

Disposable bio-based aprons for Skåne's healthcare sector

A good practice case

Contracting authority:
Skåne Regional Council (Sweden)

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1. Background and procurement objectives

In line with their Environmental Programme (2017-2020¹), Skåne Regional Council aims to be a fossil-free region by 2020. Thanks to an analysis of the region's climate impact conducted in 2011, it discovered that its healthcare sector was one of the biggest contributors of carbon dioxide (CO₂) emissions – in fact 40% of the region's total CO₂ emissions. Healthcare's biggest impact comes from all the disposable products used. By setting stringent sustainability requirements for procurement, their impact can be significantly reduced. The climate impact caused by these kinds of products can be reduced by limiting unnecessary consumption, finding new materials offering better performance and lower weight, as well as replacing fossil-based materials with fossil-free alternatives through, for example, innovation procurement (or public procurement of innovation: PPI).

In this case Skåne's Regional Council decided to change their purchasing approach for protective disposable aprons to one which results in a purchase of a more environmentally-friendly product alternative. Skåne's healthcare system in fact disposes of five million aprons every year (approximately 100 million for the entire Swedish healthcare sector), which together makes them one of the products with the highest carbon footprint. In 2014, the Region of Skåne used 5.2 million single-use aprons, corresponding to 300 tonnes of CO₂ emissions. Alternative renewable plastics, such as biopolymers, were available on the market, however not for protective aprons. The decision was thus taken to carry out a PPI.



Disposable aprons were considered as an interesting product for an innovation procurement, due to their relatively high environmental impact and, on the other hand, they are relatively straightforward to produce. This means that the supplier can primarily concentrate on developing a climate-neutral material with the demanded product properties. The winner of a public tender from such an important purchaser can also count on delivering large volumes. Nevertheless, previous attempts to purchase disposable aprons made from renewable materials in Sweden have failed. Three county councils and regions had previously (prior to 2014) conducted a procurement jointly for bio-based plastic aprons but found the market unprepared to offer the type of product requested, and no tenders were submitted.

Following the first tender's failure, the Government, through Vinnova (Sweden's government agency administrating state funding for research and development) commissioned an Environmental Management Board (which today forms part of the Swedish Competition Authority) to carry out the

¹<https://www.skane.se/organisation-politik/om-region-skane/Publikationer/framtid-och-utveckling/miljoprogram-2017-2020/#>

procurement. As these products were, to a large extent, not yet available on the market, and in the scope of achieving their policy objective, Skåne undertook, with financial support from the Swedish Energy Agency, an innovation procurement for the supply of 5.2 million bio-based disposable aprons.

The pilot project aimed not only to procure the new climate-neutral product, but also test a PPI approach and develop the region's knowledge and ability to use this type of procurement process in the future. The winner of this procurement process would also secure some financial support for their transition to using bio-based materials.

The PPI was carried out using a Competitive Procedure with Negotiation², which facilitates the purchase of a product not yet available on the market. In this type of negotiated procedure, the public authority invites at least three businesses with whom it will negotiate the terms of the public tender, and hence, the contract. The procurement involved four phases: a preliminary market dialogue/sounding phase; a qualification round to select potential suppliers; a negotiation phase; and an award phase.

2. Organisation of the procurement

Sounding out the market

Following an analysis of products on the market and dialogue with some suppliers, Skåne concluded that the aprons should contain at least 70% renewable (bio-based) material. The suppliers were invited to attend seminars and take part in a dialogue with Skåne's internal project group, which had representatives from the departments of innovation, environment and regional development. Nurses from the region's hospitals participated in the whole process and tested the new product in a hospital environment. An independent consultant was employed to evaluate the environmental impact³.



