

GREEN TRANSFORMATION! A POLICY TOOL FOR REGIONAL SMART SPECIALIZATION

POLICY BRIEF ON GT FOR RIS3 STRATEGIES

PARTNER: PÄIJÄT-HÄME

INTERVENTION AREA: GRAIN CLUSTER AND CIRCULAR ECONOMY

COUNTRY/REGION: FINLAND/PÄIJÄT-HÄME

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Summary

The pressure of green transition has risen public discussion about the need of more close cooperation between companies, universities and public actors. Also participation of individuals and consumers has become more important. Overall, amount of research funding have decreased in Finland and also in Päijät-Häme. These were the main findings and concerns in Greta -project's interviews, DPSIR-analysis and Round Table discussions. In the public debate too, improving cooperation has come to topic. However, the green transition is seen as giving a lot of business opportunities.

The representatives of the businesses in Päijät-Häme and the CEO of the Association of Family Enterprises called for companies and local universities to be more actively involved in the positive "hype" of the Lahti Environmental Capital Year 2021. They wrote that closer symbiosis in business, science, research and the city will increase innovation, jobs, tax revenues and well-being. In the longer term, Lahti may become an internationally known cluster of the green economy. (ESS 16.6.2021)ⁱ

In an article in local newspaper (ESS 2.9.2021)ⁱⁱ published at the beginning of September, LAB University of Applied Sciences Rector wondered why no one is interested in development and innovation activities that serve the needs of the SME sector with public money. It would be worth it, because in addition to basic research, universities and universities of applied sciences support local business in a diverse way.

Political guidance from EU and national level should offer support and tools for boosting interdisciplinary cooperation and ecosystem building. Support to encourage cooperation between different actors is needed for smaller SMEs that are locked into old production methods.

1. Introduction

Intervention area in Päijät-Häme region is circular economy and more precisely beverage and food industry in relation to the green transition. The perspectives were bio-circular economy, side stream innovations and sustainable and clean local food.

The intervention area is also strongly related to the region's current smart specialisation strategy'sⁱⁱⁱ spearhead, Circular Economy and the region's strong emerging area of beverage and food industry. New Regional Smart Specialisation Strategy is currently being prepared and will be approved by the regional assembly at the end of this year. The intervention area is now linked to the strategic objectives of the Regional Programme^{iv}, such as increase value added (e.g. development of new plant-based products) and to increase attraction of the region. Päijät-Häme's climate work and the Climate Road Map support the chosen theme.

The transformative capacity of intervention area is significant. Lead companies serve as encouraging example for smaller companies. Over the past few years, several food innovations have been made related to the utilisation of side streams. Companies already work with sustainable development and climate goals and operate resource efficiently (saving resources and energy, recycling carbon dioxide, water consumption in production processes) and in accordance with the principles of the circular economy (new circular economy products).

The key driving force in terms of changes in the economic system is that the 'old' industries and production methods must be renewed to become sustainable. Industries must take consider the climate change and carbon neutrality goals in their production. Resource efficiency means also savings and that production doesn't produce any waste anymore. In the food industry, the circular economy is waste management and the utilisation of side streams. Companies must promote the circular economy by many means in their own production and at different stages of their food products life cycle.

The driving force in the environmental point of view is that agriculture in Finland currently causes about half of the load of both phosphorus and nitrogen, which ends up in water as a result of human activity. Food production contributes, for example, to global warming and the loss of biodiversity. In addition, it consumes a lot of different resources, such as nutrients, land area, energy and water resources.

Biggest challenge is concerning the ability to break away from old production methods. For example, the challenges of the Grain Cluster and its whole production chain from cultivation to consuming, all parts of the chain should be identified from the point of view of sustainability and climate issues. The green transition requires the ability of livelihoods to regenerate. Business interest organisations, such as Chamber of Commerce and Farmers and Forrests Owners Union MTK, were believed to see the transition as a threat, in particular because of their role in securing the operating conditions of small enterprises and agricultural livelihoods.

Päijät-Häme region has been working with environmental matters already a long time. It is said that region is a forerunner in circular economy solutions and food innovations from sidestreams. The forerunner position is hard to keep, though. Regional actors, specially SME's must be ready to apply funding and find their way to new international ecosystems to ensure competitiveness. Big challenge is that small business and farms don't have resources enough to do so.

Public actors and lead companies are seen as a most important drivers in promoting GT and they have legitimacy and power in this transition also. NGO's, MTK Farmers and Forests Owner Union and Chamber of Commerce, that are important in this intervention area of CE and food and beverage industry, have some power to influence to its members. The influence could be harmful and NGO's might have a dangerous role slowing down the transition. They defend companies in big change, for example by demanding longer transition periods. Smaller companies have some lack in power because of their low resources to handle the transition. Universities have urgency and some power and are mostly promoting the transition by offering expertise for GT.

