

"Circe - European regions toward Circular
Economy"

INTERREG Europe Project



Priority Opportunities
Project Partner 4
Gelderland Netherlands

Province of Gelderland
W. Huntink/F.Geerlings
15 February 2019

"This document reflects the author's views only and the Interreg Europe programme authorities are not liable for any use that may be made of the information contained therein".



European Union
European Regional
Development Fund

CONTENT

1. Executive summary
2. Prioritization
3. The Stakeholders
4. The Opportunity ranking

1. Executive summary

In order to prioritize the 12 opportunities of Gelderland we applied the ITIA Methodology with the Criteria Tree, that was agreed upon in the steering committee in Arnhem. After a general instruction session, the stakeholders individually ranked the opportunities by sector and overall. After collecting the individual scores and summarizing the overall results we noticed a broad variety in scores and results within sector. It turned out that stakeholders had difficulties how to interpret and apply the range of selection criteria in the ITIA methodology. There upon we decided to restructure and somehow simplify the process of ranking, but within the framework of ITIA Methodology. This resulted in a slightly moderated and more practical ranking procedure for all opportunities and by sector. As a result stakeholders were able to attribute the appropriate weights to the different selection criteria. In de end there was a great deal of consensus about the overall results of the selection process. For all opportunities together the main priority was Technological Innovation (Textile). When we rank by sector the main priority opportunity for all (crossover) sectors is Emission Trading. For Textile the main priority is Technological Innovation, for Building it is Energy positive buildings and for Biomass it is Local Cultivation. These opportunities will be further investigated and analysed as part of the action plan of Gelderland.



2. Prioritization

In our tool we identified 12 opportunities for our sectors Biomass, Textile, Building and cross-overs.

CROSSOVER OPPORTUNITIES

Emission Trading	Smarter producing to get CO2 reduction
Communication	The 'customer' needs to be more aware of their power to change the way companies produce their products.
Tax reduction	For sectors and companies who are willing to change the way they work tax reduction is needed to make that possible
Launching customer	The province needs to become the launching customer for the changes that are needed in the sectors.
Databank for using waste material	Waste material become ingredients. A databank which connects companies who have waste materials and companies who are looking for ingrediends
Demanding % waste material in new products	The government can demand that % for new products come from waste material

TEXTILE

Technological innovation	Mechanical and Chemical innovation
Young start-ups	New young start-ups are aware of the need for working circular. They are the new economy and realise that a change is needed.



Demand instead of supply input	Try to think more from the demand way then only from the supply way. If the buyers say they only want circular textile the suppliers have to change the way they produce/work.
--------------------------------	--

BUILDING

Energy positive buildings	Built energy positive buildings, who can support their own energy needs
Urban mining	Re-use of build material when demolishing buildings for new building projects. Example: company New Horizon

BIOMASS

Local Cultivation	Instead of importing wood pulp the cultivation of regional miscanthus, grasses and hemp for different kinds of sectors/(chemical) industry
-------------------	--

To prioritise the opportunities we chose to work with the Methodology with the Criteria Tree, like is was decided in the Steering Committee in Arnhem on June 15th 2018.

After the steering committee we organised a stakeholder meeting on October 3th 2018. In the meeting we explained the process of the criteria tree and the methodology that was decided in the steering committee in Arnhem. For information about our stakeholders, see below.

How we used the Criteria tree

In the stakeholders meeting of October 3th we presented the mythology by the power point presentation from lead partner Lombardia.

3. The Stakeholders

On 3th October we discussed the methodology and Criteria Tree with our stakeholders. Stakeholders discussed criteria in level 1,2 and 3. They put forward further suggestions how to complete the initial set of criteria .

1. Level 1

Strategic

- The criteria 'Strategic' should not be on the same level as the other criteria. Strategy should run vertical and horizontal through this level;
- It's probably better to speak about "regional impact"

2. Level 2

Strategic

- For level 2 stakeholders miss a 'helicopter view' on strategy
- For 'Ecosystem by regional development' they suggested to use 'the contribution to
- The law binding framework must be seen in the relation to the policy making framework

Economic

There are only a few categories, we suggest to add the categories:

- continuity
- demand site instead of only the supply site

Social

Stakeholders suggest to add the categories:

- how to deal globally with human relations/working conditions (fair trade)
- how to deal globally with fair pay of wages
- impact of the civilian awareness

Environment

Stakeholders suggest to add the categories:

- reuse
- ecosystem/biodiversity



Feed back stakeholders

Methodology:

