



Post-consumer textiles for the refurbishment of office chairs

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Introduction

The municipality of Groningen (the Netherlands) aims to become a zero waste municipality by 2030. To achieve this goal, Groningen is reducing its waste streams by preventing new waste streams and by converting waste into resources. To this end, the municipality has launched a project called Gronings Goud, or Groningen Gold. The project aims to showcase the opportunities and social impact of the circular economy. It links local post-consumer textiles to the refurbishment of the municipality's office chairs.

The municipality of Groningen chose to focus on textiles because they are one of the most problematic waste streams worldwide. The municipality also collects large quantities of discarded textiles every year (1.2 million kilos,

only a very small part of which is recycled), and wanted to see whether it could contribute to a solution as a local government. The municipality wanted to become a launching customer of a circular textile product, and opportunities for this were found in the circular office furniture contract that was already in place.

The textiles are collected, sorted, spun into yarn and woven back into fabric again. The fabric consists of 75% post-consumer textiles collected in the municipality, and 25% recycled polyester. The success of the project is achieved by engaging multiple stakeholders in the value chain: the furniture manufacturer, social enterprises and innovative companies. The project focuses on the local scale and achieving a positive, local societal impact. The municipality wants this project to serve as an example of a



scalable and replicable systems approach.

Procurement process

The project uses the scope for innovation and experimentation in the municipality's circular office furniture contract. More information on this contract and how it came about can be found in the background section.

At the beginning of the project, talks were held with the office furniture contract manager and the municipality's policy advisor to explore the possibility of becoming a launching customer for an innovative circular textile product. There were a few hurdles to overcome. Initially, the use of only black textiles was expected. There were also questions about the quality of the circular textiles. However, the supplier of the circular textiles was able to provide the results of a previous small pilot project, so specifications were available. Two chairs were being refurbished with the circular textiles, so everyone could experience the look and feel. This helped to convince all parties to proceed with this project. Gradually, the colour requirement was dropped. The great thing about circular textiles is that colours are created by use of already available colours and no dyeing is needed. Currently the supplier has 4 colours produced from Dutch post-consumer textiles. However, their ambition is to develop a full colour palette.

The municipality coordinated the involvement of different stakeholders in the value chain. The project relies heavily on co-creation. There's Vepa, the municipality's office furniture supplier, and two social enterprises, GoudGoed (which already had a contract with the municipality to collect textiles) and ReBlend. The loop works as follows: GoudGoed collects used textiles and then sorts them with ReBlend. ReBlend develops closed textile loops in which the textile products are made from end-of-life textiles that would otherwise have been incinerated or downcycled into a lower-value product. ReBlend shreds the sorted textiles, spins yarn from them and then weaves fabrics from these shredded materials. The collected textiles are converted into fabric,

which Vepa uses to refurbish 250 office chairs for the municipality of Groningen.

The project is already looking at other ways of using the Gronings Goud textile.

Results

The project delivers the following wins:

- The municipality takes the lead in the transition towards a circular textile chain.
- The local cotton/polyester cycle is being closed.
- The end product has a healthy business model, meets quality requirements and generates environmental gains.
- The project is scalable, both by the municipality and by other municipalities and companies.
- Local social impact is achieved by partnering with two local social enterprises that work with people with a distance to the labour market.
- The Gronings Goud textile has a higher value than insulation or building materials or cleaning cloths.
- The municipality is already taking the next step: it is establishing a Circular Textiles, Arts & Crafts Innovation Centre that's going to produce the Gronings Goud circular textile locally. In this centre, local knowledge institutes will work on the circular textile products of the future, and it will also provide opportunities for more social jobs.

To quantify the environmental benefits of the Gronings Goud textile, a [study of ReBlend](#) is used that compares the ReBlend textile to average cotton fabric. The analysed ReBlend textile has a composition of 70% post-consumer and 30% recycled polyester. So, this is close to the composition of the Gronings Goud textile (75% post-consumer, 25% recycled polyester):

- The ecological footprint (such as water, chemicals, energy and land use) of ReBlend textile is lower compared to the average cotton fabric (conventional, BCI - Better Cotton Initiative, organic cotton) sold in the Netherlands in clothing and



furniture textiles.

