Agents of change in the food system

A case study of Swedish municipalities

Therese Sedman

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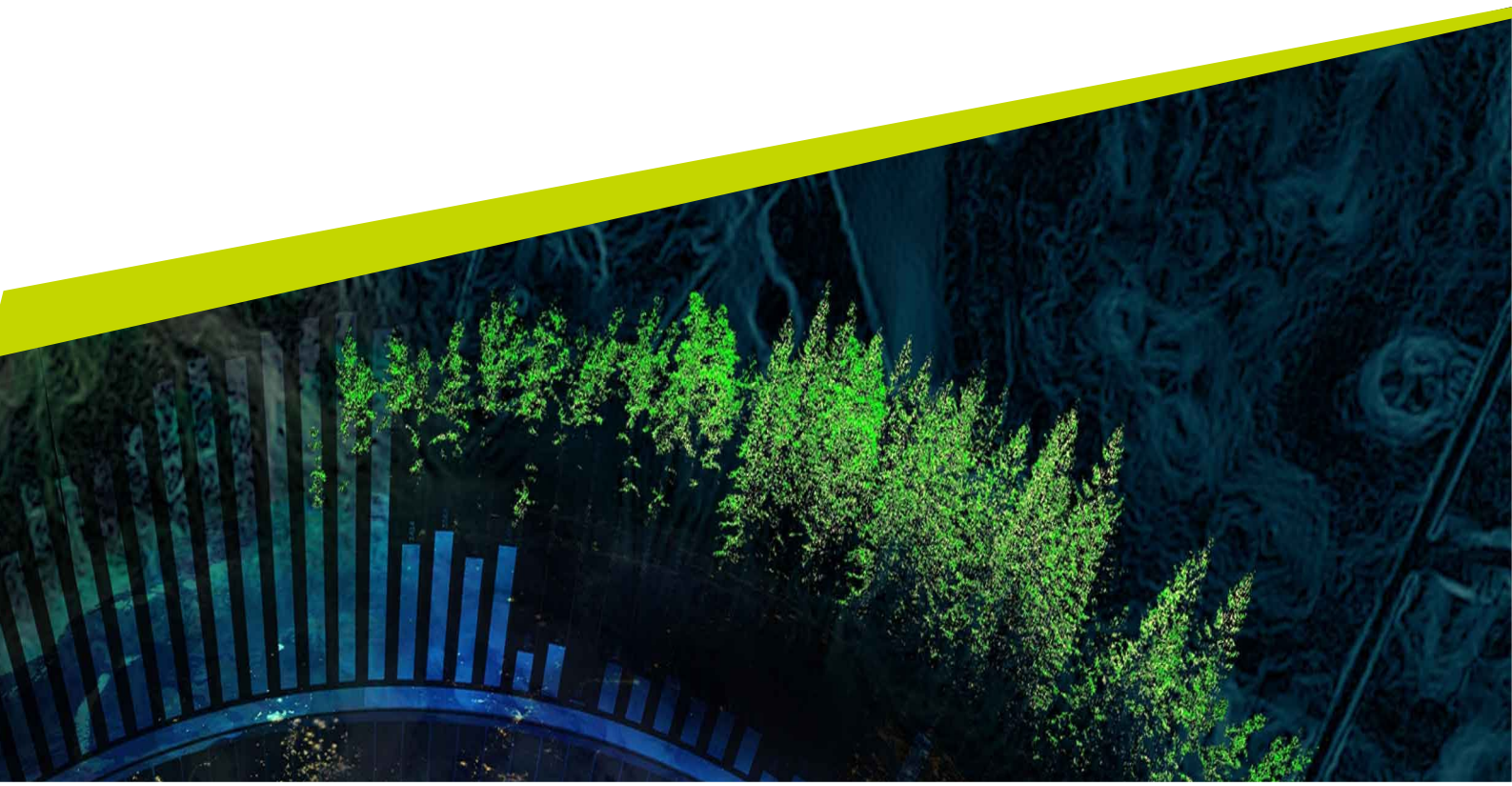

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Therese Sedman

Supervisor: **Kes McCormick, Swedish University of Agricultural Sciences, Department of People and Society**

Examiner: Jonas Bååth, Swedish University of Agricultural Sciences, Department of People and Society

