing any elements of CE in their processes, a CE was seen as something complex, requiring extra time, resources, and training.

The novel aspects, mentioned by many participants, were perceived as different from typical procurement processes in terms of planning and timeframe. In particular, blanket orders (ramavtal) were considered new and time consuming. While some respondents perceived the implementation of CPP as a gradual, step by step process of incremental changes built upon existing GPP criteria, others saw CPP as a significant change. However, all respondents were already familiar with and routinely procured so-called product-service systems, such as printing services or coffee machines. This type of CBM is familiar to procurers, but only the CE Promoters (Level 3) recognised such product-service systems as (potentially) circular. In turn, CPP could be seen as a major change at Level 1, whereas Level 3 would be able to transfer knowledge from existing circular tenders to new groups of products and services.

Another belief shared by participants that have not had experiences with CPP was that a CE transition would significantly raise the costs for municipalities. Environmental criteria were seen as more prohibitive (cost-wise) by procurement departments, but not so by environmental specialists. Higher costs were partially attributed to the necessity to acquire new expertise, and partially to the perceived lack of circular offers among local businesses. The tendency to perceive any change as more expensive than business-as-usual is characteristic of path-dependence, as described by Pierson (2000).
A particular set of implicit theories related to how the procurement should be conducted. Importantly, respondents said that there needed to be more than one bidder to ensure a good selection of participants and a healthy market competition scenario. At the same time, local companies were also often seen as not ready for circular tenders, so there was a concern that the local business would be disadvantaged in any CPP process. In municipalities that did not set environmental criteria in procurements routinely, the criteria were seen as a serious hindrance for participation of local businesses.

Interestingly, these sentiments were not shared by the respondents representing the business side. Bigger companies we interviewed were interested in taking part in CPPs. CBMs based on providing services instead of products were particularly of interest. These types of contracts, however, often require blanket orders that were approached with caution by the local authorities. Smaller, one-person businesses (such as crafts) were much more concerned with the legal aspects of procurement contracts, for instance, the possible consequences of not being able to fulfil an order on time. The circular and environmental criteria, on the other hand, were perceived as easy to meet by small businesses.

5.2 Accelerating CPP uptake: key factors

In summary, four participants could be classified as CE Beginners, two as Intermediate level and three as CE Promoters. The main accelerators of CPP uptake we identified, regardless of the municipality size, location and other resources, were the policy brokers. Their strong position was always associated with a higher awareness of CPP in the organisation and a higher number of ongoing, or already realised CPPs. The second accelerator of the CPP uptake in this study proved to be the available network. Collaboration between departments, the proximity of a larger municipality and/or knowledge centres were able to partially mitigate the lack of local resources.
Reported low CPP uptake was additionally compounded and probably caused by low awareness and knowledge of what constitutes a circular product or service, as all respondents we interviewed procured and utilised at least one type of circular product (e.g., printing service, shared cars), but only CE Promoters associated such types of goods with a CE.

6. Discussion and conclusions

The study demonstrated that understanding and adoption of CPP among the Swedish public sector is still fragmented. The classification we put forward in this paper aims to identify and simplify the steps that need to be undertaken for a wider adoption of CPP. In this section, we first outline the study limitations and subsequently discuss constraints and opportunities for public actors to advance from CE beginners to Promoters of CE practices in their regions.

6.1 Study limitations

One of the main limitations of the study is its rather low generalisability. The specific approach (ACF) employed in the paper focuses on local conditions, and its strength lies in the detailed analysis of local policy subsystems and policy beliefs which are, in turn, influenced by local socio-economic conditions, cultural values and other policy decisions (cf. Figure 1). Overall, ACF studies tend to be localised by design. However, some of the findings, especially regarding the role of policy brokers, may be transferable to a similar cultural context.

Another limitation of our study lies in its relatively narrow focus on traditional product categories, such as textiles, furniture or IT equipment, since it excludes, among others, procurement of services, food, or long-term investments such as infrastructure and constructions. However, these categories were chosen by respondents themselves, as neither the interview guide (Appendix A) nor the interviewers suggested any predefined examples of product categories. This adds another perspective to the findings, suggesting that respondents may see
CPP as applicable in quite a narrow context, and do not consider, for instance, sharing of heavy
equipment as a type of CBM. Excluding large investments and infrastructure from the analysis,
additionally limited insights into business ecosystems’ role in CPP. Business ecosystems (several
businesses collaborating to provide the final product or service) have long been recognised as a
vital element of a circular economy (Kanda et al., 2021). Interestingly, the larger suppliers we
interviewed were mainly interested in product-service systems, and the topic of business
ecosystems and collaboration among suppliers have not been mentioned by our respondents.