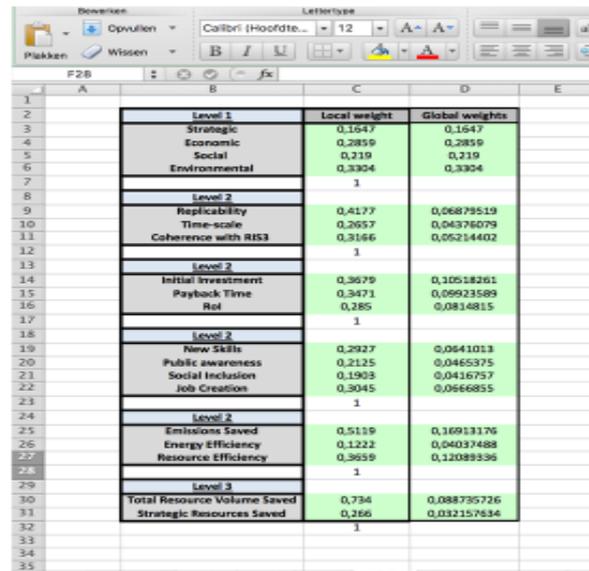
- Weights (relatively/fixed?)
- Strategic impact (top level?)
- Economic impact (continuity, consumer)
- Environmental (biodiversity, fair trade)

Overall:

- Relevant indicators
- More focus on CO2 issues?
- Helpful for investment selection

Proces:

- Pilot not yet completed
- Stakeholders score opportunity's



	Local weight	Global weights
Level 1		
Strategic	0,1647	0,1647
Economic	0,2859	0,2859
Social	0,219	0,219
Environmental	0,3304	0,3304
	1	
Level 2		
Replicability	0,4177	0,06879519
Time-scale	0,2657	0,04376079
Coherence with RIS3	0,3166	0,05214402
	1	
Level 2		
Initial investment	0,3679	0,10518261
Payback Time	0,3471	0,09923589
Roi	0,285	0,0814815
	1	
Level 2		
New Skills	0,2927	0,0641013
Public awareness	0,2125	0,0465375
Social inclusion	0,1903	0,0416757
Job Creation	0,3045	0,0666855
	1	
Level 2		
Emissions Saved	0,5119	0,16913176
Energy Efficiency	0,1222	0,04037488
Resource Efficiency	0,3659	0,11089336
	1	
Level 3		
Total Resource Volume Saved	0,734	0,088735726
Strategic Resources Saved	0,266	0,032157634
	1	

The stakeholders did not fully comprehend the ITIA decision framework. How should the criteria be interpreted in a way that all stakeholders judge on the same assumptions and conditions? There was a general belief it was too difficult to work with the given criteria figures, especially the 1/x figures. With the help from the lead partner and extra information we were able to complete the choices. The stakeholders then send us the revised version of AHP's level 1,2 and 3.

How we got the final priority ranking

After our stakeholders filled in the excel with the tree-criteria we combined them and send them to our lead partner Lombardia. With this input data the lead partner was able to calculate the final weights needed for ranking the opportunities. With this weights Gelderland stakeholders were asked to complete the prioritization tool so that a final ranking could be drawn. In order to facilitate and speed up this process we decided to make a small adjustment in the decision making process. We gave the stakeholders the opportunity to motivate their judgement not only by their notes but also on quality aspects. That gave us a better understanding of the ranking and potential of the proposed opportunities

4. Opportunities ranking

The final ranking is divided in two rankings, one for all 12 opportunities and one for each sector.

1. Ranking of all the 12 opportunities.

Off all the opportunities the main priority is Technological Innovation (Textile), followed by Energy positive buildings (Building), Demand instead of supply input (crossover all sectors) and Urban mining (Building)

All opportunities:

PRIORITEIT	OPPORTUNITY	EXPLANATION	SECTOR
1	Technological innovation	Mechanical and Chemical innovation	Textile
2	Energy positive buildings	Built energy positive buildings, who can support their own energy needs	Building
3	Demand in stead of supply input	Try to think more from the demand way then only from the supply way. If the buyers say they only want circular textile the suppliers have to change the way they produce/work.	Textile
3	Urban mining	Re-use of build material when demolishing buildings for new building projects. Example: company New Horizon	Building
4	Emmission Trading	Smarter producing to get CO2 reduction	Crossover all sectors
5	Tax reduction	For sectors and companies who are willing to change the way they work tax reduction is needed to make that possible	Crossover all sectors
5	Launching customer	The province needs to become the launching customer for the changes that are needed in the sectors.	Crossover all sectors
5	Demanding % waste material in new products	The government can demand that % for new products come from waste material	Crossover all sectors
5	Young start-ups	New young start-ups are aware of the need for working circular. They are the new economy and realise that a change is needed.	Textile
5	Local Cultivation	Instead of importing woodpulp the cultivation of regional miscantus, grasses and hemp for different kinds of sectors/(chemical) industry	Biomass
6	Communication	The 'customer' needs to be more aware of their power to change the way companies produce their products.	Crossover all sectors
7	Databank for using waste material	Waste material become ingredients. A databank which connects companies who have waste materials and companies who ar looking for ingredienst	Crossover all sectors

2. Ranking opportunities by sector

When we rank by sector the main priority opportunity for all crossover sectors is Emission Trading.

