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 related to green transition (GT) has given rise to public discussion about the need closer cooperation between companies, universities and public actors. Also, the participation of individuals and consumers has become more important. Overall, the amount of research funding has decreased in Finland and Päijät-Häme, alike. These were the main findings and concerns in the Greta project interviews, DPSIR analysis and round table discussions. Cooperation has become a highlight of public debate, too. GT is, however, seen as offering many business opportunities.

The business representatives in Päijät-Häme and the CEO of the Association of Family Enterprises called for companies and local universities to become 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 long-run, Lahti may become an internationally known cluster in the green economy. (ESS 16.6.2021)[i]

In a local newpaper article (ESS 2.9.2021)[ii], published at the beginning of September, the president of LAB Univerisity of Applied Sciences wondered why no one seems to be 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 at the EU and national levels 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 of this study in the Päijät-Häme region was circular economy, and more precisely, the food and beverage industry, and GT. The perspectives taken were bio-circular economy, side stream innovations and sustainable and clean local food. The intervention area is strongly related to the spearhead in the region's current smart specialisation strategy[iii], circular economy and the region's strongly emerging food and beverage industry. The 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 higher added value (e.g. development of new plant-based products) and increased attraction of the region. Päijät-Häme's climate work and the Climate Road Map support the chosen theme.

The transformative capacity of the intervention area is significant. Lead companies serve as encouraging examples for smaller companies. Over the past few years, several food innovations have been made related to the utilisation of sidestreams. Companies already work with sustainable development and climate goals and operate resource-efficiently (saving resources and energy,

recycling carbon dioxide and 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 consider climate change and carbon neutrality goals in their production. Resource efficiency also meanssavings and no waste in production. In the food industry, the circular economy is waste management and the utilisation of sidestreams. Companies must use many means to promote the circular economy in 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 accounts for half of the environmental burden both phosphorus and nitrogen cause, which end 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 many different resources, such as nutrients, land area, energy and water resources.

The biggest challenge concerns the ability to break away from old production methods. An example would be the challenges of the Grain Cluster and its whole production chain, from cultivation to consumption. All parts of the chain should be identified from the point of view of sustainability and the climate. GT requires the ability of livelihoods to regenerate. Business interest organisations, such as the Chamber of Commerce and Central Union of Agricultural Producers and Forest Owners (MTK) seem to consider the transition as a threat, in particular because of thei4nivle in securing the operating conditions of small enterprises and agricultural livelihoods.

The Päijät-Häme region has been involved in environmental matters for 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. A big challenge is that small businesses and farms do not have enough resources to do so.

Public actors and lead companies are seen as the most important drivers in promoting GT, and they have legitimacy and power in this transition, also. Non-governmental organisations (NGO), the Central Union of Agricultural Producers and Forest Owners (MTK) and the Chamber of Commerce, which are important in this intervention area and in the food and beverage industry, have the power to influence their members. The influence could be harmful and NGOs may have a complicated role, slowing down the transition. They defend companies during extensive changes, for example by demanding longer transition periods. Smaller companies are slightly lacking in power because of their low resources in handling the transtion4niversitéses have need and power, promoting the transition, for the most part by offering GT expertise.

The challenges in this intervention area are quite closely related to the global, EU and landscape levels. The food and beverage industry is strictly regulated and the regulations strongly direct the industry toward GT at the EU and global levels. Also, the EU Green Deal and SD goals support reguired improvement actions, such as resource efficiency, carbon neutrality, etc. The new Common Acriculture Policy (CAP) also directs the agriculture and food and beverage industries toward sustainability.

2. The policy context: Are the conflicts between EU policies/sectors?

EU visions, such as the Green Deal initiative, the EU climate and carbon neutrality goals, the EU circular economy package and action plan, the EU sustainable growth strategy, the UN's 2030 sustainable development goals, the Farm to Fork Strategy and the Common Agriculture Policy all contain actions towards GT, and they guide national and regional visions, strategies and programmes.

The ministries have made national programmes and road maps to support transition towards a green ecnomy. The Ministry of the Environment has drawn up the *Strategic Programme to Promote a Circular Economy*, and it aims at carbon neutrality by 2035, as well as zero waste in urban areas and curbing over-consumption by 2040. The Ministry of Agriculture and Forestry has launched the *Finnish Bioeconomy Strategy* and *A new beginning - Agriculture is also a livelihood of the future* report where climate and sustainability are also key issues.

Furthermore, Finland's *2030 Agenda for Sustainable Development* was recognized as a guiding vision, and it is a cross-cutting principle in Päijät-Häme's Regional Operation Plan 2018–2021. The circular economy is a priority in the Päijät-Häme Smart Specialisation Strategy.. The Regional road maps for a circular economy and for the climate both contain visions that indicate the direction for sustainable development actions. The measures in the road maps have been have been defined together with relevant regional stakeholders.

