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This text describes Bodø's experience in circular procurement in the development of a new procurement strategy and the demolition and construction tenders in the city. The sections come from Bodø's CityLoops demonstration report available [here](#).

Procurement strategy

Revolutionized procurement strategy

Through workshops, data gathering and awareness communication, CityLoops has in Bodø Municipality been an initiator and contributor to the preparation of a new circular procurement strategy. Qualitative and quantitative data is gathered from accountancy, workshops, interviews, three master theses, and tender assessment. The findings from these have enabled the municipality to identify potential and challenges. Which have been taken into consideration for the new procurement strategy. The new procurement strategy is politically manifested and unlike the earlier practises, when no such strategy existed, now, it shall ensure that circularity is required with the providers of products and services to a greater extent and where most feasible to assure the greatest effect. A selection of tenders was analysed at the beginning of the project, and it was compared- to a selection of tenders at the end of the project. The results from this comparison suggest that the initiatives from CityLoops have had a significant positive effect.

Qualitative and quantitative data on procurement processes are gathered. A representative selection of tenders was evaluated. This data is combined with qualitative data from a RWS facilitated workshop in 2020. And a second workshop in 2021 with diverse stakeholders.

The evaluation of the tenders in 2019 resulted in baseline values that is measured at the end of the project.

Furthermore, Bodø's spend data, through public accountancy is evaluated, providing the municipality with an opportunity to identify which spend categories have the greatest potential for improvement.

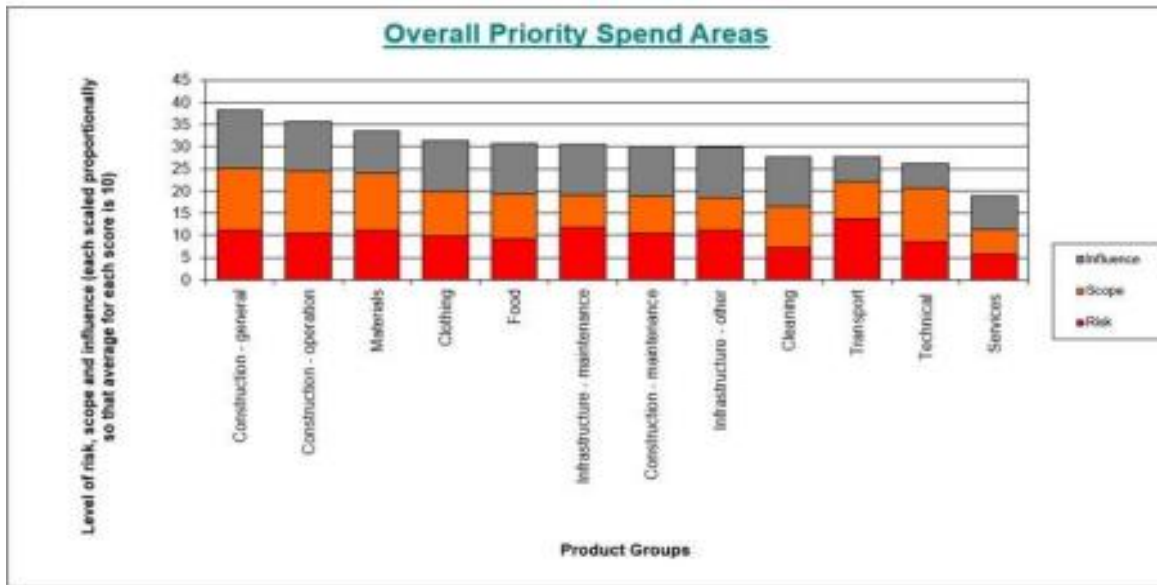


Illustration: Suggested categories to be prioritized in procurement improvement processes

The procurement strategy

The procurement strategy of Bodø Municipality was formally accepted by the city council in October 2022, and it is showcased in the image below:



Illustration: The house of public procurement strategy found as case PS 157/22 presented to the City Council in October 2022

This new strategy, on its implementation process now encompasses aspects called pillars related to sustainability, differentiating the three types of it, and considering the quality of services as a fourth pillar. It analyses how the organization and governance inside the municipality contributes to innovation, as well as recognizes that cooperation together with digitalization and system support are essential aspects that contribute to fulfil the needs and requirements presented to the procurement department, furthermore it encompasses the need to analyse whether or not a product or service can be provided with the existing internal assets or competence stimulating the avoidance of acquiring new products and services, as the best procurement practice is the one that reduces the need to procure.