In order to spur demand and invite suppliers to apply, several open dialogue meetings were held in autumn 2014 between the internal team and industry representatives. During these meetings,

² For more information about this type of procedure, please see pages 24-25 of Guidance for public authorities on Public Procurement of Innovation (2014), Procurement of Innovation Platform available at: https://www.innovation-procurement.org/fileadmin/editor-content/Guides/PPI-Platform_Guide_new-final_download.pdf

³ Information sourced from <http://savinglivesustainably.org/news/CK777K.html>

suppliers were able to meet the team members, get information on the process, ask questions and provide their feedback. This phase enabled Skåne to gain a better understanding about how to best carry out the procurement and which requirements were reasonable to set.

During this phase Skåne also organised training targeted at suppliers with little experience in preparing public tenders. A test panel was also set up, which were responsible for testing products based on their functional requirements and also provided input into the new product's development. The latter was supported by an industrial designer to help suppliers shape their solution. A consultancy company was also employed to ensure documentation and requirements were appropriate and meeting the targets throughout the product's life cycle – transport, manufacturing, disposal, etc.

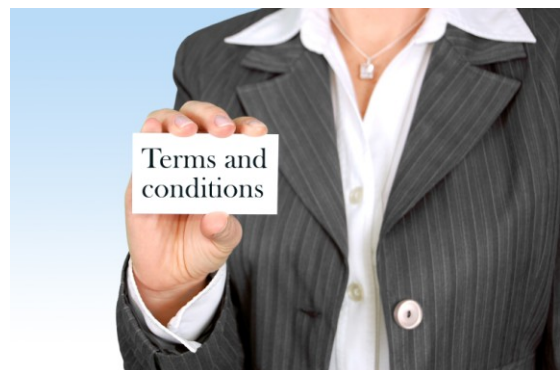
Finally, a seminar was held in February 2015 which brought together numerous representatives from supplier companies of products made from biomaterials. The aim was to create an exchange of contact and a chance to see what possibilities future renewable materials had to offer the market.

Advertising needs through a PIN and qualification phase

The procurement procedure was advertised on 25 June 2015 through the publication of a Prior Information Notice, or PIN. The PIN communicated the minimum requirements – such as that the single-use aprons should be made of at least 70% bio-based materials – and a list of award criteria.

In the first stage - qualification of candidates - interested suppliers were invited to submit a bid. In their bids they were required to demonstrate that they could fulfil the requirements specified in the PIN.

All four companies that took part passed the qualification round and were invited to take part in the negotiation round.



Negotiation phase

Following the qualification round, tenderers were given feedback and were supported in the preparation of their tenders for the negotiation phase. During this time they also received further details about the timing of the negotiated procedure, technical specifications, award criteria, etc.

The negotiation phase (which took place in November 2015) also included two meetings with each supplier and dialogue via e-mail. In the meetings, each supplier was given 10-15 minutes to present their offer. The meeting included discussions around the climate impact evaluation, design of the apron, the share of renewable material, delivery time, price, discussion around the evaluation model (that is, award criteria) and financial contributions, information for the next negotiation meeting, and a final part whereby both parties documented and signed what was agreed at the meeting.

The aspects concerning sustainability and bio-based materials included in the final tender documents issued by Skåne were as follows:

Subject matter of the procurement:

Protective aprons made from renewable material. The aprons should consist of at least 70% renewable material. The contract relates to the production and purchase of protective aprons for the Region of Skåne and for other legal entities in which the regional government has a dominant ownership of influence, as well as to those other entities with which the Region has an agreement with, for example, material supply.

Technical specifications:

Tenderers were required to prove that no hazardous or dangerous chemical substances were used in the production of the aprons. A list of substances with limits on toxicity concentrations was provided.