In this intervention area, challenges are related quite well in global, EU and landscape levels. Food and beverage industry is strictly regulated and those regulations are directing the industry toward GT strongly in EU and in global level. Also EU Green Deal and SD goals supports required improvement actions such as resource efficiency, carbon neutrality etc. New CAP (Common Agriculture Policy) also direct agricultural and food and beverage industry toward sustainability.

2. The policy context

EU visions, such as Green Deal initiative, EU climate and carbon neutrality goals, EU circular economy package and action plan, EU sustainable growth strategy, UN's 2030 sustainable development goals, Farm to fork-strategy and Common Agriculture Policy, all have actions towards green transition, and they guide national and regional visions, strategies and programs.

Ministries have done national programs and road maps to support transition towards green economy. Ministry of the Environment's Strategic Programme to Promote a Circular Economy has set itself targets of being a carbon neutral by 2025 as well as zero waste city and curbing over-consumption by 2040. Government's climate policy target is carbon-neutral Finland by 2035. Ministry of Agriculture and Forestry has launch Finnish Bio Economy strategy and "A new beginning - Agriculture is also a livelihood of the future" -report where climate and sustainability issues are strongly included.

Finland's 2030 Agenda for Sustainable Development were also recognized as a guiding vision and it is cross cutting principle in Päijät-Häme's Regional Operation Plan 2018 – 2021. In Päijät-Häme Smart Specialisation Strategy one of the priorities is Circular Economy. Regional Road Maps for Circular Economy and for Climate both includes visions that shows direction for sustainable development actions. Measures of the road map are defined together with relevant regional stakeholders.

Regional land use is guided by Government decision on Finland's national land use guidelines. The government sets national land use guidelines. The Ministry of the Environment is responsible for the related preparations. National plan includes environmental, climate and circular economy issues.

In general, EU and national level visions highlights sustainability, circular economy, sustainable and green growth, climate and carbon-neutrality issues.

Regional programme take into account the visions and strategic objectives coming from the EU and national ministries. Regional visions emphasize maintaining regional vitality and improving employment. EU commission, DG's, national ministries such as Ministry of Economic Affairs and Employment, Ministry of Agriculture and Forestry, Ministry of the Environment, are involved in designing and giving the visions legitimacy. In regional level main actors in designing the visions are Regional Council, cities and municipalities. Cities and municipalities in Päijät-Häme have their own

climate strategies. Most of the municipalities are committed in the Towards Carbon Neutral Municipalities (Hinku) -programme.

All pre-mentioned visions and strategies promoted the use of different EU funds and also other national funding programmes.

According to the respondents, the visions are not directly opposed, but interpreted according to how green visions fit into their own agenda. Opposition is seen to be most on the part of those who support the agricultural and forestry industries and those who promote the interests of SMEs (Chamber of Commerce, Entrepreneur interest associations). If looking at the green transition very orthodoxly, for example from the perspective of the sustainability crisis, it can be noted that even ministries are making interpretations that serve the interests and growth of companies, for example at the expense of biodiversity (Ministry of Economic Affairs and Employment).

National and regional roadmaps for Circular Economy and Bio-Circular Economy compile objectives, measures and, to some extent, responsible actors who take actions forward. In some level regional programme and Regional Smart Specialisation strategy both gives the goals for regional development. ERDF funding criterias includes Sustainable Development Goals, climate and carbon-neutrality goals. Ministries follow regional figures too.

Implementation of these strategies are run by national and regional RDI-actors, public sector, cities and municipalities, development organisations and consultants. Companies are now more involved than before, but it would be really important to involve them more in implementing green strategies.

For example, the Lahti green capital year is an excellent indication of success. The EU's climate and carbon neutrality targets have guided the city's and the region's operations for a long time, so we have been at the forefront of the green transition and climate and carbon targets.

3. Instruments and initiatives targeting the GT

There are several relevant funding instruments for GT and intervention area, circular economy and grain cluster. The Ministry of Economic Affairs and Employment is offering grants to promote innovative circular economy solutions for the future. Finnish Innovation Fund Business Finland's funding programmes supports circular and bio-economy ecosystems. The Center of Economis, Transport and the Environment offer funding for investments and internationalisation. Supportive funds that focuses on growing expertise and cooperation are ERDF and Interreg -programmes. Also regional Covid-19 recovery plan were partly targeted actions that promote GT.

