LCA4Regions
Interreg Europe

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Development Fund

Pyhäjärvi Institute

Satakunta Finland

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Contents

Part I - General information

Project: LCA4Regions - Improved Environment and Resource Efficiency through use of Life Cycle Instruments for implementation of regional policies of the European Union

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The statement of the Regional Council of Satakunta related to the Action Plan

The development activities carried out under Satakunta's Regional Strategy and Regional Programme are based on responsible practice and climate change mitigation and adaptation. The main goal is to promote the vitality and modernisation of Satakunta, to strengthen the region's growth industries and knowledge clusters, and to ensure economic success. In order to ensure the vitality and sustainable growth of the region's knowledge clusters, the operating environment should be developed in a sustainable way, considering the goals of green transition and growth, and the opportunities provided by digitalisation.

Satakunta's goal is to provide residents with a smooth everyday life in a safe, healthy, and high-quality living environment. Satakunta aims to ensure the preservation of natural values, the wellbeing and inclusion of residents, students and employees, the responsible operation of businesses and the public sector, and the fundamental conditions for pursuing a good life in Satakunta. Responsible production and a responsible community are Satakunta's competitive advantages, both from the perspective of the business community and the residents.

In accordance with the Satakunta Regional Programme we are supporting the development of service concepts that promote resource efficiency, material sorting, recycling, and sustainable logistics chains. We are also promoting the circular economy, logistics and mobility solutions need to be developed using digitalisation and introducing new operating methods and technologies. The wise, responsible, and innovative use of resources can strengthen the regional and local economy, improve the region's competitiveness, and create new business opportunities and jobs.

The development of the action plan's objective of the more comprehensive and sustainable food distribution systems will contribute to the goals of the Satakunta Regional Programme in order to achieve resource wisdom, promote circular economy and ensure the well-being of residents and smooth everyday life.

Part II - Background

LCA4Regions project

LCA4Regions is expected to contribute to the more effective implementation of environmental policy instruments by the application of Life Cycle Methodologies. Currently, many individual policies are implemented in isolation of others. Thus, the project is focused on expanding the use of life cycle methods as a holistic approach when conceiving and implementing public policies related to environmental protection and resource efficiency.

Life cycle expertise resides mainly in the business sector while public authorities are much less familiar with the techniques and their functioning. However, the full success of policy implementation depends on similar expertise also in governmental authorities. The outcomes of improved public policy implementation are greater concordance with stated sustainability objectives, fewer unwanted side-effects and greater transparency in the compromises and offsets that need to be made to move ahead on sustainable economic targets. Each project region has its own characteristics, methods of design and implementation of policies. Nevertheless, all of them face a common challenge: the adoption of a more efficient use of natural resources to reduce the non-desirable secondary effects (spill-overs) that generate negative economic and environmental impacts.

The seven partners in LCA4 Regions project targeted to approach such adoptions through interregional learning and knowledge exchange. During the first phase of the project, from August 2019 to July 2022, the partners have shared good practices and learnt from each other through study visits, workshops and online communication. Based on interregional learning, each partner region has developed their own action plan where they determine how they will implement the lessons learnt in order to improve their regional development programmes.

The first phase of the project is closing with each region complementing its action plan. The second phase of the LCA4Regions project, from August 2022 to July2023, is dedicated to the implementation of the action plans. This document defines what has been learnt from partner regions during first phase of LCA4Regions project and how these learnings are implemented in Satakunta region.

Figure 1. LCA4Regions project partners.

Regional context

Satakunta is located on the West Coast of Finland and it is the 7th biggest region in the country with a population of 217 000 people. Pori and Rauma are the biggest cities in Satakunta. A variety of industries such as technology, metal, engineering, energy, forest and food industries characterize Satakunta economy. The diversity and strong growth in the industrial sector makes Satakunta one of the most important regions in Finland. Satakunta produces around 25% of Finland's electricity and its food industry covers 6% of the Finnish food sector.