Another possible limitation stems from the expertise of the respondents. It is possible that
employees working with infrastructure projects or spatial planning would provide a different
perspective on CPP, for instance, focusing more on utilisation and sharing of resources.

However, the study team was referred to procurement/sustainability departments by the
participating organisation upon the first contact. This offers additional insights into how CE is
understood by local authorities and the type of initiatives that are considered circular.

All data collected in the paper come from electronic sources: the research team conducted
all interviews online or over the phone, and documents were exchanged via emails. The study
could benefit from observations, e.g., during the initial (scoping) procurement phases, however,
none of the participating authorities consented to this form of data collection. Participants’
subjectivity could be partially mitigated by interviewing several persons within the same
organisation and/or by conducting several interviews with the same participant.

6.2 On barriers to CPP

One of the well-recognised constraints all respondents faced was the lack of clear and commonly
agreed criteria for CPP. At present, the National Agency for Public Procurement offers an
extensive set of criteria for sustainable procurement, including separate sets of criteria for
environmental, social and economic sustainability. This is, however, not the case for CPP. The combination of a relative lack of experience with circular goods, fuzzy definitions of what CE constitutes (from a procurer point of view) and a lack of well-formulated guidelines and criteria at the top level of policy making can discourage newcomers from trying CPP. Public authorities have a duty to remain fair and transparent and we hypothesise that this lack of top-down guidance can also increase the risk of litigation resulting from seemingly unfair procurement criteria. As public authorities tend to be valued for risk avoidance rather than for risk-taking, the potential risks and costs of outside-the-box solutions would be perceived as higher than the costs and risk of maintaining the status quo. A set of guidance documents, similar to the existing GPP guidelines, would support CE beginners, especially those lacking expertise. An alternative opportunity to set circular criteria can also arise during the scoping phase of the procurement, provided a close dialogue with suppliers is maintained.

Another significant challenge for the municipalities least advanced in CPP was the tendency of CPP activities and decisions to materialise in-between existing processes and organisational entities. Current organisations and processes have been developed to support the process of cyclical replacing of used products with new products - not surprisingly, our study showed that different circular aspects of a procurement added new perspectives to the habitual work. For instance, comparing a product-service offer with a single purchase (e.g., buying the service of printing versus buying a printer), the two alternatives would potentially be covered by different budgets. The product purchase would affect an investment budget with a single cost, whereas the product-service purchase would affect an expense budget with a lower cost over several years. This makes direct comparisons difficult and involves more parties in decision making. One way of overcoming this situation, and potentially moving to the next CPP adoption
level, would be to routinely use TCO (Total Cost of Ownership) comparisons rather than shelf-price comparisons, ideally including the TCO aspect in the procurement requirements.

Another example of barriers to circular practices is that a standard departmental organisational design assigns the responsibility over many commonly used products (be it furniture and interiors, office material or hygiene products) to each department using them. Therefore, decisions and choices that span several departments (e.g., furniture sharing) become difficult and can hinder CPP adoption at a more systemic level, including sharing and reuse of existing assets. One way to overcome this issue could be moving towards “category management” for these types of products. This would entail a cross-departmental responsibility that could in turn enable a more efficient use of resources, implementation of sharing schemes and an overall better control over materials and products used in the operations.

One of the commonly mentioned obstacles, namely the lack of expertise and experts, is probably the most difficult to address. There were visible differences between our respondents depending on their location in Sweden, with more densely populated coastal municipalities in the South having, in general, more resources at their disposal. There are, however, several ways to help lift municipalities that are left behind. This could be the possibility to collaborate with CE leaders and share knowledge, also through non-governmental organisations. Joint procurements and joint projects could help build networks and facilitate the penetration of policy brokers through organisations which are currently lacking them. Clear goals and top-down strategies clarified and adapted at each organisational level could also be enablers for advancing CPP. In general, there is a need to strengthen the knowledge of circular principles and practices. This includes several aspects, such as the awareness of the role of CPP in reaching environmental targets, more evidence supporting the ability of CBMs to create positive or negative externalities,
and the understanding on how to utilise CPP as a sub-type of GPP within existing policies and regulations.

