

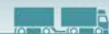
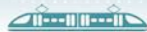
## Short-haul food

### How to achieve sustainable distribution of food from small scale producers in Viken?

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- Producers, sales channels and marketplaces, the public sector and customers have paid scant attention to how to distribute short-haul food in an effective and climate-friendly way.
- The report finds that there are private cars are often used to transport and pick up the goods to / from outlets, there is little formal coordination and cooperation across manufacturers, manufacturers are responsible for large parts of the value chain for their products, and many solutions require a lot from customers.
- Growing interest in short-haul food combined with a large number of small-scale producers falling outside the existing food distribution system (through eg wholesalers) suggests a need for solutions for more efficient and climate-friendly distribution of short-haul food.
- Distribution centers can be an important part of such solutions and help meet several of the challenges outlined in the report, by offering for example advertising for short-haul food, courses, information, sales, coordination of functions (including packaging, storage, transport) and flexible solutions suitable for several types of customers (institution, private customers, HoReCa).
- According to respondents initial solutions require public sector support as it is too expensive for players in short-haul food to establish larger distribution centers for intermediate storage, transshipment and / or consolidation of food.

Consumer interest in short-haul food and food from small-scale producers has increased in recent years. Various forms of direct sales are growing, where producers and consumers can get in touch and producers can disseminate knowledge about their products (Aasen Leikvoll et al., 2020). Compared to large-scale industrial food producers, small-scale food producers have fewer economies of scale when it comes to solving transport needs. There can be poorer utilization of capacity in vehicles and less efficient distribution routes, and thus greater emissions and more vehicles on the roads per unit of food distributed.



There is little documentation of distribution solutions for short-haul food from small-scale producers in Viken, and Norway in general. There is a need for more knowledge about how short-haul food is distributed today and requirements for efficient and climate-friendly distribution.

This report maps how the distribution of short-haul food from small-scale producers in Viken and Oslo takes place and identified challenges and possibilities for achieving an efficient and climate-friendly distribution. Product chains from producers in Viken to consumers within Viken and Oslo are examined. To understand today's distribution, the report maps key players in short-haul food and provides examples of what a value chain can look like. Then, to gain insight into where the potential lies, the report examines the challenges key actors experience in the distribution of short-haul food. Finally, the report assesses how the challenges can be solved and suggests approaches to a more efficient and climate-friendly distribution of short-haul food.

The report is based on studies of current literature, interviews with key players in short-haul food, observations at outlets and results from workshops with participants from the public and private sectors. The interview respondents in the study can be divided into three stakeholder groups; *producers* (n = 7), *sales channels* (n = 6) and *research and networks* (n = 3). In addition, we have had ongoing dialogue with our clients Viken County Municipality and the Norwegian Public Roads Administration.

The project provides useful knowledge to municipalities and county municipalities that want increased insight into the current situation and a better overview of where the societal challenges and opportunities lie. At the same time, the study provides valuable information to relevant actors in short-haul food working with the same issues. The report serves a base of knowledge for a more expansive project on short-haul food distribution.

## The current situation

### What is short-haul food?

It is difficult to find a clear definition of what short-haul food is as agreed in the literature. A widely cited description of short-haul food is based on geographical closeness between producers and their consumers. Proximity can also be defined in terms of boundaries, regions or countries, or distance measured in km or time. When it comes to which distances are defined as short journeys, this varies from 30km to several hundred km. There are also large variations on what can be called short-haul when it comes to the time it takes to transport a product from producer to consumer (Paciarotti and Torregiani, 2021). Stene (2015) provides a comprehensive description of short-haul food in his master's thesis. The author describes short-haul food as a different type of food production (way and quantity) than in large-scale industrial food production and often with both shorter emotional and often geographical distance between raw material producer, processor and customer. Marketing, distribution and sales are usually also carried out with other types of instruments than in industrial food production. As a rule, it is small players who represent the entrepreneurship.

