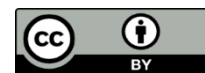


CIRCULAR FOODSHIFT FRAMEWORK FOR THE BALTIC COUNTRIES

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ABSTRACT

The main objective of developing the framework for circular food systems was to identify the opportunities and obstacles in the green transition. The aim was also to understand the local food system (LFS) in some selected Baltic areas, e.g., in Vilnius, Latgale, and Tartu, and to identify aspects to be implemented in a framework for circular food systems. It should be noted that several regional municipalities in the selected Baltic areas have prioritised sustainability in their long-term strategies for food processing. However, limited local experience and resources pose challenges to promoting circular food systems, particularly when the knowledge and cross-sector cooperation are insufficient. Time and resources are needed in advancing circular food systems in these regions. Gladly, the results indicated that some stakeholders have already made changes in some processes. However, they need more support, e.g., training and cooperation, from local authorities to effectively improve their processes. The Circular FoodShift Framework will be used as a model in developing their processes.

Keywords: green transition, framework, end-users, waste management, sustainable procurement

INTRODUCTION

According to the European Green Deal Europe aims to be climate-neutral by 2050 (Wolf et al., 2021). The circular economy is a model based on sharing, renting, reusing, repairing, refurbishing, and recycling (European Parliament, 2023). The system is moving away from a linear “take-use-dispose” approach to a “reduce-reuse-recycle” approach. The circular economy aims at recovering and recycling materials that have reached the end of their life cycle. The goal is to use less raw materials, minimize waste and reduce emissions, which also applies to the whole food chain. This framework deals with the roles of various organisations within the current food system. It also outlines sustainability and circular economy in the local food systems (LFS) in selected Baltic areas (Jokinen et al., 2025; Latomäki et al., 2025).

In Estonia, the government has approved a white paper on circular economy based on basic principles, and development directions (Eionet, 2024). Planning, policy, value, culture, lifestyle, production and consumption are overarching in the circular economy framework. It is stated that new requirements must be introduced for citizens, entrepreneurs, and agencies to improve the circular economy in the municipalities. Policies related to the food system, e.g., food waste prevention and circular bioeconomy, have also been introduced in Estonia to reduce waste and loss in the entire food chain.

In Latvia, one of the main barriers in the development of circular economy was people's consumption attitudes (Eionet, 2024). The study also showed that the waste management infrastructure was insufficient. Training and education in circular economy must be changed to improve the consumption habits.

In Lithuania, the national government has approved guidelines for the transition to a circular economy by 2035 (Eionet, 2024). Green public procurement has been mandatory in Lithuania since 2023. Currently, there are food-related circular policies included in both the National Waste Prevention and Management Plan and the Lithuanian Agriculture and Rural Development Strategic Plan 2023–2027. The main transitioning

barriers in circular economy are due to the lack of consumer awareness, coherent behaviour in recycling and sufficient recycling infrastructure.

ACTIONS FOR SMALL FARMERS AND FOOD ENTREPRENEURS

The consumers at the local markets are fond of products processed from fresh, local agricultural produce (Jokinen et al., 2025; Latomäki et al., 2025). Furthermore, sustainable agricultural systems are supported by the consumers because the consumers also get access to fresh raw materials. When small-scale farmers and food producers engage in “farm-to-table” initiatives, they strengthen their bonds to the consumers. This type of collaboration creates resilient food systems based on local produce.

This Circular FoodShift framework outlines actions to improve the LFS system (Jokinen et al., 2025; Latomäki et al., 2025). These actions are:

- Redefined roles to support transition to circular economy, despite new regulations (action 1),
- The need for proper information and engagement to promote local suppliers (action 2),
- Challenges in sourcing certified suppliers to develop local value chains (action 3),
- Cooperation and communication among entrepreneurs to improve sustainability in practice (action 4).
- Minimisation of food waste through new technologies and improved valorisation through collaboration (action 5).

ACTIONS FOR HORECA ENTREPRENEURS

The local restaurants and cafes can affect the entire food system by offering sustainably produced food and local procurement also supports the local economy. The customers have the opportunity to consume locally procured products based on local raw material. Furthermore, locally-produced fresh ingredients ensure that the food is nutritious, safe and fresh. The sustainable menus based on seasonal and locally available ingredients help to minimising transportation impacts. The restaurants and cafes support local farmers and producers. When local products are used the carbon footprint are reduced because there is less long-distance transportation. Recycling surplus food is essential, which prevents edible food from being wasted. To achieve circular transition waste management is also critical.

Tracking, monitoring, and recycling food waste can be used to reduce waste. These activities also implement efficient waste management. By composting organic waste, these establishments can contribute more efficiently to the circular transition. In addition, restaurants and cafes can engage to raise awareness of sustainable food practices among their customers. Overall, active participation in the circular transition is vital to create a resilient food system. This framework developed outlines actions improving the LFS system (Jokinen et al., 2025; Latomäki et al., 2025). Actions for hotel, restaurant and café (HoReCa) entrepreneurs are:

- Redefining the role of various organisations in the current food system (action 1).
- Procurement systems and green food procurements in the LFS chain (action 2).
- Cooperation and communication in the LFS chain (action 3).
- Sustainability and circular economy in LFS (action 4).