As stated in The Finnish Government report on Food policy[1]: *"Food policy creates the preconditions for the competitiveness and diversity of primary production, food safety, security of supply, and the operation of the food industry in Finland. It also helps to promote welfare in society, reinforces regional and local vitality, and encourages food sector companies to reinvent themselves and to develop their operations. Food policy aims at the responsible and sustainable production and consumption of food, as well as a food system that generates financial and social well-being. A common food policy supports the development of food citizenship.*

Similar to many other policies and strategies, life cycle management approaches were very beneficial to exploit above listed targets and visions – and may help to avoid spill-over effects by taking into account a larger horizontal vision from different economic, environmental and societal sectors. In Satakunta, LCA based approaches have a good basis for better implementation of various policies. The most important regional policy instrument, The Regional Programme of Satakunta, includes thematic sector "Smart Satakunta", which aims

[1] Government report on food policy: Food2030 - Finland feeds us and the world. Ministry of Agriculture and Forestry, https://mmm.fi/documents/1410837/1923148/lopullinen03032017ruoka2030_en.pdf/d7e44e69-7993-4d47-a5ba-58c393bbac28

to strengthen and reform the region's growth industries and innovation clusters, while taking into account sustainability objectives. Smart specialisation plays a key role in enhancing regional vitality, growth, and innovation. The innovation clusters outlined in Satakunta's Smart Specialisation Strategy are: technology metal, mineral and battery cluster; automation and robotics cluster; energy cluster; food industry cluster; bioeconomy and circular economy; blue growth; experience economy; welfare economy; safety and security of supply. The new climate and energy strategy for Satakunta region was prepared for Satakunta region in 2021 as a part of EU Life IP CANEMURE project. The Finnish Environment Institute (SYKE) has launched a novel calculation system bringing together all the greenhouse gas emissions from different cities, municipalities and regions around the country in one platform. The calculations website is a unique visualization of each Finnish municipality's emissions status from 2005 onwards.

In Satakunta, funding from the European Regional Development Fund will help to strengthen factors affecting the food system, including consumption of food, food waste reduction and social equality. Food waste is considered as one of the main global challenges in terms of ethical and social impacts as well as economic and environmental ones. By FAO determination[2], food waste is the decrease in the quantity or quality of food resulting from decisions and actions by retailers, food services and consumers (FAO 2019). Improved food re-distribution systems would eventually contribute to regional and social equality related to food, and tackle effectively resource efficiency indicators in general. Food re-distribution systems in Satakunta exist, but lack coherency, which affects the both environmental, economic and social sustainability issues. Satakunta region has over 50 different organisations that deliver surplus foods from industries, caterings, restaurants and cafeterias to persons in need.

The entire regulatory framework in Satakunta is based on the national legislation. Finland is committed to implement the whole 2030 Agenda for Sustainable Development and its SDGs by 2030. The key measures to put the 2030 Agenda into practice are the integrated policies and measures taken in various Government sectors as part of the implementation of national and EU legislation, national sectorial or thematic strategies and action plans, as well as international agreements and commitments.

The National Waste Plan, approved by the Government, defines waste management objectives for 2023 and measures for achieving these objectives. The Government Programme also proposes several measures aimed at preventing the generation of waste and promoting the recovery of waste material. Finland has also drafted a national strategy for reducing the landfilling of biodegradable waste. Based on the composition of municipal waste, the key types of waste that the national waste plan's measures for increasing recycling include biowaste, which, according to the composition forecast, will remain as the largest individual waste type. With improved food policy, significant amounts of biowaste formation can be avoided, and this can be achieved through additional environmental benefits.