Source for the Procurement strategy: <https://bodo.kommunetv.no/archive/194>

Master Theses

Academic work and data analyses have enriched the collaborative work, in this case with the findings and recommendations from three master theses (enclosed)

- **How good is Bodø municipality on green and circular procurement compared to an EU best practice?**
- **How can Bodø municipality implement methods to practise early market involvement?**

A set of recommendations based on data was prepared and has contributed to implementation in the procurement department's daily operations and in the overall strategy. This has resulted in the engagement of a specific employee in the procurement department which is solely working to improving tenders and procurement processes.

A third master thesis evaluated whether tenders have improved regarding criteria part of the tender basis with circularity requirements:

- **How can circularity indicators in public procurement lead to smarter, more informed decisions? The case of Bodø Municipality**

The findings in this thesis provide an important contribution to the factors in the evaluation report measuring CityLoops' effect on procurement practice in Bodø municipality thought out a selected timeframe, as well as the importance of goals, strategy, and market dialogue to develop the tender basis of tenders, analysing information by years and categories of products and services.

Evolution of parts of the tender basis		
Award criteria	In 2019 3 competition announcements with obligatory declaration included explicitly requirements related to circularity in 3 categories.	In 2022 15 competition announcements with obligatory declaration included explicitly requirements related to circularity in 6 categories.
Qualification criteria	From 2019 to 2022 there has been a stable circular criteria requirement related to CO2 emission reduction and Environmental management systems, also considering the International Labour Organization regulations but there was a case where circularity was remarkably considered in 2021 in an ICT competition announcement.	
Specification criteria	In 2019 7 competition announcements from 3 different categories required ambitious circular related criteria from three categories.	In 2022 19 competition announcements from six different categories required ambitious circular related criteria.

Illustration. Table that represents some of the results from the analysis of the tender basis from competition announcements from a four years' time frame evolution as part of the third thesis.

Examples of conducted actions based on recommendations from procurement data gathering:

Early market involvement

The third master thesis conducted research about the market dialogue which the municipality initiated, and findings from that research suggest that:

In 2020

- **The Smart Architecture.** was focusing on using the internet of things to enhance better planning, data sharing, collection, and training to create knowledge for architecture projects.
- **Craftsman and painting services.** aimed to get feedback and suggestions to avoid and prevent asking exclusionary criteria in tenders to increase best practices.

In 2021

- **The climate and environmental requirements for zero emission construction sites.** Focused on co-creation, looking for solutions to highly intensive CO2 emission municipal projects such as the future construction projects of roads, relocation of the airport, and other plans and construction projects looking for new technologies and better requirements in procurement.
- **The acquisition of electric vehicles.** Focused on increasing knowledge and competence of previously unexplored areas related to environmentally friendly vehicles and their implications for the local conditions and performance.

Examples of conducted actions based on recommendations from procurement data gathering:

- Take into account the entire value chain, including transport, packaging, surface treatment.
- Improve assignment and eligibility requirements
- Categorical requirements
- Own employee to follow up procurements.
- Framework agreements
- Proof from suppliers
- Focus on longevity; include service agreements in tenders.
 - Using the criteria wizard in the tenders
- Procurement sheet

When a substantial procurement is to be initiated information about the procurement needs to be registered in a sheet that will be evaluated by the procurement dept., including the employee that works with optimizing green procurement practiced.

These activities have resulted in an important contribution to the procurement department's new strategy.

Tender for Parallel mission

A tender was created where architectural and city planning companies were challenged to create concepts for the new airport, considering the municipality's environmental priorities. CityLoops was responsible for preparing the requirements regarding circularity the tender basis.

Three companies were chosen to work for 3 months on their concepts.