## Key players

Key players in short-haul food and the characteristics of the players are:

- **Manufacturers in Viken:** Concerned with communication and relationships with customers, often perform many different work tasks, do not value their own time use, use several sales channels, and are largely responsible for transporting the products themselves.
- **Consumers:** The typical private consumer of local food in Norway is a mother with adult children who is interested in quality food and has ample resources. The distance to the producers is not as important to the customers as the food being Norwegian or organic. Customers can also be companies, HoReCa and public institutions. There is great potential for delivering more short-haul food to public institutions managed by the municipality or county municipality.
- **Marketplaces and sales channels:** There are several digital and physical marketplaces acting as a link between producers and consumers. The purpose of the marketplaces is to make it possible and easy to buy local and short-haul food directly from producers without intermediaries.
- **Municipalities and county municipalities:** There are two main types of municipalities, namely municipalities that have producers in the districts (producer municipality) and recipient municipalities (customer municipality). Some municipalities have both producers and customers, but the production often takes place in the districts and the customers are in the cities / towns. Viken County Municipality will both have producers who have their market in towns / cities such as Oslo (which has a large customer base) and / or producers who have their customers more spread out in the districts. The type of municipality will have an impact on what role the municipality should and can take in the distribution of short-haul food.
- **Other key players:** industry players and interest organizations for local food, and various clusters for food producers

## The value chain for short-haul food

Value chains for short-haul / small-scale produced food usually consist of fewer links, often because several links are taken care of by the same player. The result is that the distance between producer and customer / consumer is shortened (see figure S1).

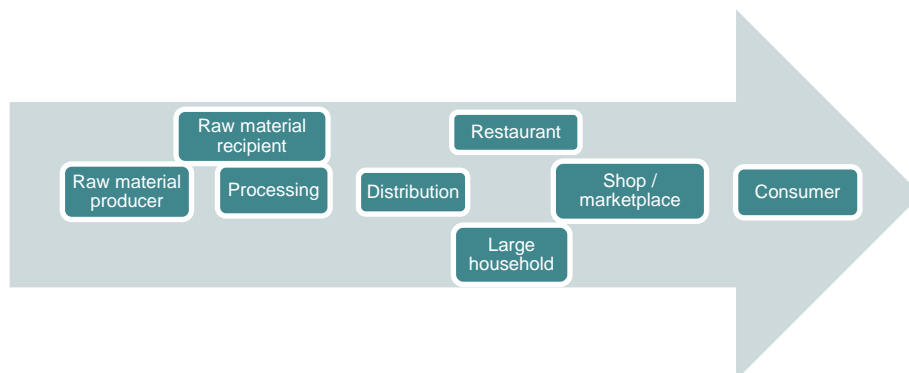


Figure S1: Example of value chain for short-haul food / small-scale production (Stene, 2015).

Fewer links also means fewer players to share profit in the value chain, and there are often increased profits for the producer. Shorter value chains can also give producers increased profitability through higher consumer willingness to pay and through greater sales of their «non-standardized» goods (Aasen Leikvoll et al., 2019). At the same time, however, more work and costs can accrue to the manufacturer. Food producers can have several roles in the value chain, such as raw material producer, raw material recipient, processor and distributor.

Figure S2 illustrates the flow of goods of Dagens, which is a company that offers a digital platform that facilitates their customers to shop directly from food producers in a simple and efficient way (Dagens, 2021). This is a business to business (B2B) system where the end customer can be restaurants, canteens, hotels and other kitchens.

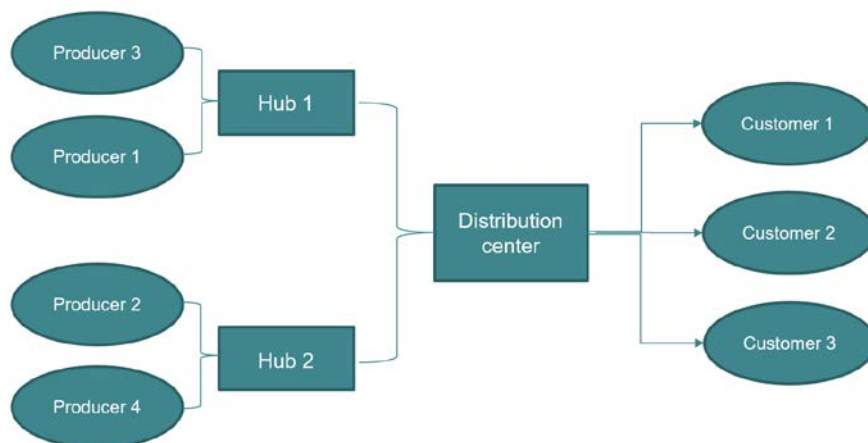


Figure S2: Example of goods flow with local hubs and a distribution center from a B2B platform solution (Dagens).