[2] FAO. 2019. The State of Food and Agriculture 2019. Moving forward on Food Loss and Waste Reduction. CC BY-NC-SA 3.0 IGO. Rome: Licence, Available online: http://www.fao.org/3/ca6030en/ca6030en.pdf

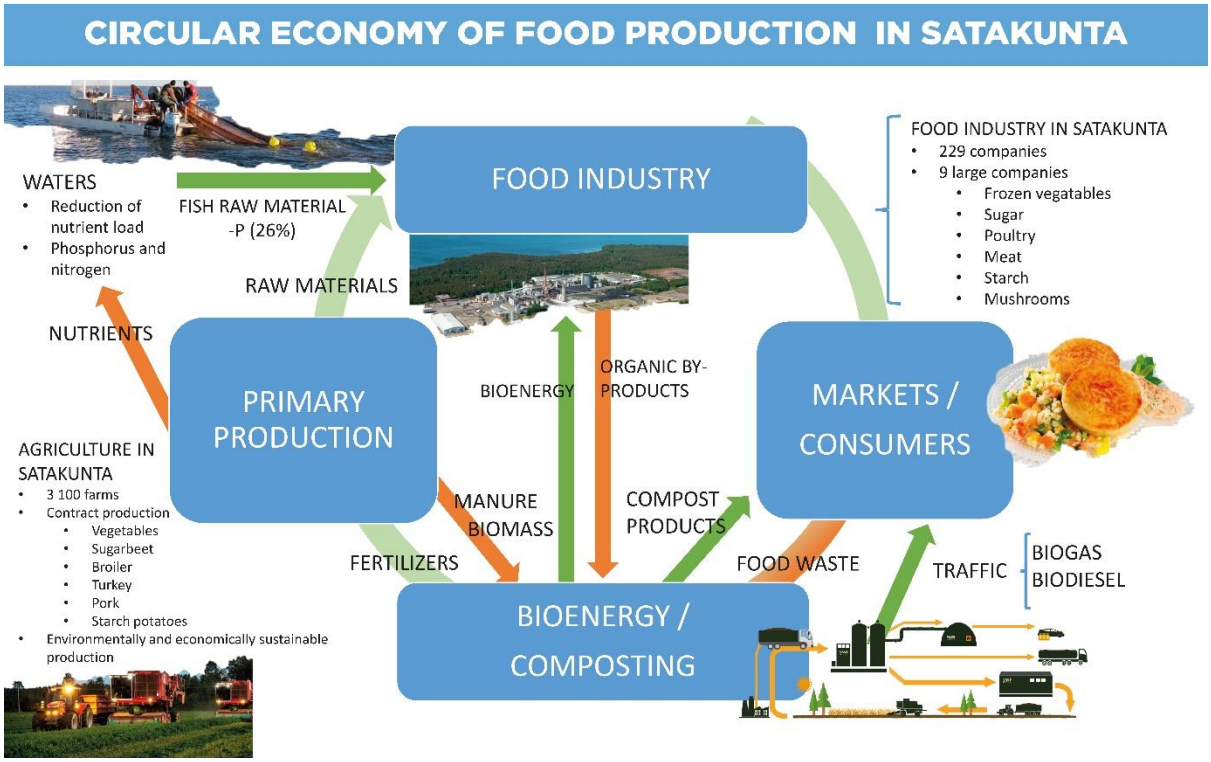

Figure 2. General scheme of food chain and its actors in Satakunta region.

The number of experts available to evaluate carbon footprints and environmental effects have been increasing. Databanks, statistics and monitoring services are improving through digitalised systems, in line with targets listed in Satakunta Regional Plan objectives for near future. Number of companies providing LCA services are available even for public sector. Such enterprises are exemplified: Bionova, UseLess Ltd., LCA Consulting Ltd. and Gaia Consulting. High quality (University level) LCA related education available in two locations (Aalto University in Helsinki, Lappeenranta Technical University in Lappeenranta and Lahti). Web-based education courses available (Finland has very good internet availability); no restrictions in attendance for single (such as LCA) courses.

High-level education institutions (applied universities, universities) well connected with companies through public-private partnership (PPP) agreements. General level of knowledge among actors, however, is present. Companies may lack know-how to communicate LCA results to customers. Finland is working extensively towards more complete set(s) of data availability, which will increase the quality of LCA analyses and increase the reliability of calculations.