Regional Development Company Ladec's Green Deal Office services for companies and BF's EU funding advisory service helps companies to find the most suitable funding and also partner networks.

4. Challenges and opportunities focusing the GT

The biggest challenge is concerning the ability to move on from old and unsustainable production methods to sustainable ones. The Grain Cluster and its whole production chain from cultivation to consuming should be identified from the point of view of sustainability and climate issues. The green transition requires the ability of livelihoods to regenerate.

There are some conflicts EU and sector policies and business interest organisations, such as Chamber of Commerce and Farmers and Forrester's Owners Union MTK. National sector policies and interest groups partly see the transition as a threat, in particular because of their role in securing the operating conditions of small enterprises and agricultural livelihoods.

Also in national policy level feel that EU is telling what to do in the regions. In rural policies the regions are not very capable of influencing the decision-making at national or EU level. There are also expectations that the change will be resisted even more strongly by people. Many industries and livelihoods will suffer as a result of the transition GD.

At EU level, large countries are strongly pursuing their own interests in decision-making. A small country must be able to apply regulations locally so that following the regulation do not cause undue harm.

Proactivity is the key element, actors can't just wait guidelines to tell what to do. Ecosystem building calls for more advanced cooperation between research and companies. Markets of circular economy in different sectors are developing in different timelines. Companies need expertise to follow that development and react at right time. Social dimension is more important than ever. Ecological, social and economic sustainability must be taken into account in the transition.

In regional level business development companies, such as Ladec, role is important. Business developers are constantly dealing directly with companies. However, it is unclear what the role of the action will be in promoting the circular economy and the green transition. Information on the effectiveness of this and other project activities should be provided more.

In order to support niche innovations, the startup hub activities of universities and universities of applied sciences in the region should be more effective. In interviews, there was criticism that universities in the region are not successful in commercialising innovation at an adequate level. This region requires more expertise and international network cooperation. Strengthening interdisciplinary cooperation between companies and universities is seen the best way of promoting niche innovation

Päijät-Häme region has been working with environmental matters already a long time. It is said that region is a forerunner in circular economy solutions and food innovations from sidestreams. The forerunner position is hard to keep, though. Now e.g. is the right time to apply funding and creating new international ecosystems to ensure competitiveness. The challenge is that small business and farms don't have resources enough to do so. Funding instruments are still quite difficult and bureaucratic for single SME's to apply.

4.1. The emergence and growth of new activities with potential in innovation focusing on GT

Opportunities will arise if regional actors are ready to build new ecosystems to innovate new grain and plant based products and develop better company-university cooperation. Grain cluster just built its own pilot plant to increase company – university/research cooperation and boost innovation ecosystem. Bio- ja circular economy ecosystem is also growing.

Food innovations has strong potential in international markets. It would be important to build more stronger profile in that.

4.2. Entrepreneurial discovery bringing environmental and social benefits into existing innovation activities

There is still a need for supportive lead and develop new ecosystems. On the other hand, there is a strong tradition of family entrepreneurship. This had an impact, that clusters and cooperation can be created quickly when there is market opportunities. The role of the public sector was seen more enabler than driver in creating ecosystems. Companies makes the transition. Public sector role is to be an enabler and it should take care of fair transition and that no one is left behind.

Projects that promotes niche innovations in farming and side stream innovations are important to support. There are innovators and early adapters who see opportunities and create markets. The vast majority, large mass, will come later. There is also a small group opposed to the transition for fear of losing their businesses. One challenge is the financial situation of farm businesses, many of them has no savings and have low risk-taking capacity. They cannot afford to carry out experiments and pilots at their own risk. Public incentives are needed.

4.3. Critical networks of stakeholders with the potential to develop RIS3 strategies based on the GT

A new regional operational programme is currently being prepared. It includes a RIS3 strategy in which the circular economy will not be a spearhead but it will be the cutting thru principle together with sustainable design. Food and beverage industry (Taste) becomes the new spearhead because of its potential in offering sustainable and clean plant-based food products internationally. Grain cluster companies are now more involved and have potential to develop RIS3 strategies. It will be important to get retailers and consumers to join in the RIS3 process too.

Through ongoing ERDF, Interreg Europe and Interreg Baltic Sea Region -projects, such as Bioregio, Biosykli and BSR S3 Ecosystem, it has been possible to build networks of bio-circular economy experts and policy makers in particular. All these projects have produced knowledge and information to our RIS3 process.

5. Next steps in policy innovations concerning the GT, RIS3, and RIS4+ strategies

5.1. Driving forces-based next steps

EU's and national circular economy goals, SDG's and climate and carbon neutrality goals are the main drivers especially in food sector. Consumer demands are driver for industry but large number of people do not have the economic or social capability to take account of the green transition and what it requires from individual. More or less the money still counts when it comes to buying groceries or making other choices.