7.6.3 Conclusions

Our study showed, corroborating results of Kristensen et al. (2021) or Witjes and Lozano (2016), that another hindrance for CPP in practice is not the current law (LOU), but rather how organisations and people choose to apply it. Despite having clear GPP guidelines, many municipalities (up to 80%) (Renda et al., 2012) choose not to apply them. Therefore, on the one hand, the risk that new CPP guidelines would not sufficiently address the uptake of CPP is substantial. On the other hand, the organisations that have already started using CPP have done so based on existing knowledge and understanding of both the details and intentions of the law and the opportunities of CPP, without formalised CPP guidelines. Hence, currently, the CPP in Sweden is also driven by strong individuals shaping principles and practices through hands-on approach.

Further research is needed to assess operational and socioeconomic effects of CPP, given that the similar evidence for green procurement is mixed. Regarding the policy angle, it could be interesting to compare the factors affecting uptake of CPP across several countries. This would be valuable since there are significant differences in CPP and GPP uptake across Europe despite common legal GPP frameworks. Given the rather low uptake of CPP, as our results showed, it would be also interesting to study the reasons why public authorities choose not to procure circular offers in cases the CPP guidelines are in place.

As in all major transitions, a gradual start and successive progress can lead to a wider CPP adoption. The CPP uptake classification presented in this paper aims to pinpoint pivotal aspects that should be addressed for a successful, gradual transition to a circular society.
Interaction and dialogue between all actors, both internal, within organisations, and external, with suppliers and other municipalities, seems to ensure that no stakeholder is left behind.

7. References


https://wedocs.unep.org/bitstream/handle/20.500.11822/37045/SPPWSG.pdf


<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Circular beginners</strong></td>
<td><strong>Testing and piloting circular projects</strong></td>
<td><strong>Promoters of CE in their regions through CPP</strong></td>
</tr>
<tr>
<td>CE criteria are currently not outlined in the procurement guidance documents</td>
<td>Limited possibilities to collaborate with actors that have already tried CPP</td>
<td>Good possibilities to collaborate with actors that have already tried CPP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A role model and leader in collaborations with actors that have not tried CPP yet</td>
</tr>
<tr>
<td><strong>External ecosystem</strong></td>
<td>Active collaborations with external actors, such as knowledge centres, science parks or research institutions</td>
<td></td>
</tr>
<tr>
<td>CE is not recognised or not priorities by the local government. Circular suppliers and solutions can be chosen for</td>
<td>CE is recognised by the local government, but this fact is not translated into strategic goals.</td>
<td>CE is both promoted by the local government and purposefully used to set strategic goals (e.g. financial and/or environmental)</td>
</tr>
<tr>
<td>Technical expertise</td>
<td></td>
<td></td>
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<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>Limited expertise or lack of access to experts in CE</td>
<td>Expertise is there, but fragmented, no prior experience with CPP</td>
<td>Procurement teams have a CE or a sustainability expert on board throughout the whole procurement process.</td>
</tr>
<tr>
<td>Starts introducing GPP criteria</td>
<td>Routine use of GPP criteria</td>
<td>Creative use of existing GPP criteria for CPP cases</td>
</tr>
<tr>
<td>GPP not conducted routinely</td>
<td>GPP as standard</td>
<td>GPP as standard, CPP seen as a special case of GPP</td>
</tr>
<tr>
<td>Timeline</td>
<td>Actors at all levels operate within the same timeline, dependent on national regulations and guidelines</td>
<td></td>
</tr>
<tr>
<td>Policy subsystems and networks</td>
<td>CPP and CE is perceived as something new, gaining popularity in the last 2-3 years</td>
<td>Local authorities, including policy makers, follow international and national developments and quickly react to upcoming information</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>Strongly visible path-dependence (business-as-usual)</td>
<td>Business-as-usual combined with first (even if anecdotal) attempts at CPP</td>
<td>GPP and CPP becomes business as usual</td>
</tr>
<tr>
<td>Few policy brokers in weak positions within the organisation</td>
<td>Many policy brokers in weak positions within the organisation</td>
<td>Policy brokers firmly established in procurement teams</td>
</tr>
<tr>
<td>Internal collaboration in place</td>
<td>Internal goals and steering documents</td>
<td>Integrated impact goals, including political (local and national) level</td>
</tr>
<tr>
<td>Implicit theories (policy beliefs)</td>
<td>Limited dialogue with suppliers</td>
<td>Open to dialogue with suppliers</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>CPP can already be present in the organisation (e.g. product-service systems) but these procurements are not recognised as circular</td>
<td>CPP can already be present in the organisation (e.g. product-service systems) but these procurements are not recognised as circular</td>
<td>Traditional product-service systems, such as coffee machines are part of the circular portfolio</td>
</tr>
<tr>
<td>Prevailing beliefs that CPP is costly and requires non-standard solutions and approaches (reinforcing path dependence)</td>
<td>Prevailing beliefs that CPP requires non-standard solutions and approaches combined with openness to try non-standard solutions</td>
<td>Prevailing beliefs that CPP is business-as-usual</td>
</tr>
<tr>
<td>Beliefs around the model procurement process, uncertainty avoidance</td>
<td>Beliefs around the model procurement process, uncertainty avoidance</td>
<td>Value in creativity, goal-oriented use of examples and regulations</td>
</tr>
</tbody>
</table>
Practical, bottom-up solutions exist within the organisation but are not recognised as CE

