

THE POWER OF PUBLIC PROCUREMENT IN THE TRANSITION TO A CIRCULAR ECONOMY

Ashleigh McLennan
Sustainable procurement and economy officer at ICLEI (International Council for Local Environmental Initiatives)

Birgitte Krebs Schleemann
Marketing manager for green transition at DGE and former project manager in the City of Aalborg



View of Aalborg City, Denmark

Ashleigh McLennan is a Sustainable Procurement and Economy Officer at ICLEI - Local Governments for Sustainability, a global network of more than 1,750 local and regional governments committed to sustainable urban development. Ashleigh works across a range of European circular economy projects with a particular focus on sustainable, circular and innovation procurement.

Birgitte Krebs Schleemann Birgitte Krebs Schleemann is a Marketing manager for green transition at DGE (sustainability consulting). For the past five years, Birgitte has worked as a project manager in the City of Aalborg to establish circular public procurement practices within the Municipality, including being part of the pilot projects described in this article.

The City of Aalborg in Denmark is home to around 207,000 inhabitants, making it the fourth largest city in Denmark. Aalborg has been committed to improving the sustainability of their municipality for over two decades, and for the past three years, Aalborg has been developing its use of procurement as a tool for developing innovative circular solutions which meet the city's needs. This article presents an overview of two pilot public procurements conducted by the City of Aalborg which have each challenged current working practices, and led to new understandings of how to meet workers' and citizens' needs, in ways which are both cost effective and sustainable in the long-term.

INTRODUCTION

The City of Aalborg in Denmark has been committed to improving the sustainability of their municipality for over two decades, even giving its name to the Aalborg Charter, which since 1994 has been used as the basis of the commitment of over 3,000 local authorities for local environmental action. Despite this long history, it is still challenged with very high levels of consumption and waste, even in a European context. In fact, the average Danish person consumes 24.1 tonnes of material annually, compared to the EU average of 13.3 tonnes¹.

It's within this context that circular economy solutions have become increasingly attractive to the municipality. The experiences of the City in two recent pilot procurements for the buy-back of ICT products and sustainable "learning environments" provide valuable lessons other public authorities looking to support circular transition.

¹ Metabolic (2020) Exploring Circular Solutions in the Waste System



From public procurement to circular public procurement: a change journey - ©City of Aalborg

WHY CIRCULAR ECONOMY?

In the year 2020, there is no longer any question of the scale of the environmental challenges we face – and their associated economic and social challenges. Despite this, current trajectories predict further decline. Global consumption of resources is expected to double in the next forty years, while annual waste generation is projected to increase 70% by 2050². The ability of our natural ecosystems to continue to function in the face of such degradation is in doubt, which is to say, business as usual is not an option. Any attempt to halt and reverse environmental destruction will need to address resource use and consumption, as it is estimated around half of global greenhouse gas emissions and more than 90% of biodiversity loss and water loss occur at the resource extraction and processing phase³.

It is therefore clear that a more radical change in the socio-economic structure of society is needed, one which goes beyond incremental efficiency improvements and instead reworks our relationship with materials. It is in this context that the concept of a 'circular economy' has emerged, providing fresh impetus in the search for a more sustainable socio-economic system, and signalling in an obvious way a break from the current

One of the most direct ways that government can incentivize the transition to a circular economy is supporting circular businesses and business models through its own spending

'linear' take-make-dispose industrial pattern in favour of material flow loops in which resources are retained in a closed industrial system.

PUBLIC PROCUREMENT IN THE CIRCULAR ECONOMY

A range of policy mechanisms are available for governments looking to support circular transition. For instance, governments can seek to influence the market, whether through soft approaches like encouraging voluntary agreements among industry, or harder measures such as waste and design regulations. They can also try to influence the market from above or below, running consumer-education initiatives or financing research & development programmes. But one of the most direct ways that government can incentivize the transition to a circular economy is supporting circular businesses and business models through its own spending.