Part III - Policy context

1. The Action Plan aims to impact:
   - X **Investment for Growth and Jobs programme**
   - X **Innovation and skills in Finland 2021-2027 - Structural Funds Programme of Finland**
   - European Territorial Cooperation programme
   - X **Other regional development policy instrument**

2. Name of the policy instrument(s) addressed:

Satakunta Regional Programme: (including Smart Specialisation Strategy, S3; Smart Specialisation Strategy for Sustainability, S4)

Innovation and skills in Finland 2021-2027 – Structural Funds Programme of Finland. On 21 October 2021, the Finnish Government approved the EU regional and structural policy programme, Innovation and Skills in Finland 2021–2027, and decided to submit it to the European Commission. The programme supports industrial, energy, climate, innovation, education and employment policies as well as the work against exclusion and poverty. The policy programme applies to continental Finland.

The crosscutting priorities of the Innovation and Skills in Finland are sustainable development, gender equality, non-discrimination, digital development, internationalisation, climate change and innovation. These priorities are part of all measures. Of the ERDF funding, 35% is allocated to climate action.

The programme has six priority areas:

1. Innovative Finland (ERDF): The objective is to promote research and innovation capabilities of regions and companies with a particular focus on business and working life, and the introduction of new technologies. The funding will advance the growth and competitiveness of small and medium-sized enterprises (SMEs). Another objective is to utilise digitalisation for the benefit of citizens, businesses and public administration.

2. Carbon neutral Finland (ERDF): The aim is to promote energy efficiency and the circular economy and to reduce greenhouse gas emissions. Funding will also be allocated to measures to prepare for climate change.

3. More accessible Finland (ERDF): The objective is to support SMEs in Eastern and Northern Finland by developing local road transport infrastructure with separate funding for sparsely populated areas.

4. Competent and inclusive Finland that provides work (ESF+): The objective is to support employment, skills, working life development, continuous learning and flexible educational paths.

5. Finland of social innovations (ESF+): The aim is to support the everyday lives and wellbeing of children who are clients of child welfare services and, in particular, those children and young people who are placed outside their home.

6. Finland that prevents material deprivation (ESF+): The aim is to help those in a disadvantaged position by providing support for the purchase of food and basic commodities. At the same time, the aim is to make available other services that improve the situation of those receiving aid.

The implementation of the new regional and structural policy programme will take place in 2021–2027. The programme funding consists of EU and national funding. The implementation of the programme will begin gradually with calls for project applications during the latter half of 2021. First funding decisions will be made in spring 2022. Funding is granted by Regional Councils, ELY Centres and the Finnish Food Authority. In LCA4Regions project, the implementation of Action Plan will be fully committed to the actions and projects based on lessons and good practises learnt. The transition from the old Structural Funds Programme "Sustainable growth and jobs 2014-2020 – Structural Funds Programme of Finland" to the new programme is smooth, and fully in accordance with the Satakunta Regional Programme and other policy instruments including Satakunta Forest economy programme, Satakunta Bio and circular economy programme and Satakunta Climate and energy strategy 2030.

Structural Funds Programmes as a tool for resilient food systems development

The Regional Programme of Satakunta includes Smart Specialisation Strategy, S3 and Smart Specialisation Strategy for Sustainability, S4. The innovation clusters outlined in Satakunta's Smart Specialisation Strategy include food industry cluster; bioeconomy and circular economy; welfare economy; safety and security of supply. As S3 guides the allocation of European Regional Development Funding (ERDF), this action plan is also aiming at better use of ERDF-funds in development of Bio and circular economy cluster, particularly food sector in Satakunta region. Satakunta food sector Regional Council of Satakunta has allocated ERDF-funding over 64 million euros during the 2014-2020 programme period. From this amount 3.5 million € were targeted for activities of Bio and circular economy. Regional Council of Satakunta, together with ELY centres and national Food security office, as intermediate bodies for the structural funds programme, will allocate ERDF-funding over 91 million euros during the 2021-2027 programme period.

