



## From Green to Circular Public Procurement in Denmark

Kristensen, Heidi Simone; Mosgaard, Mette Alberg; Remmen, Arne

*Published in:*  
Ökologisches Wirtschaften-Fachzeitschrift

*DOI (link to publication from Publisher):*  
[10.14512/OEW370119](https://doi.org/10.14512/OEW370119)

*Creative Commons License*  
CC BY-NC-ND 4.0

*Publication date:*  
2022

*Document Version*  
Også kaldet Forlagets PDF

[Link to publication from Aalborg University](#)

*Citation for published version (APA):*  
Kristensen, H. S., Mosgaard, M. A., & Remmen, A. (2022). From Green to Circular Public Procurement in Denmark. *Ökologisches Wirtschaften-Fachzeitschrift*, 37(1), 19-20. <https://doi.org/10.14512/OEW370119>

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

### Take down policy

If you believe that this document breaches copyright please contact us at [vbn@aub.aau.dk](mailto:vbn@aub.aau.dk) providing details, and we will remove access to the work immediately and investigate your claim.

## Circular procurement

# From Green to Circular Public Procurement in Denmark

Green procurement is a high priority both in businesses and in government. To develop this strategy towards a holistic Circular Public Procurement, greater institutionalization is necessary.

By Heidi Simone Kristensen, Mette Alberg Mosgaard and Arne Remmen

Within the EU, public sector organisations spend two trillion euros annually, accounting for 14% of EU GDP (European Commission 2021). In Denmark, public procurement accounts for approx. 50 billion euros annually (Konkurrence- og Forbrugerstyrelsen, 2021). In general, “Denmark has a well-functioning procurement system that is quite advanced in its strategic dimension, as it includes green, SME, social, and to lesser extent innovation criteria.” (DG for Regional and Urban Policy/PWC 2016, 53).

Green public procurement in Denmark was introduced in the late 1990s and today relies on centrally developed procurement guidelines that focus on product properties and the use of eco-labels (Kristensen et al. 2021). Since the updated EU procurement directive from 2016, GPP has become a more widespread activity in Danish municipalities (Kristensen et al. 2021). In the fall of 2020, the Danish government published the strategy “Green Procurement for a Green Future”, with the overall aim that “public procurement has significant lower climate impact and contributes to the Danish climate goals” (Regeringen 2020).

Unfortunately, the Danish strategy for Green Procurement does not mention circular public procurement (CPP) at all. In this article, a brief outline is given of the Danish experiences with green public procurement (GPP), and then CPP is argued to be a necessary extension of the current understanding and practices regarding procurement in public institutions. Finally, a case analysis is made of a CPP project that highlights the benefits of sustainable, circular procurement.

## Status on green procurement

In January 2021, the Danish Competition and Consumer Authority published an investigation of 1.914 public Danish EU tenders and found that 44% mention words such as *green* and *climate* (Konkurrence- og Forbrugerstyrelsen 2021).

While ecolabels, ISO standards and total cost of ownership/lifecycle costing are becoming more frequently used, the word *circularity* is mentioned in only one tender. Even though *extending product lifetime* (6) and *reuse* (71) are more commonly used terms, it becomes clear that circularity, durability, and reuse are not high on the agenda in the Danish procurement practices. This runs contrary to the climate mitigation plans of the government, as a major part of climate impacts are generated along the value chain.

The existing GPP practices focus on well-known, old *circular* criteria such as recycling of materials or reducing packaging (Kristensen et al. 2021). Less focus is on more ambitious circular practices such as reuse or means to prolong product lifetime.

## Why circular procurement?

CPP is defined by the EU Commission as “the process by which public authorities purchase works, goods or services that seek to contribute to closed energy and material loops within supply chains whilst minimizing, and in the best case avoiding, negative environmental impacts and waste creation across their whole life-cycle” (European Commission, 2017).

Green procurement is a high priority both in businesses and in government. So far, CPP have not gotten the same attention. Therefore, to exemplify the broader potentials in CPP, the experiences from a specific CPP on school furniture is highlighted below.

In 2014, the Danish parliament decided to prolong school days and strengthen the teaching in different subjects. This generated challenges to the primary schools, since longer days also created new demands to the use of space and to pedagogical concepts. A Danish manufacturer of school furniture, Jens Højer, saw this challenge and was at the same time tired of public tenders mainly giving attention to price. His company developed a concept focusing on long product lifetime, high quality materials, modular design to change and upgrade components, repair and maintenance, and a take-back system to reuse components and materials. Further, social responsibility was considered by creating socio-economic workspaces for repair, and to involve the pupils in the maintenance (Højer Møbler 2015).

Around the same time, Aalborg Municipality decided to develop a case of CPP of school furniture, which is among the first Danish tenders to give highest priority to circularity in the award criteria. Product warranty for both new and reused furniture was included in the technical specifications, while the award criteria focused on circular economy (long lifetime, rep-

arability, reuse etc.) (40%), consultancy service (20%), quality of provided solutions (20%) and finally price (20%). Market consultations proved to be an important tool to develop the tender, and in general, market dialogue can be applied to create more innovative solutions in CPP (Huulgaard et al. 2022).

Three suppliers submitted offers, and after an assessment, the local manufacturer, Højer Møbler, was chosen. This was the first example of a furniture tender which altered focus from technical specifications of a specific product to consider the furniture from a comprehensive perspective – as a learning environment. Other municipalities have also made circular procurement of furniture, e.g. Hjørring and Aarhus have facilitated the reuse of existing furniture across the municipality in order to reduce the purchase of new furniture.

