

Chapter 4

PP4 Province of Gelderland

1. Overview.....	1
2. Good practices.....	3
3. Opportunities	4

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1. Overview

The province of Gelderland is a 100% committed partner in the CircE project. The executive board of Gelderland has expressed the ambition to become the first waste free province in the Netherlands. In order to achieve this ambitious goal the board launched a policy action plan January 2017. Gelderland is the first province in the Netherlands to launch a circular economy action plan.

In this context the province of Gelderland is very keen to learn from policy experiences in other European Regions who share the same circular ambitions.

For CircE, the province is focusing on three sectors: Textile, Biomass/Paper and Building.

The Province discussed the scope and meaning of the CircE project with a number of regional partners within the circular industry.

The Province's Stakeholders delivered a pitch in which they expressed their view how they want to achieve circular goals within the sectors they represent. A group of Stakeholders was elected for assisting Gelderland team in order to achieve the project results:

1. EXPERIUM, Innovation Center for Textile
2. MODINT, Sector representative Textile
3. PCPK, Knowledge Centre for the Paper industry
4. PIONEERING, Innovation Centre Building sector
5. CIRCLES, Policy Programme Circular Economy (ERFD funded)
6. OMGEVINGSDIENST regio Nijmegen, executive body for environmental control

The rest of the total group of the interested Stakeholders (eg two municipalities, companies like DAR and Circulus Berkel, WUR, HAN and the Cleantech Region) will be part of the participants group.

1.1. Strategic analysis

OP ERDF 2014/2020 is a joint programme of the provinces of Gelderland and Overijssel (East Netherlands). It delivers grants to support SMEs to generate more turnover out of innovative new products, and employment within technology driven sectors. The region deploys the ERDF-budget for the promotion of innovation and low carbon economy.

The ERDF-projects for promotion of innovation focus on the S3sectors identified in the East Netherlands: agrofood, health, high-tech systems & materials, cleantech as well as to the crossovers between these sectors on the one hand and ICT, water, chemicals, creative and producing industry on the other hand. Projects that aim to realize CE activities within the manufacturing industry are being supported.

Within the CircE policy framework Gelderland focusses on new circular value chains based on strong and relevant existing regional economic sectors such as the paper and textile industry. For this reason Gelderland selected biomass, paper and textile as target sectors. In the discussions with the organisations and companies in the three target sectors Gelderland obtained very useful information about the progress towards a circular economy. The road and pace towards a circular economy is not equal for each sector. The Biomass/Paper sector is so to speak on the circular highway, whereas actors in the sectors Textile and Building have to take a lot of cross roads to get there.

2. Good practices

So far we have listed the following good practices:

Sector	Good Practice name	Abstract
Building	Circular modular Roundabout Ermelo	First circular modular roundabout in Ermelo Gelderland. It consists of 120 elements and can be placed somewhere else in 3 days. This innovation is the first in the Building sector, it gets worldwide attention. It can be the step to many more circular innovations in the Building sector.
Building	Housing as a service	Pilot to explore the possibilities to construct houses that are entirely service based. The house owners do not own any house applications, everything is a service. Our stakeholder Pioneering is one of the national partners. This way we try to change the focus from ownership to user. That is needed, people still think too much as an owner.
Textile	Going Eco Going Dutch	The project Going Eco, Going Dutch, financed by RAAK/MKB, is an internationally unique pilot. Textile producers and fashion brands, in collaboration with Saxion and ArteZ, will locally produce textile fibres and develop them into yarns, woven and knitted fabrics. After, the textiles will be developed into market-ready (fashion) products.
Textile	Dutch Design Week	In one week start ups and students in Textile develop and show the new (circular) designs they are working on. It's a national event with international visitors
Textile; Biomass and Building	BERST	<p>BERST aims to explore the bioeconomy potential of EU regions</p> <p>BERST provides a toolkit to help regions in their trajectory of bioeconomy development.</p> <p>BERST provides a network to promote the development of smart specialization strategies based on regional bioeconomic potentials</p> <p>BERST impact lies in contributing to long term economic and environmental sustainability, by</p> <ul style="list-style-type: none"> - understanding the regional bioeconomy development - boosting bioeconomy industries, potential entrepreneurs and investors in regions; - activity promoting new smart strategies for regional development through establishing a EU bioregional network <p>BEST aims to explore the bioeconomy potential of EU region www.berst.eu</p> <p>Our stakeholders WUR was one of the partners of BERST</p>

3. Opportunities

Circular economy is a central theme in the policy of Gelderland. Circular economy touches upon some core activities of the province, concerning the regional economy, the environment, water, and mobility. It stimulates people to be more conscious about scarce raw materials and energy, reducing CO emission and to save water. Besides, it is a driving force of economic growth. TNO Research has calculated that the circular economy in Gelderland can, with time, create up to 7000 jobs. In 2016, deputies and the “Provinciale Staten” have drafted and integral executional plan for circular economy. Its ambition is to reduce the use of scarce materials and ban waste. Therefore, Gelderland wants to become the first waste free Province of the Netherlands. The policy focus is on three main actions. Those main actions became the pillars of a coherent policy action programme:

- i. The first main action concerns setting an example as a Province. We construct roads. If we do this with circular materials, use as little as materials, and take into account the lifecycle of materials, the government becomes launching customer for circular innovations.
- ii. The second action is about raising the awareness of companies. With a number of activities the province encourages companies to take a first step towards new circular business models.
- iii. Lastly, the third action concerns the replacement of existing finite raw materials into green renewable biological raw materials. This is called the BioBased Economy.’