Part IV - Details of the actions envisaged

ACTION: Improved resource efficiency and resilience through life cycle assessment for food distribution systems

The background

During LCA4Regions project we have been able to collect regional experiences with life cycle approaches from different parts of Europe. Thematic areas included life cycle methodological overview, resource efficiency, LCA in material flow and waste management approaches, LCA in green public procurements, education and capacity building, as well as LCA use in monitoring approaches. In Navarra region, standardised assessment tools have been in widely use, in particular for calculations of carbon emissions in various services. In addition, organisational footprint analysis is executed. The GP and presentation of an alternative way to fight against food waste and social poverty amid positive environmental impacts by the Food Bank of Navarra[3], showed how public authorities can take consider food banks not only for the beneficial social impact, but also for their environmental and educational implications. As such, the Navarra example shows the food bank system may be aligned with the climate change and waste prevention regional strategies, important policy targets also in Satakunta regional development. Further supportive example was obtained from Lombardia region, where the Milanese Food Bank system was extensively presented[4], with similar outcomes as in Navarra.

In Lombardy, the benefits of the work of Banco Alimentare included: Social benefits: Products that are still good are recovered and gain new value in the charitable organizations that receive them free of charge for the people in need they support, and can thus concentrate their resources on their own scope. Attention to health, constant effort to provide the assisted people a healthy and balanced meal. The care of the person, the gesture that accompanies the gift aims to achieve the social inclusion of poor people, often marginalized. Economic benefits: Symbiotic effect: the established organization (Banco Alimentare) optimizes the availability of resources. Surpluses that would otherwise be wasted are channelled to charitable organizations who help those in need. Companies are spared the cost of disposing of these products. Environmental benefits: Less good food in landfills means less pollution which benefits the entire community. By saving the food from the landfills we avoid the waste of the resources used to produce it, water, land, energy, work and more in general the CO2 emission generated from the production to the disposal. All this, in combination of educational benefits, cover several SDGs

[3] The carbon footprint of the activities of the Food Bank of Navarra (BAN); https://projects2014-2020.interregeurope.eu/lca4regions/good-practices/
https://bancoalimentosnavarra.org/wp-content/uploads/2020/10/Informe-Huella-Carbono-BAN.pdf

[4] The Milano Food Hub (Banco Alimentare Lombardia) visit & presentation material https://projects2014-2020.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1637243039.pdf

Food production has a significant contribution to atmospheric carbon emissions. Along the food chain, the highest calculated carbon release will occur, when a food product from its final destination, e.g. shops, supermarkets, restaurants and catering services are lost. Therefore, the greatest impact will be obtained when these losses can be minimised. Generally, one Finnish lunch produces about 1 kg carbon equivalent. Estimations of carbon equivalents of different foods have been quite well established (Finnish Natural Research Institute, https://www.ilmastoviisas.fi/tietopaketit/ruoan-ilmastovaikutukset/). The shared experiences in LCA4Regions project will facilitate the related actions in Satakunta, where food distribution system is currently divided with over 50 different organizations. Additional contribution from LCA4Regions project to facilitate actions in Satakunta was obtained by support for a LCA methodological course "Food sustainability assessment: a methodological approach", organised by CIHEAM, Spain. Experiences were shared, such as a useful approach to evaluate qualitative measures for sustainability assessments.

Action

Building a model for efficient food distribution systems with a guidance through life cycle assessment. In Satakunta, development of food distribution systems has been supported by National regional funds – the project results which will be further utilised for assessment of sustainability in various levels. LCA methodologies will be used for guiding to improve digitalised networking between food suppliers, public authorities, social and health sector, food distribution organisations & restaurants. Carbon footprinting analyses will be used for guiding of actions, logistics etc.

Players

The progress will be possible only by engagement of all relevant stakeholders. In Satakunta there is currently 52 different food distribution organizations. The other principal stakeholders will be City of Pori (and other Satakunta municipalities), Finnish Red Cross Organization Satakunta region, Diakonia Organisation, Satakunnan yhteisökeskus (Commune center of Satakunta) and Satakunta University for Applied Sciences, to name a few examples.

Timeframe

May 2022-June 2023

Costs

80 000 €

Funding sources

ERDF and/or ESF Funds

Date:

Name of the organisation(s):

Signatures of the relevant organisation(s):

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