Practical, bottom-up circular solutions within the organisation - e.g., sharing or reusing furniture are supported and recognised as CE

<table>
<thead>
<tr>
<th>Practical, bottom-up solutions within the organisation - e.g., sharing or reusing furniture are supported and recognised as CE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical, bottom-up solutions exist within the organisation but are not recognised as CE</td>
</tr>
</tbody>
</table>

Table 1. Classification of CPP adoption
Figure 1. General overview of the framework (ACF). The figure appears in Sabatier (1998).
Appendix A. Interview guide

1) Introduction, opening questions
   a) What are your responsibilities
   b) How does your job relate to (green/circular) public procurement

2) Network questions
   a) Procurement - green procurement - circular procurement
   b) Procurement within the municipality (centralised – decentralised)?

3) Circular economy
   a) What is? Setting the scene/common language
   b) Level of awareness about CE: 0-10 in your organisation
   c) How much are you/colleagues/your institution involved
   d) Interest/will/pressure to implement CE solutions? If so, where does it come from?
   e) Any steering documents that mention sustainability, green, Agenda2030 or circularity?

4) Procurement questions (general vs green vs circular)
   a) Describe a procurement process according to general/green criteria
   b) Who has the say in the process, who is involved?
   c) What groups do you work with?
   d) How do you collect the necessary information (i.e. how do you carry out RFI=Request For Information) in order to develop a tender?
   e) Please describe how the collected information informs the tender.
   f) Who, in your opinion, should be given a voice?
   g) Do you have a say?
h) Do you think you (and colleagues) should have more influence over the process?

<table>
<thead>
<tr>
<th>Phase (of procurement)</th>
<th>Steps/activities</th>
<th>Internal roles</th>
<th>External dependencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis of needs</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Market analysis</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Procurement (or call-off)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Implementation</td>
<td></td>
<td></td>
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<tr>
<td>Follow up</td>
<td></td>
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</tbody>
</table>

5) Changes within the last 10 years
   a) Which way do you think the procurement is going?
   b) What is the drive for changes (e.g. societal, lack or resources, local resilience or?)

6) Circular public procurement (their definition)
   a) Is your organisation procuring according to CIRCULAR criteria?
      i) If so, please give us an example
      ii) Also, what are the criteria / metrics currently in use to measure circularity in your procurement processes?
   b) Obstacles (SWOT)
   c) Opportunities (SWOT)
   d) What changes are needed for CPP to “catch on”? Which parties are the most important for change to happen? Could it happen within current structures, or what needs to change?
   e) What is your organisation doing in the process?
f) What criteria need to be introduced for CPP

g) What is the most important step now?