Next steps should be that regional actors, especially companies have to take consider SDG's and climate goal in their strategies and actions with business to business partners and customers. Individuals and retail must linked in this process closely. Retail trade plays a major role in raising

awareness in the consumer interface. Public awareness about GD and climate issues must be increase. Policy based strategies and guidance for implementation, support for building new cooperation and ecosystems, support and funding for RDI actions is needed.

5.2. Pressure-based next steps

Production and cultivation methods and the use of raw-materials must be resource efficient and clean. CE and sustainability must take into account in the whole food value chain. Understanding about the limited resources has increased in the need of CE thinking. Resource efficiency, energy saving and efficient reuse of biological side streams must take into account. That is how the food system is also secured in the future.

Sustainable and clean food production and farming has become important part of battle against climate change. This has been promoted by the EU as well as nations themselves. European green deal has been seen as an opportunity and GRETA project is one response to this. Via Greta -project regional Smart Specialisation strategy and regional climate and CE road maps also are pressure-based responses in this intervention area.

The need for industrial and agricultural renewal is absolute and many measures are already done. The national level must set environmental policies and regulations for industry and follow that regulations are followed. That should be done in cooperation with businesses.

5.3. State-based next steps

Lead companies and big farms and their RD-actions e.g cultivation techniques are going in right direction, towards GT. "Old industry" SME's and smaller farms needs support such as funding and know-how for their development actions.

The direction is right and regulations are helping the transition. The situation is improving in terms of sustainability, but on the other hand, if, for example, demand for plant-based products increases, the need for land use is also increasing. Reforms and improvement are being carried out slowly because we already think that we are doing well enough.

National agricultural policy is largely diverted from the EU, with little local influence. New CAP Common Agriculture Policy guides companies and farmers to take sustainability and climate issues into account in their own strategies.

Setting sectoral roadmaps, goals and cooperation between agriculture industry and research (preserving biodiversity) should be the next steps. Measures must be taken in relation to the entire food chain, from producer to consumer, to work towards more profitable and sustainable food production. There is also lots of pressure and needs for understandable communication and ways to increase awareness widely. A uniform calculation of how emission reductions are calculated is needed.

Legislation, regulations, internationalisation and market demands are pushing a change towards GT. For the companies point of view, the EU regulations, sector based politics and funding raises some resistance. On the other hand climate and carbon issues are a common challenge and funding and support is needed for GT. Next steps should be building new sustainable ecosystems and projects. That needs financial support (tax reliefs) and enabling risk funding for pilot actions.

Grain Cluster companies (plus academia, developers and farmers) are updating now their internationalisation strategy. Green sustainable innovation and building new ecosystems can now get easily financial support from GD. Joint projects with academia and companies will now be supported strongly and it gives huge potential.

6. GT and RIS3 prospects: from the GT-driven regions to the European RIS3 and RIS4+ strategies

Regional actors, especially companies, have to take consider SDG's and climate goal in their strategies and actions with business to business partners and customers. Individuals and retail must linked in this process closely. Retail trade plays a major role in raising awareness in the consumer interface. Public awareness about GD and climate issues must be increase more. Policy based EU and national strategies and guidance for implementation, support for building new cooperation and ecosystems, support and funding for RDI actions is needed. RIS strategies can be one combining tool in this process. RIS is already bringing to gether regional 4 helix actors and GT is seen as a common challenge that needs more advanced cooperation.

The need for industrial and agricultural renewal is absolute and a great deal of measures are already done. National level must sett enviromental policies and regulations for industry and follow that regulations are followed.

Sectoral roadmaps with clear goals, cooperation between argiculture industry and research (preserving biodiversity) is needed and policy actions should encourage actor towards these actions. There is lots of pressure and needs for understantable communication and ways to increase awareness about GT widely.

There should be supportive actions from EU and national level for regions to help 4 helix actors in building new sustainable ecosystems, projects, financial support (tax reliefs) and enabling risk funding for pilot actions. Regional disparities should be taken into account when developing support measures in EU level. RIS strategy work in practice provides information for this.

Grain Cluster companies (plus academia, developers and farmers) are updating now their internationalisation strategy. Green sustainable innovation and developing new ecosystems can now get easily financial support from different funders. Joint projects with academia and companies will now be supported strongly and it gives huge potential for innovations. Public actors role is to ensure that operational environment enable this. Companies even feel that regulation is a good driver for reforming the business to be sustainable and resource efficient.

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