Award criteria:

The Region of Skåne was to accept the tender which met the requirements and was deemed to be the ‘most economically advantageous’ considering the following assessment criteria and weightings:

- Price (50% of total score)
- Climate impact assessment (20% of total score)
- Function, design and quality of protective apron (15% of total score)
- Share of renewable material (10% of total score). A higher proportion of renewable material than 70% would be awarded as follows: (71-75% = 1 point, 76-80% = 2 points, 81-85% = 3 points, 86-90% = 4 points, 91-95% = 5 points, 96-100% = 6 points)
- Time schedule in the form of delivery of test series and time from approved test series to full delivery (5% of total score)

As mentioned previously, the Region of Skåne had allocated funds for a contribution to the winning supplier in order to facilitate them in their transition to renewable materials. The exact amount of the contribution was to be determined based on the outcome of the results of the tender evaluation stage and in combination with the outcome of the negotiation phases. The winning company could secure a grant of up to €50,000 depending on how well their offer matched all the requirements.



3. Results

Negotiation led to significant improvements in the submitted bids, in terms of renewable material content, price, and origin of raw material. In the winning bid the proportion of renewable material increased from 84% to 91%, the price was cut by 25%, and instead of being imported some of the raw materials used were sourced locally and sustainably: starch from Kristianstad and chalk from Örebro.

Following completion of the test phase by the test panel, the contract was awarded on 11 May 2016⁴. The company awarded the contract produces disposable aprons consisting of 91% renewable material: 60% biopolyethelene and 40% calcium carbonate. In addition, the design and quality of the aprons also improved, in comparison to the aprons formerly purchased.

The procurement process helped companies increase their competitiveness in the demand for climate-neutral disposable products. The research into new materials will be useful for the production of different products for the healthcare sector. For both the winning company and other bidders, the process has resulted in a technology boost that has increased their competitiveness and made them better equipped to meet the increased demand for environmentally-friendly disposable products. For the Region of Skåne, the pilot project means, not only, that it has been possible to stimulate innovation which has led to the development of a more climate-neutral product, but that it has also been possible to create a model for how a PPI can be implemented, with lessons - and newly developed materials - that can be implemented in future processes.

The product purchased also informs users on its use through the use of QR-codes – available on the aprons themselves. The codes enable users to find instructions for recycling, as well as information regarding the manufacturer’s code of conduct.

Finally, Skåne Region developed a Carbon Footprint Calculation tool⁵ to monitor CO₂ emissions from product groups with a high climate impact. The calculations take costs, emissions, the product’s weight and consumption per month into account. According to the Carbon Footprint Calculator, and with reference to, as benchmark, conventional plastic aprons, the purchase/use of bio-based aprons will result in savings of 250 tonnes per year of CO₂ emissions.

4. Lessons learned

The process described above was recognised to have been unusually complicated and labour intensive given the fact that it was related to a single, relatively straightforward product. It has



⁴ See Award Notice published through Tenders Electronic Daily at <http://ted.europa.eu/udl?uri=TED:NOTICE:161320-2016:TEXT:EN:HTML>

⁵ For more information see <https://www.youtube.com/watch?v=NsDxFQYuHol&feature=youtu.be>

also resulted in a more costly process, which was co-financed by the Swedish Energy Agency. However, it is important to remember that the process was designed to provide experience, knowledge and routines that can be implemented in future processes (Otto Andersson, 2017).

Some of the main lessons learned are:

- The sole incentive of being able to supply large quantities of a product is not enough to result in attractive offers from the market, at least not for protective aprons. Activities of pre-procurement market engagement and dialogue, and tender remodelling can be of great importance to attract qualified actors to participate in the procurement.
- A wide range of skills from different fields are required to create good tender documents and specifications. A continuous, qualified dialogue with industry representatives is crucial for success.
- When considering innovation, a product's development is not necessarily complete once the tender is out. Employing a 'negotiated procedure' in public procurement can significantly improve the quality of the tender published by the contracting authority, the final product delivered and its cost.
- A well implemented PPI procedure not only can lead to the development of a new product but can also result in the development of new skills among procurers and suppliers. The experience and knowledge acquired in this case will be used for similar procurements in the future, particularly those involving single-use products for which it is aimed to reduce their climate impacts.

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Further reading

Climate Friendly Health Care (CLIRE) Final Report (2015), Region Skåne.

Available at:

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=LIFE09_ENV_SE_000347_FTR.pdf

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