Public procurement refers to the acquisition of goods and services by government or public sector organisations and it provides a direct means for government to engage in the economy (estimated to account for between 8 and 25% of the gross domestic product (GDP) of OECD countries). Many public bodies in Europe have already recognised the potential to use procurement to support wider policy goals,

² European Commission (2020) Circular Economy Action Plan

³ *ibid*



Workshop on sustainable development and the circular economy - ©City of Aalborg

such as promote sustainability. This is based on the premise that environmental innovation is risky, and often requires the complete rearrangement of product chains, or the creation of new sectors from scratch. By using government buying power to support sustainable activities, government is able to incentivise and support businesses to take on environmentally beneficial risks.

An increasing number of projects, policy networks, and individual public procurement agencies are now turning specific focus to the concept of 'circular procurement' i.e. "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 minimising, and in the best case avoiding, negative environmental impacts and waste creation across their whole life-cycle"⁴.

However, while sustainable procurement policy and practice has already adopted principles related to the lower rungs of the waste hierarchy, those strategies which focus on front-end solutions or more holistic change in economic

patterns remain new and unexplored. For example, aiming to reduce packaging materials and asking suppliers to commit to waste reduction goals are more widespread than holistic practices, such as service models which challenge how we acquire, use and retire products within a whole life-cycle circularity model.

The potential of public procurement as a tool for achieving a circular transition is already acknowledged at a European level, with both the new Circular Economy Action Plan (2020) and the Green Deal Investment Plan outlining the Commission's intention to set minimum mandatory green public procurement (GPP) criteria and targets in sectoral legislation in the coming years. In practice however, the implementation of circular procurement is still in a nascent phase.

In Denmark, circular procurement has become a hot topic in the past year. In November 2019, Denmark enacted a new Climate Law, which obliges national government to implement measures to achieve a 70% reduction in CO₂ emissions by the year 2030. Circular procurement is recognised as a key tool for achieving this ambition. As well as national government, others are also aligning to

4 European Commission (2017) Public Procurement for a Circular Economy

this goal, including the Danish Assembly of Municipalities (KL) and the Confederation of Danish Industry (DI) both of which are developing strategies for the circular economy and circular procurement.

THE CIRCULAR PUBLIC PROCUREMENT (PP) PROJECT

For the past three years, the City of Aalborg has been working with a group of cities, government agencies, researchers and business representatives from across the Baltic Sea region to explore the potential of public procurement as a tool for advancing the circular economy, with the support of Interreg Baltic Sea Region. By building capacity among key stakeholders, and conducting pilot procurements to buy circular goods and services, Circular PP has developed new knowledge on public procurement for a circular economy, and has enhanced demand for innovative products and services.

In addition to internal stakeholder consultation, communication with suppliers has also been essential

As part of Circular PP, Aalborg has conducted two pilot procurements. The first explored options to create a service for buying back used ICT equipment from the Municipality (including, for example, mobiles, tablets, computers, laptops, wires, storage and servers). The ultimate goal is to prolong the lifetime of ICT equipment⁵.

The second pilot tender conducted in Circular PP was for a playground / outdoor learning area, which places emphasis on greater use of landscaping to achieve both circular and creative play goals. It builds on experience gained in Aalborg's first circular procurement pilot in 2017 for an 'indoor learning environment'. Both of these indoor and outdoor learning environment tenders share a common ambition to challenge our understanding of what schools and playgrounds should look like, calling attention to the needs of children and teachers, and using procurement as an intervention point for encouraging strategic connections between education and environmental policy and developing holistic solutions which better meet current and future needs.

FROM WASTE TO VALUE: ESTABLISHING A BUY-BACK SERVICE FOR USED ICT EQUIPMENT

Electrical and electronic equipment is one of the fastest growing waste streams in the EU (with an annual growth rate of around 2%)⁶. Aalborg like all large organisations, is a massive consumer of electronics, spending an estimated 2.5% of their annual budget on ICT equipment and software.

The average lifespan of a laptop in the City of Aalborg is 3-4 years. After this, they are usually replaced rather than repaired, because this is cheaper than the labour costs of maintaining old equipment. At this point, old laptops were considered as nothing more than waste which had to be disposed of – for a cost. This approach, however, overlooked the inherent value still contained within the laptops, including their material value.