Several different terminal structures are possible in the distribution and transport of goods. Distribution center and hub are two terms mentioned under the description of Dagens in Figure S2. Distribution center is often a collective term for several different terminal structures. Two main differences between different terminal structures are whether the goods are consolidated / loaded together from several different suppliers or reloaded directly by a single supplier.

A key challenge for distributing local / short-haul food is that there are many different raw materials and great variation in volume from different players. Dagens solves this by setting up smaller local hubs as illustrated in Figure S2. Several manufacturers supply in smaller or larger volumes to these hubs, and Dagens facilitates the transport. At the hubs, the goods are collected, marked and then transported to a central distribution center operated by a third party. Dagens specializes in the technology used to facilitate this trade and does not own vehicles or warehouses, but uses existing infrastructure.

### What are the challenges with the current situation?

Figure S3 summarizes challenges to achieving a more efficient and climate-friendly distribution of short-haul food.



*Figure S3: Key challenges to achieving a more efficient and climate-friendly distribution of short-haul food.*

### **Time constraints and lack of knowledge**

Distribution is not a priority among manufacturers, there is often not enough time to work with distribution solutions. There is a tendency for small-scale producers to take responsibility for several different tasks within and outside of distribution. It is common that the producers do not appreciate the financial value of their own time, and therefore do not see the point in learning about or paying for transport and distribution. Limited knowledge of distribution among manufacturers and can be a barrier to more efficient solutions.

### **Demands a lot from customers**

Today's solutions for buying short-haul food place a burden on the customer, especially for consumers who want to use short-haul food for everyday food. Several of the sales channels require the consumers to travel or be present physically during exchanges, without a particular degree of coordination across manufacturers.

### **Volume variations and exclusive agreements**

A characteristic of small-scale producers of short-haul food is great variation in product range and volume. This can create challenges for both producer and customer unless a close dialogue about supply and demand is not established. Agreements from larger customers often require the reliable supply and therefore continual availability of goods in the market, and this can exclude small-scale producers from larger volume orders and agreements. At the same time, longer term agreements on ordering food can help create predictability for small-scale producers. In many cases, manufacturers must work together to meet product volume requirements.



## Distribution and terminal solutions are expensive

A study by Kollberg Thomassen, Dreyer and Gran (2014) shows that small-scale producers have difficulty gaining access to established trading systems and channels. A main reason is that distribution channels and logistics solutions in the more established systems do not account for the characteristics of small-scale producers, and as a result the logistics costs and thus the price of the products become too high for the market, profit margins for delivery service too low, and the product quality reduced. Combining traditional and alternative distribution channels is challenging and particularly expensive for players who use a terminal for transshipment or consolidation of goods e.g. to deliver to towns or cities.

## Challenges in collaboration

Some barriers to cooperation between manufacturers

- Long distances between manufacturers
- Complex goods to load
- Sharing information (customer lists)

## Approaching a solution

### What is important to consider in a distribution solution?

The workshop included an exercise to learn about what different stakeholders might require from a distribution system for short-haul food. Analysis suggests that customers require quality information, easy ordering, a wide selection, price, convenience and predictability. Small-scale producers require efficiency, simple invoicing through a common platform, increased customer catchment, access to different types of customers (eg by splitting tenders), clear and transparent costs for distribution, and more information about distribution options and potential cost savings. Although interested in short-haul food as a customer, the public sector requires effective distribution systems for short-haul food as a way of helping achieve sustainable societal goals. For the public sector, location and infrastructure in connection with the distribution center were important. The representatives wanted an efficient distribution center that could deliver to schools and nursing homes, and / or a food hall that private customers could pick up from without using a car (ie connected to a town). Sales channel / platform representatives require both more cooperation with the public sector and a common terminal in the city center to reduce traffic for small-scale producers. They also require a distribution solution that connects solutions for different manufacturers, different players and route planning. They also require automation to help administer logistics agreements effectively. A representative for the carriers required that (i) control of information or processes by wholesalers must be avoided in a distribution system and (ii) decreased number of journeys generated by manufacturers and customers.

