Utilities and circular furniture

Company: Alliander
Innovative business model type: Re-use, pay per use, buy back
Sector: Furniture and Utilities
Company size: Large
Service: Circular procurement

Key facts

- Alliander is an energy network company based in the Netherlands.
- The company set ambitious goals to achieve circularity in many areas of its business including some of its primary processes.
- A residual value model was used to procure nearly two thousand furniture items, and re-using over a further 1,500. Savings of 2,774 kg of carbon, over 1 tonne of material and 28% cost reduction were achieved.
- Renovation and expansion of the Duiven and Arnhem site resulted in them supplying their own energy, and energy to the surrounding area.
- REBus provided finance for the evaluation of the project through the Copernicus Instituut of the Universiteit Utrecht and financed the Green Deal circular procurement.
- Furthermore REBus facilitated the creation of an article disseminating details of the residual value model.

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Introduction

Alliander has set ambitious goals to achieve circularity in many areas of its business, ranging from coffee cups and office chairs, transformers and sustainable energy meters, to cables and pipes.

Circularity is increasingly involved in the primary processes (energy infrastructure) and Alliander is working with a number of partners aiming to use 100% circular underground infrastructure materials by 2040.

REBus financed the communication phase of the project, through the Copernicus institute of the University of Utrecht and supported the Green Deal Circular Procurement, of which Alliander is a member. Furthermore REBus supported by sharing the learnings via articles developed throughout the project.

The pilot

Building on its experience with coffee cups, Alliander decided to expand its ambition to other areas, namely the renovation of its offices.

The flagship project at Duiven involved the extension of five existing buildings, which opened in August 2015. This success encouraged Alliander to encourage circularity in its primary processes too, continuing to implement the learnings in a second renovation project at its site in Arnhem.

The invitation to tender process for the renovation of the new Duiven site was an innovative step. Instead of being selected for detailed specifications, the candidates were initially chosen based on a statement of ambitions. Gispen, a supplier and producer of furniture, was invited to devise their own method to measure the circularity of the bid; they decided to implement a residual value model.

The residual value model meant that the client purchased the furniture and promised to handle it properly during the user period. The supplier undertook regular maintenance with a view to buying back the furniture at the end of the contract at an agreed rate (in this case 20% of the initial value).

With this relatively high and ambitious rate, both parties were challenged to maintain the value of the furniture, by ensuring due care was taken on its upkeep. Any increase or decrease in value would be split between the parties.

For this model to work, the client needed to be confident and willing to end a contract after the use period. This may mean agreeing a long-term contract; in this case the term agreed was a use period of four years, with the possibility of three-year extension.

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Results

The raw materials used in building the Duiven site were re-used, helping it to achieve its 80% rate of circularity. For example, old overalls were processed into insulation materials and the 2,000 m^2 of internal wall space were fitted with scrap wood from the nearby waste plant. The woodwork used is dismountable, so that it can be removed easily and reused. In addition, the site now covers its own energy requirements and supplies energy to the surrounding area.

Gispen revitalised 750 existing workstations and updated them for the site, 1,937 new furniture items were bought on a circular basis (using the residual value model) and a further 3,100 pieces of furniture were brought in, with 50% from re-use. By purchasing less furniture, savings could be made on materials, carbon equivalents and cost. In this instance, the carbon savings were 2,774 kg or 10% of total carbon, savings of materials are 1033 kg or 10% of total materials and 28% savings were gained on cost.

The lessons learned from the Duiven project were then incorporated into renovating the Arnhem site. One of the aims of this project was to achieve at least 95% construction waste sorted for re-use, another was to reduce energy cost by 80%.

By 2020, all 7.5 million households in the Netherlands will be offered sustainable lean energy meters. The award assessment criteria included using sustainable materials, being responsible for the supply chain, raw material sources, excluding child labour, and circular meters. This Fair Meter project was handled jointly with Stedin, a Dutch electricity and gas transporter.

"In five years' time, circularity will be business as usual as far as we are concerned."

Hendrik de Vries, Sustainability & Circular Economy Consultant, Alliander

Lessons learned

For Alliander, circular purchasing started with asking questions, demanding a cultural shift.

The main challenge is not in the technology, but in the soft factors: working with others, processes, daring to see and do things differently. This called for boldness and a determination not to be held back by practical problems.

Valuable lessons learned during the projects included:

- Progress is dependent on the ambassadors in the organisation.
- Relationships between supply chain partners is essential.
- Win the support of the staff; once awarded, the project passes from the conference room to the shop floor. Staff are not always party to the visionary preliminary phase, so you must win their support.
- Start with a small group; including someone from management supporting the project; but don't wait too long to include the rest of the organisation.
- The power of circularity is not in the funding, but in the whole supply chain and user period. It involves careful consideration.
    - Step 1: should I buy new or can I refurbish? And if I choose for new, how do I make sure that the furniture meets circular criteria?
    - Step 2 is that both parties focus on value retention during the entire process. This requires genuine cooperation.

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