When Aalborg began investigating opportunities to make their ICT consumption more circular, only three out of seven ICT departments in the municipality had agreements for the collection of old ICT equipment, and the financial value recaptured from these agreements was very low.

In addition, it was discovered that a municipality policy of engraving laptops with the City's logo was creating a large obstacle to laptop reuse. This requirement dated to a time when laptops and computers were still very expensive, and discussions about circularity, reuse and resale were non-existent. This policy is now being

changed, and will result in a relatively simple improvement in reuse opportunities.

In addition to improving the collection of old ICT equipment, Aalborg also wants to extend the length of time it is used for. The Environmental Department calculated that by simply keeping laptops for six years instead of three, the city could cut the same amount of CO₂ emissions created by heating and powering all municipality buildings in the city for a whole year. It would also reduce the waste by the same amount as produced by 3,000 households in one year.

Finally, Aalborg is also now considering other options to improve the use and collection of ICT equipment, including more effective systems for ensuring laptops stay within City's ownership (for example, ensuring that all old equipment is recollected from staff when it needs to be replaced with a new one), and better protection of laptops, smartphone, tablets, etc. to increase their lifetime (such as screen protection and protective covers). In the future, it would also like to ensure high durability and long lifetimes are a feature of new equipment it buys, which can be assisted through the purchase of equipment verified by ecolabels, such as the TCO label. Replaceable batteries for example, are one important circular feature the City would like to see more of.

As a result of her work exploring opportunities to extend the lifetime of ICT, Birgitte Krebs Schlemann, Project Leader at City of Aalborg recommends: "When selling used ICT equipment, make an agreement with sustainable and circular requirements, such as a requirement to do an annual evaluation of circularity, including data on how many laptops, mobile phones, tablets and storage devices have been resold, how many have been repaired and resold, and how much is being reused as spare parts and

⁵ <https://www.sustaineurope.com/a-journey-to-circular-procurement-%E2%80%93-the-unexpected-outcomes-of-aalborgs-circular-ict-pilot-20200428.html>

⁶ https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf



being recycling. This gives both the supplier and the City the information they need to improve their processes in future”.

FROM PLAYGROUND PROCUREMENT, TO PROCURING CREATIVE SPACES FOR PLAY AND LEARNING: AALBORG'S CIRCULAR PLAYGROUND TENDER

Building on their experience in the indoor learning environment tender, in 2018, Aalborg embarked on a similar journey to reimagine playgrounds and find opportunities to increase their circularity.

Play is an important part of a child's development, and playgrounds can support this by providing creative spaces to play and learn. Aalborg's Vision for Municipal Schools sets a target that at least 25% of all learning processes should take place outside of school, either physically or digitally. The goal is to encourage experimental learning and problem solving. Following the COVID-19 pandemic, the importance of outdoor spaces for teaching and learning has only increased.

This process required a shift in the procurement stakeholders understanding of playgrounds as a set of

equipment, to playgrounds as a space for learning and play. Starting in 2018, the Environmental Department began speaking with colleagues across all the relevant departments. First, Aalborg set a baseline by interviewing colleagues from a school and a kindergarten, the playground inspector, a landscape architect from the Department of Parks and Nature, and the Procurement Department.

Through speaking with the above, a set of core needs for playgrounds was identified. Procurers need playgrounds to be cost effective. Park officers need equipment to be durable and easy to maintain. The municipality's playground safety consultant needs to ensure that materials and equipment are safe for play. Education officers need space which can be used for teaching. Last but not least, the environmental officers need the park to be sustainable. In addition, several workshops were held with staff from schools, kindergartens and other relevant stakeholders to discuss their wishes for future outdoor play areas. Nature and the use of natural materials was a common theme.

In order to ensure that all these needs were represented in the process to acquire innovative new outdoor play spaces, a steering committee was formed, with a representative from the decision-making level in the Schools department, the Family and Employability department, the City and

Landscape department, the Procurement department, and the Building department. Together, under the leadership of the Environmental department, the steering committee helped to strategically connect the city's priorities in sustainability, health, and education, finding common solutions to issues which are often tackled in silos.