7) Is there anything you would like to add?
Appendix B. Overview of the study participants. SEK stands for Swedish crowns. Sources of data: [https://www.scb.se/](https://www.scb.se/) (Statistics Sweden, accessed 19th December 2022), [https://www.val.se](https://www.val.se) (Valmyndigheten, accessed 19th December 2022) and websites of respective municipalities and regions. Data for 2020.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Interviewees</th>
<th>Population</th>
<th>Population density (per square km)</th>
<th>Location in Sweden</th>
<th>Median annual income (SEK) from employment or business (rounded to the nearest 1000 SEK)</th>
<th>Local government (as of 2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipality 1</td>
<td>Sustainability Strategist (Hållbarhetsstrateg på koncerninköp), Procurement Manager (Upphandlingschef), Group Purchasing Manager (Koncerninköpschef)</td>
<td>100000-150000</td>
<td>&lt;150</td>
<td>South/Middle, landlocked</td>
<td>297 000</td>
<td>Coalition of Social Democrats, Green Party, Centre and Liberals</td>
</tr>
<tr>
<td>Municipality 2</td>
<td>Purchasing Strategist (Inköpsstrateg)</td>
<td>50000-100000</td>
<td>&lt;50</td>
<td>North, coast</td>
<td>312 000</td>
<td>Social Democrats</td>
</tr>
<tr>
<td>Municipality 3</td>
<td>Sustainability Strategist (Hållbarhetsstrateg på inköpsenheten), Environmental Strategist (Miljöstrateg på Miljöförvaltningen)</td>
<td>150000-200000</td>
<td>&lt;500</td>
<td>South, coast</td>
<td>293 000</td>
<td>Coalition of Moderates, Liberals, Christian Democrats and Centre</td>
</tr>
<tr>
<td>Municipality 4</td>
<td>Purchasing Coordinator (Inköpssamordnare)</td>
<td>&lt;10000</td>
<td>&lt;10</td>
<td>North, landlocked</td>
<td>266 000</td>
<td>Coalition of Social Democrats, Christian Democrats, Health Care Party</td>
</tr>
<tr>
<td>Municipality 5</td>
<td>Sustainability Strategist (Hållbarhetsstrateg)</td>
<td>10000-50000</td>
<td>&lt;200</td>
<td>South, landlocked, satellite town</td>
<td>356 000</td>
<td>Coalition of Moderates, Centre, Liberals and Christian Democrats</td>
</tr>
<tr>
<td>Municipality 6</td>
<td>Environmental Strategist (Miljöstrateg)</td>
<td>10000-50000</td>
<td>&lt;50</td>
<td>South, landlocked</td>
<td>290 000</td>
<td>Coalition of Moderates, Centre, Liberals and Christian Democrats</td>
</tr>
<tr>
<td>Municipality 7</td>
<td>Procurement Strategist (Upphandlingsstrateg)</td>
<td>10000-50000</td>
<td>&lt;50</td>
<td>South, coast</td>
<td>262 000</td>
<td>Coalition of Moderates, Centre, Liberals and Christian Democrats</td>
</tr>
<tr>
<td>Municipality 8</td>
<td>Procurer (Upphandlare), Environmental Specialist (Miljöspecialist)</td>
<td>500000-1000000</td>
<td>&lt;1500</td>
<td>South, coast</td>
<td>310 000</td>
<td>Coalition of Moderates, Centre, Liberals and Christian Democrats with support of Democrats</td>
</tr>
<tr>
<td>Region 1</td>
<td>Procurer (Upphandlare), Environmental Expert (Miljösamordnare)</td>
<td>10000-50000</td>
<td>&lt;10</td>
<td>North, coast</td>
<td>294 000</td>
<td>Social Democrats are the largest party</td>
</tr>
<tr>
<td>Procurement Agency 1</td>
<td>Procurer (Upphandlare)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company 1</th>
<th>Strategist for Sustainability and Services</th>
<th>Large (approx. 700)</th>
<th>IT solutions (products and services)</th>
<th>Six countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company 2</td>
<td>Chief Sales Officers, Sustainability Expert</td>
<td>Small (below 50)</td>
<td>Textiles: workwear</td>
<td>Nordic countries and Germany</td>
</tr>
<tr>
<td>Company 3</td>
<td>Written material provided by Sustainability Strategist</td>
<td>Large (above 1000)</td>
<td>Furniture</td>
<td>Yes – production in Sweden, sales points in 40 countries</td>
</tr>
<tr>
<td>Company 4</td>
<td>Head of Sustainability, Sustainability Expert</td>
<td>Medium (below 200)</td>
<td>Equipment for kindergartens and schools (furniture)</td>
<td>Nordic countries</td>
</tr>
<tr>
<td>Company 5</td>
<td>Owner</td>
<td>Micro</td>
<td>Art and craft products: handmade wooden bowls</td>
<td>Yes (international customers)</td>
</tr>
<tr>
<td>Company 6</td>
<td>Owner</td>
<td>Micro</td>
<td>Art and craft products: handmade glass sculptures</td>
<td>No</td>
</tr>
<tr>
<td>Company 7</td>
<td>Owner</td>
<td>Micro</td>
<td>Art and craft products: ceramic sculptures and tiles</td>
<td>No</td>
</tr>
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