- CO₂ reduction: the average CO₂ emission of cotton sold in the Netherlands is 17.01 kg CO₂-eq/kg cotton yarn. The CO₂ emission of ReBlend textile is 3.05 kg CO₂-eq/kg cotton yarn. That's a reduction of 82% compared to refurbishing the chairs with regular cotton (conventional, BCI, organic).
- Virgin material saved: since no virgin material is used to refurbish the office chairs, the saving is 100%.
- Avoided waste: the fabric consists of 70% post-consumer textiles and 30% recycled polyester, which would otherwise have been incinerated or downcycled.

Lessons learned

- The linear model is very dominant. For example, ReBlend worked with a Spanish partner to spin the circular yarn. They were able to deliver the desired composition with the right quality. However, when their management changed, they ended the cooperation because the volumes were not sufficient for a sound business case. The social value counted for less. So ReBlend had to find a new partner who could deliver the same quality. A new partner was found in France. They are open to exchanging knowledge with Dutch partners who can't deliver the right quality yet. In the end, a solution was found, but it slowed down the project.
- It is very labour-intensive to prepare textiles for recycling (e.g. removing zippers and buttons). Initially, this was done by hand, but it was soon decided that a machine was needed. This machine had a delivery time of five months, which also slowed down the project.
- Keep your partners close to you to maintain trust. Share certainties and uncertainties with each other. Treat each other as valued partners who share successes and setbacks, in order to create a partnership based on transparency and trust. If everyone believes in the project, everything else can be overcome.
- Make sure you have the factual information about the project. However, don't just have a theoretical discussion on paper. For this project, the real life example (a refurbished chair with the Gronings Goud textile) was decisive in convincing everyone to go ahead with the project. Put it into practice to see if it works.

Background information

Setting up the circular furniture contract

The Gronings Goud project is part of the municipality's broader circular furniture contract. When the municipality of Groningen started thinking about the new contract for office furniture, it had no general starting point. However, there were national targets for circularity and the municipality had an ambition. The following steps led to the circular contract:

- A market orientation study was conducted. The outcome was that the most suitable sector for circular procurement was furniture.
- The procurers took a one-year course offered by PIANOo, the Dutch Public Procurement Expertise Centre, and organised by Copper8. This led to the development of starting points.
- A call was opened in the market, kicking off the first phase of procurement. One of the criteria required interested market parties to measure the circularity of their furniture by using a tool ([Circular IQ](#)). The results were assessed by an independent consultancy.
- The three remaining market parties were asked to develop a case study, which started the second



phase of procurement. The market parties received information about an office, the furniture in it, the number of square metres, the people who work there and their needs. The starting point was to use existing materials as much as possible to discover which party was best placed to meet the requirements of the contract in a real-life situation.

- Based on the results of the case study, a market party was selected.

Most important lessons learned and keys to success

- Beyond the mechanics of circular procurement – the tenders, the contracts and the budgets – there are also emotional aspects involved. Circular procurement is new for many organisations. It often means abandoning tried and tested ways of doing things. To make circular procurement work, you need to be transparent, trusting and patient. Indeed, be as transparent as possible. Stay in charge of the contract, but remember that you're giving other companies the opportunity to be involved in something new, something progressive. Don't force them into a corner. Have enough trust in each other and in your aims that you can experiment, try different paths, fail if necessary and try again.
- In building trust, it pays to ask yourself what the other stakeholders are trying to achieve with their innovation or process.
- The municipality's management was involved at an early stage to provide support at the implementation level.
- The procurement department was involved at an early stage. Two procurers took part in the above-mentioned Copper8 course.
- The 10-year duration of the circular contract is made possible in the name of innovation, in order to have sufficient time for joint experimentation and development.
- The development of a case study in the procurement process proved to be an essential step in finding the right market party for the contract. It enabled the procurers to see which party could really deliver on its promises and which party had the right mindset to put circular ideas into practice.
- The municipality asked for maximum cost transparency. Vepa provides regular reports that show how the expenses are structured per project. These reports help to get the internal organisation behind circular procurement and to show that 'sustainable' doesn't necessarily lead to 'higher costs'.
- Contract management was set up carefully. The contract manager ensures that the contract is performed as intended. If you do it well, it will pay off.

You can watch a video about the project Gronings Goud [here](#) (English subtitles available).

Photo by Marleen Annema <https://marleenannema.nl>