The result of this collaboration was the creation of a bold vision for a playground which avoids the use of materials altogether, by making the most of natural solutions, such as landscaping and vegetation. The lifetime of a landscape is longer than the lifetime of equipment, and when hills, terrain, and vegetation are established property, the ongoing maintenance of a playground can be kept to an absolute minimum. This nature-based solution for playgrounds can also have a positive environmental impact, such as encouraging biodiversity and capturing carbon. What's more, hills and plants can also create a landscape of possibilities for creative play.

This vision of a circular playground is now being put into practice as part of a large urban redevelopment project in Stigsborg, a former industrial docklands which is being converted into a residential area with education and leisure services for 8,000 people. The neighborhood's school will accommodate 1,000 pupils plus 160 pre-school places, and is being designed as a 'Universe of Children and Youth' – meaning that young people's needs are placed in the center of the design⁷.

In addition to internal stakeholder consultation, communication with suppliers has also been essential. Aalborg first announced their intention to procure a circular playground at the Aalborg Sustainability Festival 2018, giving the market several years notice of their future intentions. In February 2020 they visited a local fair on playgrounds organised by the building department in collaboration with several schools which were planning new playgrounds, where they discussed what was now more concrete ideas for a circular tender, and received feedback from suppliers on their ideas of how to buy sustainably, in particular, avoidance of harmful chemicals, and availability of spare parts and maintenance services. In April 2020, they hosted a further online "Meet the Buyers" event, where they presented their circular and pedagogical vision of the project, in order to prepare potential suppliers for the bidding process. Through market engagement activities, Aalborg developed a better understanding of the current capabilities of the market.

Traditional suppliers of playgrounds are primarily focused on equipment, and do not necessarily have in-house landscape architecture knowledge needed to create features using terrain and vegetation. As such, in their

tender, Aalborg asked bidders to provide a first draft of landscape modeling for the area, indicating their use of terrain, surface material, plants, and play and learning equipment. This should include a description of how the model supports learning and circular economy.

The process of developing a new vision for circular playgrounds has taken time, and it will still be several years before the results are seen as part of the Stigsborg Universe of Children and Youth. Circular solutions are still new and innovative, meaning they are not yet deeply embedded in the market. Innovation needs collaboration and creative thinking, both of which take time. But through proper preparation, the hope is that time and money can be saved in the longer-term.

Innovation needs collaboration and creative thinking, both of which take time. But through proper preparation, the hope is that time and money can be saved in the longer-term

CONCLUSION

Public procurement can be a powerful tool in the transition to a sustainable and just circular economy. There is no standard procedure for implementing circularity however, as much depends on an organisation's structure, current contracts, and local market, to name just a few factors.

Transitioning to a circular economy will require collaboration and concerted effort between new constellations of stakeholders, including internally within public administrations, and externally with market actors. Through implementing the two pilot procurements described above, Aalborg learned that these processes take time, and can sometimes be difficult. This is not a sign of opposition or resistance, but the result of uncertainty. But by focusing on the expected benefits, and ensuring these benefits are in line with organisational policies and goals, progress is always possible.

Based on her experience in each of the above change processes, project manager Birgitte Krebs Schleemann advises: *"The best way to start circular procurement is to just start doing it! No matter what stage your organisation is at, there will always be opportunities to improve circularity, from getting started with criteria which are easy to insert into your current tender specifications – like criteria for lifetime guarantees, spare part availability, or use of recycled materials – to more ambitious approaches which bring stakeholders together for wider change."* Finally, not all the answers lie in what we buy. Sometimes the biggest impact will be not buying at all: *"Always ask yourself: is it possible to extend the life of the products already in use? Reducing our overall consumption is a quick win solution to avoid environmental impacts including use of virgin material and generation of CO₂ emissions."*

⁷ <https://www.s2c-eu.com/stigsborg-boerne-og-ungeunivers/>