Gelderland has set itself the goal that half of the entrepreneurs have to make a first step to produce in a waste free manner by 2020. Due to an expected rise in costs for raw material the traditional linear producing manufacturing industry will lose ground. Market conditions will force companies to adopt new business models. The province is expecting that the investments of the companies, who adopt to circular business models, is not only necessary but will, eventually be profitable. As soon as virgin material becomes more expensive than the re-use of recycled material the circular economy will take off. When industry and consumer use less raw materials, there will also be less waste. Today, the industry uses 1 million tons waste as a raw material. This volume should increase even more, by stimulating reuse, and developing alternative biobased raw materials (via regional chains).

Opportunities in green procurement

The recycling of materials have to be cost-effective and competitive. Recycling roofing as asphalt can be a cheaper option, however, in the long run this will be less sustainable comparable to the development of using 100% recycled asphalt. With a new instrument so called ‘the ambition web’, Gelderland will include more circular criteria (raw material eg) within their procurement procedures. In this way Gelderland wants to encourage the market to come up with green innovations and -solutions.

Opportunities in recycling

Recycling PET bottles is in many cases not profitable because the margins are very thin. The costs for selecting and cleaning bottles can drastically reduce if food designers consider recyclable packaging. Gelderland the government played a role to put this on the industry agenda to turn this debate on. The ban on plastic bags is also a good example on national level. The provincial executive Michiel Scheffer proposed also a collection fee for returning old jeans.

Opportunities in smart industry

In a broader context Gelderland believes in a renaissance of modern industry. For this reason Gelderland has joined the Vanguard Initiative. Industry should become not only smarter, but also greener and cleaner. By inventing new green solutions and products the manufacturing industry can become an important driver for de circular economy. Therefore Circular Economy is implemented as a new and vital element in our industry policy.

Opportunities in biobased materials

Gelderland hosts the Wageningen University, well recognized for its research on food and agriculture. Within the scope of circular economy Wageningen has a strong focus on biorefinery. This has led to promising innovations such as recollection nutrients out of manure, protein for human consumption (instead of meat) and natural fibers (hemp and grasses as material for textile and paper industry). Industry and research institutes put forward the potential of these innovations in terms of the circular economy.

Opportunities from Gelderland's stakeholders

The main opportunities identified so far thanks to the Stakeholders support are the following.

Sector	Opportunity name	Abstract
Textile	Technological innovation	Introduction of new mechanical and chemical recycling technologies in the Textile sector. Our stakeholders MODINT and Texperium are involved.
Textile	Young start-ups	New young start-ups are aware of the need for new circular production and -design techniques. They are the new economy and realise that a change is needed.
Textile	Demand instead of supply input	Change perspective from supply towards consumer Consumer demand can be extremely powerfull and foster the production and market introduction of circular textiles
Textile; Biomass; Building	Emission Trading	Smarter producing to reduce CO ₂ emission. CO ₂ reduction is the main goal in our National Energy Transition Program. Cross sectorial possibilities are needed. All are stakeholders are searching for possibilities

Textile; Biomass; Building	Communication	The 'customer' needs to be more aware of their power to change the way companies produce their products. We must try to communicate this with the 'customer' We need instruments to do that.
Textile; Biomass; Building	Tax reduction	For sectors and companies who are willing to change the way they work a tax relief could speed up the take up of circular initiatives. We will investigate what kind of policy instruments are possible
Textile; Biomass; Building	Launching customer	The province could play a more active role as launching customer for the changes that are needed in the sectors. With our stakeholders we will focus on ideas to realise this.
Biomass	Local Cultivation	Instead of importing wood pulp the cultivation of regional miscanthus, grasses and hemp for different kinds of sectors/(chemical) industry could be a good alternative. With our stakeholders we will investigate what kind of policy instruments that are needed.
Building	Energy positive buildings	Built energy positive buildings and industrial sites, that can support their own energy needs. This is done by building cooperations and BE+ which is a national project to make 250 industrial brownfields energy positive and CO2 neutral.
Building	Demanding % waste material in new products	The government and the EU can demand that .. % for new products come from waste material. This has to be done by EU and national law. We think CircE can be a instrument to communicate this.
Building	Urban mining	Re-use of build material when demolishing buildings for new building projects. Example: company New Horizon. On the CircE website there is a translated video "waste is a goldmine"
Textile; Biomass; Building	Databank for using waste material	Waste material become ingredients. A European databank which connects companies who have waste materials and companies who are looking for ingredients could be very useful.