## How can we approach a solution?

From an analysis of the workshop, findings from the literature, and interviews with informants, we identified key themes to be addressed on the way to a solution for efficient and climate-friendly distribution of short-haul food:

Information, public information	Planning and collaboration	Distribution center for short-haul food	Understanding of the producers' situation	The public sector can play a key role
<ul style="list-style-type: none"> <li>• Communicate the availability and offer of short-haul food</li> <li>• Awareness raising about the food's origins and journey</li> </ul>	<ul style="list-style-type: none"> <li>• Across the public and private sectors</li> <li>• Between private actors and producers</li> <li>• Can give manufacturers access to more customers</li> </ul>	<ul style="list-style-type: none"> <li>• Mechanism for coordination among different manufacturers</li> <li>• Node for more efficient logistics</li> <li>• Flexibility</li> <li>• Easier to match supply and demand</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding barriers to collaboration</li> <li>• Understanding of the farmers' situation and attitudes</li> <li>• Awareness-raising about the environmental effects of own delivery</li> </ul>	<ul style="list-style-type: none"> <li>• Break down their agreements</li> <li>• Perform tenders in a different way</li> <li>• Short-haul food as a business development</li> <li>• Support for hub</li> <li>• Marketing and public awareness</li> </ul>

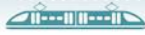
Figure S4: Key themes on the road to a solution for efficient and climate-friendly distribution of short-haul food.

## Summary of the group discussions from the workshop

Three groups discussed various solutions each of which involved one or more types of distribution center. There were different views on what a distribution center should be and offer. The first group discussed a central gathering place where a food market is close to customers. This solution facilitated a wide variety of activities related to short-haul food, including meetings with producers, information and marketing. The second group also believed that one or more distribution center (s) was the solution and discussed various financing models. The group believed that the municipalities had an important role to play and suggested that the municipalities owned a distribution center which they rented out to players in the short-haul food sector. Cooperation to ensure a good degree of utilization was emphasized, both between private and public actors, but also between private sales channels. The third group discussed a center for the distribution of local food to public institutions in district municipalities where the food is produced. Here, public involvement in the operation was identified as more important (and more difficult). The group suggested that the municipality could take an active role in mapping supply and demand in the municipality. For the other groups, access to affordable land was the main challenge. All groups agreed that a solution that involves the establishment of one or more distribution centers is dependent on public support. It was more uncertain how the groups envisioned the transport from the producers to a distribution center, but it was mentioned that there should be requirements for environmentally friendly transport solutions. It was also mentioned that this transport may be an offer from the distribution center. Delivery to customers, where relevant, must be done with fully loaded vehicles.

## Summary and the way forward

The study of the current situation for the distribution of short-haul food in Viken shows that this is a topic that has so far received little attention – from the producers



themselves, the various sales channels and marketplaces, the public sector, and customers. As there is a growing interest in short-haul food in the population and a great number of small-scale producers who fall outside the existing system for food distribution (through e.g. wholesalers), we see a great need to find solutions that can contribute to a more efficient and climate-friendly distribution of local food. Various forms of distribution centers were pointed out as an important part of the solution and a way to meet several of the challenges outlined in the report by offering advertising for short-haul food, courses, information, sales, coordination of functions (including packaging, storage, groupage, transport) and flexible solutions suitable for several types of customers (institution, private customers, HoReCa). A distribution center can be used by several providers of short-haul food and consolidate products from several different manufacturers. In this way, distribution can be made more efficient through increased volumes and shared costs, and the environmental impact of transport will be reduced by the possibility of consolidation, filled vehicles and less transport (fewer trips). There is a need for public support as it is too expensive for players in short-haul food to establish larger distribution centers for intermediate storage, transshipment and / or consolidation of food. The public sector (municipalities and county municipalities) must consider how they want to contribute to raising the profile of short-haul food and contribute to an efficient and climate-friendly solution for distribution. From the workshop a proposal was raised that a distribution center may be part of the infrastructure for which the public sector is responsible. If short-haul food is to be able to reach more people and become part of people's everyday lives, it requires a comprehensive solution and cooperation from several key players. Such a solution requires more research and projects to be able to solve the challenges outlined in this report. It will be necessary to look more closely at the details of a solution involving one or more distribution center (s), including location and financing, transport of goods from producer to distribution center, operations and operation, division of responsibilities, transport from distribution center to customer and the digital solution to make the solution user-friendly for all parties.