For Textile the main priority is Technological Innovation, for Building it is Energy positive buildings and for Biomass it is Local Cultivation.

CROSSOVER ALL SECTORS			
1	Emmission Trading	Smarter producing to get CO2 reduction	Crossover all sectors
2	Tax reduction	For sectors and companies who are willing to change the way they work tax reduction is needed to make that possible	Crossover all sectors
2	Launching customer	The province needs to become the launching customer for the changes that are needed in the sectors.	Crossover all sectors
2	Demanding % waste material in new products	The government can demand that % for new products come from waste material	Crossover all sectors
3	Communication	The 'customer' needs to be more aware of their power to change the way companies produce their products.	Crossover all sectors
4	Databank for using waste material	Waste material become ingredients. A databank which connects companies who have waste materials and companies who ar looking for ingredienst	Crossover all sectors
TEXTILE			
1	Technological inovation	Mechanical and Chemical innovation	Textile
2	Demand in stead of supply input	Try to think more from the demand way then only from the supply way. If the buyers say they only want cicular textile the suppliers have to change the way they produce/work.	Textile
3	Young start-ups	New young start-ups are aware of the need for working circular. They are the new economy and realise that a change is needed.	Textile
BUILDING			
1	Energy positive buildings	Built energy positive buildings, who can support their own energy needs	Building
2	Urban mining	Re-use of build material when demolishing buildings for new building projects. Example: company New Horizon	Building
BIOMASS			
1	Local Cultivation	Instead of importing woodpulp the cultivation of regional miscantus, grasses and hemp for different kinds of sectors/(chemical) industry	Biomass

ANNEX 1.

The final results in the excel file.

OPPORTUNITY	Omschrijving	Willem	Peter	Paula	Joke	Michiel	Remco	Ankie	Franske	Gemiddeld	ranking totaal	ranking sector
ALL SECTORS												
Emmission Trading	Smarter producing to get CO2 reduction	3			4	1	8	3		3,8	4	1
Communication	The 'customer' needs to be more aware of their power to change the way companies produce their products	2			4	8	7		5	5,2	6	3
Tax reduction	For sectors and companies who are willing to change the way they work tax reduction is needed to make that possible	1			1	5	6	7	4	4	5	2
Launching customer	The province needs to become the launching customer for the changes that are needed in the sectors.	4			5	4	5	4	2	4	5	2
Databank for using waste material	Waste material become ingredients. A databank which connects companies who have waste materials and companies who ar looking for ingredienst	6			5	6	10	5	2	5,7	7	4
Local Cultivation	Instead of importing woodpulp the cultivation of regional miscantus, grasses and hemp for different kinds of sectors/(chemical) industry	5			4	6	4	2	3	4	5	2
TEXTILE												
Technological inovation	Mechanical and Chemical innovation	2			1				3	2	1	1
Young start-ups	New young start-ups are aware of the need for working circular. They are the new economy and realise that a change is needed.	3			3				6	4	5	3
Dem and in stead of supply input	Try to think more from the demand way then only from the supply way. If the buyers say they only want cicular textile the suppliers have to change the way they produce/work.	1			5				5	3,7	3	2
BUILDING												
Energy positive buildings	Built energy positive buildings, who can support their own energy needs	2				3			3	2,7	2	1
Urban mining	Re-use of build material when demolishing buildings for new building projects. Example: company New Horizon	1				5			5	3,7	3	2
BIOMASS												
Demanding% waste material in new products	The government can dem and that % for new products come from waste material	1					3	6	2	4	5	1

ANNEX 2.

The results by the criteria tree of the mythology. These results were not chosen because the averages were too different for a good result.

In this two excel files you see that one stakeholder gave numbers 1 – 3, but another stakeholder gave numbers form 7 – 10. That had a too much weight on the final results.