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

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

The regional programme takes into account the visions and strategic objectives set forth by the EU and national ministries. Regional visions emphasize maintaining regional vitality and improving employment. The European Commission and national ministries, such as the Ministry of Economic Affairs and Employment, Ministry of Agriculture and Forestry and the Ministry of the Environment, are involved in designing and giving the visions legitimacy. At the regional level, the regional councils, cities and municipalities are the main actors in designing the visions. The cities and municipalities in Päijät-Häme have their own climate strategies. Most of the municipalities are committed to the Towards Carbon Neutral Municipalities (Hinku) programme. All of the aforementioned visions and strategies promoted the use of different EU funds and 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. Those who support the agricultural and forestry industries and those who promote the interests of SMEs (Chamber of Commerce, entrepreneur advocacy associations) are seen to oppose the visions the most. Also, if you look at GT from a very conventional perspective, for example from the sustainability crisis perspective, you can see that even ministries makeinterpretations that serve the interests and growth of companies at the expense of biodiversity (Ministry of Economic Affairs and Employment).

National and regional roadmaps for the circular economy and biocircular economy compile objectives, measures and, to some extent, responsible actors who execute actions. The regional programme and the Regional Smart Specialisation Strategy both have goals for regional development. ERDF funding criteria include sustainable development goals, climate and carbon-neutrality goals. The ministries follow regional figures, too.

National and regional RDI actors, the public sector, cities and municipalities, development organisations and consultants implement these strategies. Companies are now more involved than before, but it would be really important to further involve in implementing green strategies. For example, Lahti's Green Capital Award 2021 is an excellent indication of success. The EU's climate and carbon neutrality targets have guided the operations in the city and region for a long time, so we have been at the forefront of the GT and climate and carbon-neutrality targets.

3. Instruments and initiatives targeting GT

There are several relevant funding instruments for GT and the intervention area, the circular economy and Grain Cluster. The Ministry of Economic Affairs and Employment is offering grants to promote innovative circular economy solutions for the future. The Finnish innovation fund, Business Finland, has funding programmes to support circular and bio-economy ecosystems. The Centre for Economic Development, Transport and the Environment offers funding for investments and internationalisation. Supportive funds that focus on growing expertise and cooperation are ERDF and Interreg programmes.

Also, the regional Covid-19 recovery plan contains targeted actions that promote GT. The Green Deal Office services of Lahti Regional Development LADEC, and Business Finland's EU funding advisory service help companies find the most suitable funding as well as partner networks.

4. Challenges and opportunities focusing on GT

The GT requires the ability of livelihoods to regenerate. Progressing from old, unsustainable methods to sustainable ones is the biggest challenge. The Grain Cluster and its whole production chain, from cultivation to consumption, should be defined from of the sustainability and climate perspective.

There are some conflicts between the EU and sector policies and business interest organisations, such as the Chamber of Commerce and the Central Union of Agricultural Producers and Forest Owners (MTK). National sector policies and interests 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, those involved in creating the national policy feel that the EU is telling the regions what to do. The regions are not very capable of influencing the decision-making for rural policies at the 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 GD transition.

At the 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 does not cause undue harm.

Proactivity is the key element; actors cannot simply wait for guidelines to tell them what to do. Building an ecosystem calls for more advanced cooperation between research and companies. Circular economy markets in different sectors are developing at different times. Companies need expertise to follow that development and react at the right time. The 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 actors, such as Lahti regional development Ladec, has significant role in promoting GT. Business developers are constantly dealing directly with companies and their challenges. However, it is unclear what the role of the action will be in promoting the a circular economy and the GT. More information on the effectiveness of this and other project activities should be provided.

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, the respondents felt 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 interdisciplinal cooperation between companies and universities is seen as the best way of promoting niche innovation.

Päijät-Häme region has been working with environmental matters for a long time. It is said that the region is a forerunner in circular economy solutions and food innovations from sidestreams. The forerunner position is hard to keep, though. Now is the right time to apply for funding and create new international ecosystems to ensure competitiveness. The challenge is that small businesses and farms do not have enough resources to do so. Funding instruments are still quite difficult and bureaucratic for individual SMEs to apply.

4.1. 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. The Grain Cluster companies are now developing a pilot plant to increase company-university cooperation and boost

innovations. The bio- and circular economy ecosystem is growing. Food innovations have strong potential in international markets. It would be important to build a stronger, global profile in that area.

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

There is still a need for supportive leadership and development actions for new ecosystems. Region has a strong tradition of family entrepreneurship. The impact of this is evident in the fact that clusters and cooperation can be created quickly when market opportunities arise. The role of the public sector is seen more as an enabler than a driver in creating ecosystems. Companies (the driver) thus make the transition; the public sector (the enabler) should ensure fair transition and make sure that no one is left behind.