ACTIONS FOR PUBLIC FOOD SERVICES

Some local governments support sustainable food initiatives in schools. But many food operators in schools have stated that they need practical guidance in sustainable procurement to get the circular economy principles

to work optimally. Financial support from EU, national, and regional authorities is needed to align circular principles in the school food system. Public food services should be allowed to adopt more flexible procurement practices to be able to buy local raw materials. The sharing of successful models from other municipalities, where schools, food services, and local producers work together can enhance engagement in the community. In addition, parental involvement in food education and enhanced education and training for various stakeholder groups, e.g., students, parents to students and kitchen staff, are needed to develop already running initiatives such as food-sharing and reduction of food waste. Strengthening the competencies in both food-sharing and food waste reduction can promote the adoption of sustainable practices within food services in schools. This framework outlines actions improving the LFS system (Jokinen et al., 2025; Latomäki et al., 2025). The actions for public food service actors are:

- Redefining the role of various organisations in the current food system (action 1).
- Complexity of the procurement system and green food procurements in the LFS chain (action 2).
- Importance of cooperation and communication in the LFS chain (action 3).
- Sustainability and circular economy LFS (action 4).

A SPECIAL CASE: DYNAMIC PROCUREMENT SYSTEM

In the dynamic procurement system (DPS), the producers have the right to decide whether or not they participate in small individual competitions. If the terms of delivery are unacceptable for the producer, they may refrain from the tender, which provides flexibility for small producers. In the Circular FoodShift project, a series of workshops was held to develop a process on how to implement DPS in the Baltic countries. The developed model has been created in a format of Plan, Do, Check, Act (PDCA) model.

In the planning phase, the National Procurement Office (NPO) should identify and develop criteria for a sustainable LFS chain. This involves researching the actors in the current supply chain, engaging with stakeholders, and developing clear criteria to guide procurement decisions. The criteria should promote local sourcing, reduce environmental impact, support small producers, and ensure fair trade practices. The next task is to create a manual for local procurement experts. The manual should be clearly written. The manual should clearly and effectively describe the meaning of each criterion and how it improves the sustainability. This part should act as a reference for procurement experts, so they understand and apply the criteria effectively. In Finland, Motiva has published a criteria bank to improve procurements. For Finnish criteria see: <https://kriteeripankki.fi/en>. The criteria bank in Sweden can be found from <https://www.upphandling.smyndigheten.se/en/criteria/>. The Local Procurement Officers (LPOs) should identify both the local producers and the local raw materials available in the region. Agricultural reports and databases, as well as industry publications can be used to collect information about local capabilities. Local Procurement expert should also define what local food is. Then they should compile a list of potential local producers, who may be interested to supply certain ingredients. Initial contacts should be established with the candidates before their names are listed in the paper of online publication.

In the do-phase the NPO is to reach out to local procurement offices. The goal is to introduce the DPS initiative, to explain its benefits, and to attract the interest of local procurement offices to participate. NPOs should organize information sessions and workshops to cover the objectives, processes, and expected outcomes. The NPOs should work closely with the selected procurement offices to develop a detailed pilot with clear objectives, timeline, and milestones as well as to establish a coordination team to oversee the implementation and provide support throughout the process. Detailed reports should be prepared so that they can be shared with other procurement offices and stakeholders to promote transparency and knowledge sharing. The framework should outline the steps for procurement, from identifying needs and sourcing

suppliers to evaluating bids and awarding contracts. This allows for a controlled evaluation of the performance and provides valuable insights for further development. Once the product category is selected, the procurement process is initiated according to the DPS framework.

In the checking-phase, the NPO must develop relevant key performance indicators (KPI), which are measurable and aligned with sustainable procurement goals. KPIs are developed to track and measure the performance. Developed KPIs should be quantifiable and traceable over time. Examples of measurable metrics are the number of suppliers engaged, the volume of produce procured, and the reduction in environmental impact. The NPOs must also define the methods and tools used in collecting data related to each KPI. The LPOs must evaluate the performance of the DPS against the established KPIs, they can adjust the DPS framework based on the findings obtained. This may be based on revised procurement criteria, improved supplier engagement strategies, or enhanced logistical planning.

In the acting-phase, the NPOs shall share good practices, which support local changes essential in improving the procurement processes. This can be established through knowledge-sharing platforms through which information, experiences, and best practices can be exchanged. The platforms should facilitate open communication and collaboration among all active stakeholders e.g., stakeholders representing municipalities, small farmers, entrepreneurs and public food services. Sharing real-world examples helps to inspire and guide other communities to adopt similar practices. The LPOs should select new product categories for DPS implementation. LPOs should set clear objectives, timelines, and milestones for the expansion. They should also provide ongoing support and resources to ensure successful implementation. The provided support and resources, e.g., training programs, technical assistance, and financial incentives, shall help to navigate in the procurement process.

CONCLUSIONS

In setting the green transition framework, the current state with challenges and potential solutions was used. Local sourcing, sustainable procurement, and active communication were shown to contribute significantly to a circular economy. Furthermore, the education in food services proved to be important in developing the circular food system. Actors can use the framework as a model when they develop the sustainability in their processes. The framework provides examples how to proceed in the development. Even though some actors have taken responsible and climate-friendly actions, these improvements may not necessarily have been communicated to others than real customers. Thus, all stakeholders may not be aware of improved actions.

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