Stakeholder 1 gave numbers from 1 -3

	Criteria																Global ranking value
	Replicability	Time-scale	Coherence with RISB	Contribution to the Local Eco-System Development	Contribution to the legislation targets	Profit	Payback Time	New Skills	Public awareness	Social Inclusion	Job Creation	Emissions Saved	Energy Efficiency	Total Resource Volume Saved	Strategic Resources Saved		
	0,07558725	0,0562307	0,05785152	0,0806299	0,08696762	0,10423535	0,1202647	0,0334332	0,06755766	0,0358343	0,04507482	0,11829964	0,05187938	0,040818933	0,070890227		
Smarter producing to get CO2 reduction	1	1	3	1	2	4	4	1	2	1	1	5	5	5	5	3,02096922	
The 'customer' needs to be more aware of their power to change the way companies produce their products	1	1	1	1	1	1	1	5	3	2	6	3	3	2	2	1,98199198	
For sectors and companies who are willing to change the way they work tax reduction is needed to make that possible	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1,12019283	
The province needs to become the launching customer for the changes that are needed in the sectors.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0,99992818	
Waste material become ingredients. A databank which connects companies who have waste materials and companies who are looking for ingredient	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0,99992818	
The government can deny and that % for new products come from waste material	1	1	3	7	5	2	2	1	7	1	3	5	5	6	6	3,73283676	

Stakeholder 2 gave numbers form 7 – 10.

Opportunity	Criteria																Global ranking value
	Replicability	Time-scale	Coherence with RISB	Contribution to the Local Eco-System Development	Contribution to the legislation targets	Profit	Payback Time	New Skills	Public awareness	Social Inclusion	Job Creation	Emissions Saved	Energy Efficiency	Total Resource Volume Saved	Strategic Resources Saved		
	0,07558725	0,0562307	0,05785152	0,0806299	0,08696762	0,10423535	0,1202647	0,0334332	0,06755766	0,0358343	0,04507482	0,11829964	0,05187938	0,040818933	0,070890227		
ALL SECTORS																	
Emission Trading	9	9	8	9	7	7	7	9	9	7	7	10	8	10	8	8,29515753	
Communication	7	8	7	9	8	7	8	7	8	7	8	8	8	10	8	7,8591846	
Tax reduction	9	9	9	9	8	9	7	9	9	8	7	10	8	10	8	8,69228173	
Launching customer	8	8	8	9	10	6	6	8	9	8	8	10	8	10	8	8,03521842	
Databank for using waste material	7	7	7	9	9	7	8	8	8	8	7	10	8	10	7	8,02988329	
TEXTILE																	
Technological innovation	10	9	9	10	10	8	9	10	9	8	8	10	10	10	9	9,2625812	
Young start-ups	8	8	8	9	7	7	8	8	9	7	7	8	8	9	8	7,9075287	
Demand in stead of supply input	10	10	9	10	8	8	8	9	9	7	7	10	8	9	8	8,7883985	

We tried to get a good result by deleting the numbers of these stakeholders, but then we only got numbers from 4 stakeholders (see below), but after consulting our stakeholders we decided this was not a representative result of all partners.

We decided then not to use the methodology but to choose another way of ranking, see annex 1.

The results after deleting the numbers from the stakeholders with the absolut lowest and highest average numbers.

					excl. hoogste/ laagste ranking
Prioriteit	Opportunity	About	Sector	Ranking	
1	Technological inovation	Mechanical and Chemical innovation	Textile	7,3531825	3
2	Young start-ups	New young start-ups are aware of the need for working circular. They are the new economy and realise that a change is needed.	Textile	6,872994	4
3	Energy positive buildings	Built energy positive buildings, who can support their own energy needs	Building	6,8249008	1
4	Urban mining	Re-use of build material when demolishing buildings for new building projects. Example: company New Horizon	Building	6,7695848	2
5	Demand in stead of supply input	Try to think more from the demand way then only from the supply way. If the buyers say they only want cicular textile the suppliers have to change the way they produce/work.	Textile	6,74773	9
6	Local Cultivation	Instead of importing woodpulp the cultivation of regional miscantus, grasses and hemp for different kinds of sectors/(chemical) industry	Building	6,1046093	5
7	Emmission Trading	Smarter producing to get CO2 reduction	All sectors	5,7124095	8
8	Tax reduction	For sectors and companies who are willing to change the way they work tax reduction is needed to make that possible	All sectors	5,4906023	6
9	Demanding % waste material in new products	The government can demand that % for new products come from waste material	Biomass	5,3403079	7
10	Launching customer	The province needs to become the launching customer for the changes that are needed in the sectors.	All sectors	4,995091	10
11	Communication	The 'customer' needs to be more aware of their power to change the way companies produce their products.	All sectors	4,9893062	11
12	Databank for using waste material	Waste material become ingredients. A databank which connects companies who have waste materials and companies who ar looking for ingredienst	All sectors	4,7346832	12