Projects that promote niche innovations in farming and sidestream innovations must be supported. There are innovators and early adapters who see opportunities and create markets. The vast majority, the large masses, 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 have no savings and their capacity to take risks is low. 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 GT

A new regional operational programme for years 2022-2025 is currently being prepared. It includes a RIS3 strategy in which the circular economy will not be a spearhead, but it will be the cross-cutting principle together with sustainability. The food and beverage industry will become the new spearhead because of its potential in offering e.g. sustainable and clean plant-based food products internationally. Grain Cluster companies are now more involved and have the potential to develop RIS3 strategies. It will be important to get retailers and consumers to join in the RIS3 process, too.

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

5. Next steps in policy innovations related to GT, RIS3, and RIS4+ strategies

5.1. Driving forces-based next steps

The goals of the EU, the national circular economy, SDG, as well as those related to the climate and carbon neutrality are the main drivers, especially in the food sector. Consumer demands form the driver for the industry, but a large number of people do not have the economic or social capability to take account of GT and what it requires from the individual. Money is still, more or less, the bottom line when it comes to buying groceries or making other choices.

The next steps should be that regional actors, especially companies, take SDGs and climate-related goals into account in their strategies and actions with business-to-business partners and customers. Individuals and retail must closely linked in this process. Retail trade plays a major role in raising awareness in the consumer interface. Public awareness about GT and climate issues must be increased. Policy-based strategies and guidiance for implementation, support for building new cooperation and ecosystems, support and risk funding for RDI is needed.

5.2. Pressure-based next steps

Production and cultivation methods and the use of raw materials, as resources, must be efficient and clean. The circular economy and sustainability must be taken into account in the entire food value chain. Understanding about limited resources has increased in circular economy thinking. Resource efficiency, energy saving and efficient reuse of biological sidestreams must be taken into account. That is how the food system can be secured in the future.

Sustainable and clean food production and farming have become salient in the battle against climate change. This has been promoted by the EU, as well as the nations themselves. The European Green Deal has been seen as an opportunity, and the GRETA project is one response to this. Via the GRETA project, the New Regional Smart Specialisation Strategy and the regional climate and circular economy road maps also are pressure-based responses in this intervention area.

The need for industrial and agricultural renewal is absolute and a great deal of the needed measures have already been implemented. The national level must set enviromental policies and regulations for industry and ensure that the regulations are observed. This should be done in cooperation with businesses.

5.3. State-based next steps

Leading companies and big farms and their R&D actions, e.g cultivation techniques, are going in the right direction, towards GT. “Old school” SME’s and smaller farms need support, such as funding and know-how, in their development.

The direction is the right one, and regulations are helping the transition. The situation is improving in terms of sustainability, but if for example, demand for plant-based products increases, the need for

land use will also increase. Reforms and improvement are being carried out slowly because we think that we are doing well enough.

National agricultural policy has diverted from the EU to a great extent, with little local influence. The new Common Argiculture Policy (CAP) guides companies and farmers to take sustainability and climate issues into account in their own strategies.

Setting sectoral roadmaps, goals and cooperation between the argiculture 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 much pressure and need for comprehensible 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 for a change towards GT. From the point of view of companies, the EU regulations, sector-based politics and funding raise some resistance. On the other hand, climate and carbon issues are a common challenge and funding and support are needed for GT. The next steps should be to create new sustainable ecosystems and projects, which will require financial support (tax breaks), and enable risk funding for pilot actions.

Grain Cluster companies (plus academia, developers and farmers) are now updating their internationalisation strategies. Sustainable innovations and building new ecosystems can now receive financial support from GT easily. Joint projects between academia and companies will now be strongly supported, which offers huge potential.

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

Regional actors, especially companies, must consider SDGs and climate goals in their strategies and actions with business-to-business partners and customers. Individuals and retail must be linked to this process closely. Retail trade plays a major role in raising awareness at the consumer interface. Public awearness about GD and climate issues must be further increased. Policy-based EU and national strategies and guidiance for implementation, support for building new cooperation and ecosystems, support and funding for RDI is needed. RIS strategies can be one combining tool in this process. RIS is already bringing together the top four regional 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 have already been implemented. The national level must set enviromental policies and regulations for industry and ensure that the regulations are observed.

Sectoral roadmaps with clear goals, cooperation between the argiculture industry and research (preserving biodiversity) is needed and policy actions should encourage actors to engage in these actions. There is much pressure and need for comprehensible communication and ways to increase wide awareness about GT.

There should be supportive actions from the EU and the national level for regions to help the top four actors in creating new sustainable ecosystems, projects, financial support (tax breaks) and enabling risk funding for pilot actions. Regional disparities should be taken into account when developing support measures in at the EU level, for which RIS strategy work in practice provides information.

Grain Cluster companies (incl. academia, developers and farmers) are now updating their internationalisation strategies. Sustainable innovations and development of new ecosystems can now easily obtain financial support from different funders. Joint projects between academia and companies will now be strongly supported, which offers huge potential for innovations. The role of public actors is to ensure that the operational environment can enable it. Companies even feel that regulation is a good driver for reforming business to be sustainable and resource efficient.

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