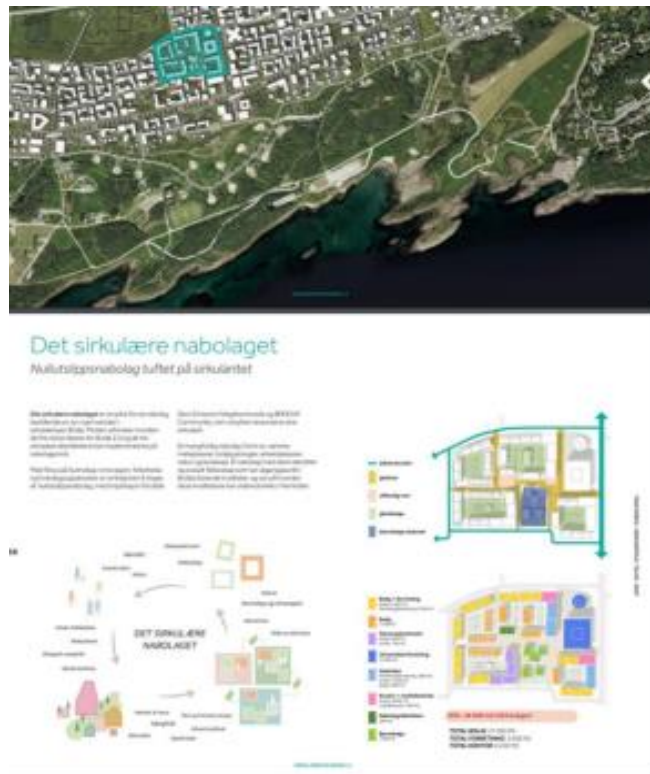


The mission resulted in three concepts, including reports of 150-200 pages consisting of technical information and models on how the city would function (enclosed in Norwegian).

For information about the concepts:

<https://nybybodo.no/ny-by-ny-flyplass/ny-bydel/hvordan-vil-du-at-den-nye-bydelen-skal-bli-1>

One example is the company Nordic Architects concept called Circular Bodø. This concept is modelled in the 3D Visualisation tool to evaluate its hypothetical effect on the city.



Translated: *The circular neighbourhoods*

Identitet

Arkitektur og materialitet

Bygghverv og arkitekten i det sirkulære nabolaget, tar utgangspunkt i Bodos skole og karakter. Ved å studere byens, bygningens og landskapsprek har vi funnet frem til et formspråk som bygger videre på det som allerede eksisterer.

Byggingen følger takformen, og bruker i stor grad taket for å bygge med skolen på de store bygningene. Enten ved å benytte seg, eller ved at over 50% av bygningen visuelt sett tilhører taket. Skulpturen av ny bebyggelse er planlagt, med utstrakt bruk av tre i både konstruksjon og kledding. Karakteristiske kvaliteter ved Bodos bebyggelse som stående kledding, messivtak, fargepalett og oppdeling av fasade videreføres.

Med fokus på å forvandle ressursene på en best mulig måte stilles det høye krav til det bygde miljøet. En av de viktigste bærekraftstiltakene er å investere i kvalitetsarkitektur med høye ambisjoner i både utførelse og materialbruk. Videre planlegges bygningene for å kunne demonstrere, slik at materialene kan gjenbrukes til nye formål i fremtiden.



Scalability

The methods on stakeholder involvement are described in a guide and made available for replicators. Stakeholder involvement activities are very replicable, and manhours are often the biggest resource needed to execute them.

Soil management and climate/environment in infrastructure tenders

CityLoops have actively been working together with the construction department to include climate reduction measures and soil reuse in construction tenders. The following describes the learning points and results from the process.

In the pilot road construction project Sjøgata in Bodø city centre which at the same time has been the first road construction project in Bodø with high focus on climate, circularity has been a strong focus. Its importance relies on the fact that it has not only generated experience with this type of tender process, but also showed that it is possible to reach ambitious goals through collaboration and market dialogue, because the market dialogues from 2020 and 2021 have contributed to achieve a successful planning process and tendering one.

It was decided to make a quite open tender where the construction sector would qualitatively compete on solutions.

With a tight budget for new constructions the potentially added cost has been an important barrier for the initiation of more climate friendly constructions. To overcome the barrier Bodø municipality applied for national funding for added costs. This was combined with funding from another budget complementing the initial construction project, accounting to 9 million NOK (850 000 EUR). The contractors were challenged to describe how they would spend this designated climate budget. The total budget for the project was estimated around 90 million NOK.

Two factors were especially important in the tender: electrical excavators and soil management. For soil management a criterion was set for the contractor which should reuse all soil from the project that was suitable for this purpose. Suggestions to access an intermediate storage was given in the tender, for the contractor to decide on the best solution. to a municipally owned intermediate storage (intermediate storage options described under and in the CityLoops Bodø business model).

Four offers were received for the job competition. There were large spans in the prices offered, but the price did not seem tightly correlated with measures for climate and circularity. The winning offer had the second largest price, and their climate measures tipped them to the winning position.