### From products over services to system solutions

A change of focus beyond products and initial investment (as in GPP) makes it necessary to include the service dimension in the procurement process. Total cost of ownership involves broader aspects of running costs, and service contracts can be used to create common benefits for both supplier and procurer. From an environmental perspective, service contracts make it possible to include durability, repair, and maintenance.

A review of the academic literature on product service system (PSS) revealed that the “system” dimension of PSS was mostly understood as infrastructure (Kristensen/Remmen 2019), for example by facilitating product take-back systems. The case of school furniture versus learning environments illustrates that rethinking the procurement’s purpose can help include several sustainability aspects such as improved wellbeing and less sickness among teachers and students or improved learning outcomes for the students. These benefits have not been investigated and evaluated systematically so far, but indicators are pointing in this direction.

The differences of procuring and selling a product, a service or a systemic solution have implications for the criteria in the tenders. *Product* relates to the properties of furniture itself such as price, design, quality, and environmental labelling, while the *service* is supplemented with new ownership models, services in use as well as durability and maintenance. In a product-service system, flexibility and user values become important criteria, with the focus on the social wellbeing of users.

While GPP has been implemented in Danish procurement through eco-labels, CPP has yet to become institutionalised. Advancing CPP in Denmark requires efforts within three areas that can be defined as a new 3P:

- **Policy:** Public organisations need to translate policy objectives and strategies to specific procurement targets and plans to provide guidance and incentives for the procurers
- **Projects:** As CPP is understood as something new in Danish PP, public organisations need to initiate experiments and projects related circularity in procurement

- **Potentials:** To support CPP, public organisations need to explore the potentials of CPP by supporting change agents within the organisation and explore innovative circular solutions in collaboration with the market

### References

- DG for Regional and Urban Policy/PWC (2016): Denmark Country Profile. Public procurement – Study on administrative capacity in the EU. [https://ec.europa.eu/regional\\_policy/en/policy/how/improving-investment/public-procurement/study/#4](https://ec.europa.eu/regional_policy/en/policy/how/improving-investment/public-procurement/study/#4)
- European Commission (2017): Public procurement for a circular economy. Good practice and guidance. [https://ec.europa.eu/environment/gpp/pdf/Public\\_procurement\\_circular\\_economy\\_brochure.pdf](https://ec.europa.eu/environment/gpp/pdf/Public_procurement_circular_economy_brochure.pdf)
- European Commission (2021): Public procurement. [https://ec.europa.eu/growth/single-market/public-procurement/strategy\\_en](https://ec.europa.eu/growth/single-market/public-procurement/strategy_en)
- Højer Møbler (2015): Lej et Læringsrum – konceptbeskrivelse.
- Huulgaard, R. D./Kristensen, H. S./Remmen, A./Smink, C. K. (2022): Circular Public Procurement: A Case Study of Workwear and Laundry Services. In: Bals, L./Tate, W. L./Ellram, L. M. (eds.): Circular Economy Supply Chains: From Chains to Systems. Bingley, Emerald Publishing Ltd. 329–343.
- IDA (2020): Kommunale indkøbschefer ønsker nationale mål for grønne indkøb. <https://ida.dk/media/7362/20201015-kommunale-indkoebschefer-oensker-nationale-maal-for-groenne-indkoeb-enderlig-csl.pdf>
- Konkurrence- og Forbrugerstyrelsen (2021): Status for offentlig konkurrence 2020.
- Kristensen, H. S. (2020): PhD Thesis: Circular business development – rethinking value, tools and business potentials.
- Kristensen, H. S./Mosgaard, M. A./Remmen, A. (2021): Circular public procurement practices in Danish municipalities. *Journal of Cleaner Production* 281: 124962. doi: 10.1016/j.jclepro.2020.124962
- Kristensen, H. S./Remmen, A. (2019): A framework for sustainable value propositions in product-service systems. *Journal of Cleaner Production*, 223: 25–35. doi: 10.1016/j.jclepro.2019.03.074
- Regeringen (2020): Grønne indkøb for en grøn fremtid – strategi for grønne offentlige indkøb. [https://fm.dk/media/18268/groenne-indkoeb-for-en-groen-fremtid-strategi-for-groenne-offentlige-indkoeb\\_web.pdf](https://fm.dk/media/18268/groenne-indkoeb-for-en-groen-fremtid-strategi-for-groenne-offentlige-indkoeb_web.pdf)

### AUTHORS + CONTACT

**Heidi Simone Kristensen** is an assistant professor at the Department of Planning at Aalborg University, Denmark. Her research is focused on circular economy within public and private organizations, and how these different stakeholders can collaborate for circular innovation.

Aalborg University, Rendsburggade 14, 9000 Aalborg. Email: hsk@plan.aau.dk

**Mette Alberg Mosgaard** is an associate professor at the Department of Planning at Aalborg University, Denmark. Her research area is focused on corporate circular economy with an specific interests in the potentials in the collaboration between companies, authorities and research institutions.

Aalborg University, Rendsburggade 14, 9000 Aalborg. Email: mette@plan.aau.dk

**Arne Remmen** is professor in the research group on Sustainability, Innovation & Policy, at Department of Planning, Aalborg University. His research is regarding environmental management, eco-design, and how product policies influences the transition towards a sustainable, circular economy.

Aalborg University, A. C. Meyers Vænge 15, 2450 København. Email: ar@plan.aau.dk