During the first part of the contract the soil management was followed up closely to ensure reuse of the surplus masses, and the CityLoops business model has been used to find the most suitable options. Because of the need for improvements of the municipal intermediate storage, they have decided to use the intermediate storage at IRIS for the first part of the project. Before the construction project IRIS did not offer intermediate storage, and the contract is a good example of how it has influenced the market in Bodø.

The electrical machinery was another important measure in the offer, and the excavation is solely done with use of two electrical excavators, furthermore, the company is waiting for two electrical dump trucks for soil management. This is also quite new and innovative in Bodø and has gotten significant national attention.

The experience from the Sjøgata tender has led to willingness to include electrical machines and soil reuse in more tenders. Bodø is now working to create a calculator for quantitative evaluation of offers for contracts, where the contractors input documented emission factors for materials to be used, distances for soil management and use of fuel. Reused soil is given a climate footprint of zero (excluding transport) to incentivize soil reuse. Virgin soil must have documented climate emissions connected to the production.

The model is under development together with external partners, and it is called the RDP-model.

Circular principles in demolition procurement

Because of delays in the airport demolition, CityLoops Bodø has not been able to take part in the tender for the demolition the airport structures. Instead CityLoops is involved in the tendering process of the school at Løding in Bodø.

To demolish the school and construct the new kindergarten in its place it is desirable to save as much of the materials as possible for use in the new construction (first priority) or make them available for other projects. The process is still ongoing and is yet to be finalized.

As of now the plan for reaching the goal is to make a tender for the demolition and construction in one tender. This will ease the job to save the materials for future reuse.

This is a new practice for Bodø municipality that has not been tested before, but it is considered a substantially better way to enable reuse.

In this case a collaboration with the local waste management company has as well been a crucial part, as the collection of the second-hand inventory has been done by Iris Salten and then, donated to Kirkens Bymisjon, a local charity organization which is making sure to create value from those materials and ensure that the benefits reach people who need it.

Soil management in construction tenders

Sjøgata road renovation project

- Sjøgata is one of the main streets going through Bodø city centre.
- It was decided to be a pilot road project for low emission and circularity as a pilot for the construction work of the new airport.
- Close cooperation between the technical road management department, procurement department and development department to decide level of ambition and prepare the public procurement.
- Discussed solutions for cleaning contaminated soil with local actors. The local landfill management company offered to make necessary investments to clean contaminated soil with prices per ton for this purpose.
- The procurement received public funding from national authorities (Klimasats) to support additional costs with sustainability measures. The total additional funding of 9,5 mill NOK (approx. 950 000 EUR) was added to the procurement for these measures.
 - Zero emission construction machines were an important part of this budget.
 - Material reuse was other important criteria.
- Total price from winner was approximately 90 mill NOK (~9 mill EUR).
- Criteria: all masses that can be reused internally in the project are to be reused. This may involve sorting, cleaning of slightly contaminated soil and reuse of slightly contaminated masses where they were removed.
- The intermediate storage facility is used for sorting, cleaning, and storage- materials.

Conclusion

The procurement activity in Bodø Municipality demonstrates a growing interest in circular public procurement. It appears that market dialogue has enabled the improvement of practices, the acquisition of knowledge, and the development of expertise in this area, particularly in construction-related procurements.

The need to collaborate and prioritize procurement activities using a category-based approach has become more apparent as the desire to have the greatest possible impact has increased.

It is imperative that efforts persist in enhancing circular principles and integrating them into daily operations. This should be nurtured in both new and experienced employees, who must acknowledge the significance of their daily tasks. Procurement holds the potential to effect long-term positive change, and its continued growth must be an ongoing endeavour.

CITYLOOPS

CityLoops is an EU-funded project focusing on construction and demolition waste (CDW), including soil, and bio-waste, where seven European cities are piloting solutions to be more circular.

Høje-Taastrup and Roskilde (Denmark), Mikkeli (Finland), Apeldoorn (the Netherlands), Bodø (Norway), Porto (Portugal) and Seville (Spain) are the seven cities implementing a series of demonstration actions on CDW and soil, and bio-waste, and developing and testing over 30 new tools and processes.

Alongside these, a sector-wide circularity assessment and an urban circularity assessment are to be carried out in each of the cities. The former, to optimise the demonstration activities, whereas the latter to enable cities to effectively integrate circularity into planning and decision making. Another two key aspects of CityLoops are stakeholder engagement and circular procurement.

CityLoops started in October 2019 and will run until September 2023.



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