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Swedish University of Agricultural Sciences

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Abstract

Food purchasing decisions in the public sector can have many different impacts when three million meals are served each day in Sweden. Planning and working towards more sustainable food purchases can benefit biodiversity, public health, and reduce climate impact. It has been shown that children who receive lunch in school are taller and have a higher lifetime income. Several policies affect public meals, like the food strategy, regulations from the Swedish Food Agency and decisions within the municipalities. Since Sweden has municipal autonomy, how the public meals are regulated can differ. This thesis aims to explore and understand how Swedish municipalities work with sustainable food and what goals they have in this area. Data was gathered with an online survey. Food waste was one of the themes that reoccurred several times. Most municipalities measure food waste in preschool, primary school and secondary school. It was less common to measure food waste in the nursing homes, partly due to the work being different. Food can also be used as an educational resource, and this can be done in many ways, like pedagogic meals, calculating the climate impact of meals, and spreading knowledge about what constitutes a healthy and sustainable diet. These are some of the educational efforts by different municipalities. The work on sustainable food is going forward, and some great efforts are being made. Unfortunately, the efforts are altogether not enough - an accelerated approach is needed in order to reach the targets.

Keywords: sustainable food, municipalities, Sweden, food waste

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Abbreviations

GHG	Greenhouse gases
IPCC	Intergovernmental Panel of Climate Change
KG	Kilogram
N.Y.	No Year
SDG	Sustainable Development Goals
SBA	Swedish Board of Agriculture
SFA	Swedish Food Agency
SEK	Swedish krona
UN	United Nations
WWF	World Wildlife Foundation for Nature

1. Introduction

Global surface temperatures have increased since 1850, and the cause is greenhouse gas emissions (GHG) made by humans (IPCC, 2023, p. 42-43). The GHG is a result of several different activities, and three important sources of this are firstly non-CO_2 emissions, secondly, CO_2 from forestry, land use, and land use change, and thirdly one is CO_2 from industry and fossil fuels (IPCC, 2023, p. 42-43). When comparing the surface temperature from the years of 1850-1900 with those in 2011-2020, the temperature had increased by around 1.1° Celsius (IPCC, 2023, p.42). Changes in the temperature have many consequences, the hottest day of the year will be even hotter as well as more common, soil moisture will change, and the wettest day of the year will be more frequently occurring (IPCC, 2023, p.70). Besides changes in the weather, the risk of species losses increases, and heat-humidity risk becomes more frequent, which means that the combination of heat and humidity causes a risk to humans, and mortality will increase as a consequence of this (IPCC, 2023, p.70).

1.1 Global food systems

Food production will be affected by a changing climate, for example, the yield of maize. In a scenario of an increase in global temperature between 1.6 to 2.4 °C, in a few very limited places, the yield of maize will increase up to around 25%, while in many more, bigger spaces, the yield will decrease up to 20%. IPCC has also made scenarios for fisheries, and the first scenario displays an increase of 0.9-2.0°C, in the northernmost part of the northern hemisphere, a drastic increase of around 35% will most likely be seen for fisheries. Besides that, there are a few spots in the rest of the ocean where an increase of 10-15% will be seen. With reservations for the northernmost part of the hemisphere and small spots elsewhere, most places will see a decrease in yield that is anywhere from no changes to minus 35% (IPCC, 2023, p.70). An important climate response related to food is to reduce food losses and food waste (IPCC, 2023, p.69). Furthermore, diet changes are of vast importance, and a switch to a sustainable and healthy diet is of the essence (IPCC, 2023, p.69). Adapting to a sustainable and healthy diet where food loss decreases is essential to adapt and mitigate emissions (IPCC, 2023, p.106-107). Healthy diets create synergies for human health and biodiversity. Sustainable and healthy diets

focus on plant-based foods, where legumes, vegetables, coarse grains, fruits, nuts, and seeds, with animal-sourced food from a sustainable and low-GHG emissions system. Policies can be very effective in lowering GHG emissions, such as policies made around public health to improve nutrition by using public procurement to ensure that a wide and healthy variety of food is served in public spaces (IPCC, 2023, p.106-107).

A part of signing the Paris agreement by the United Nations (UN) is "*Acknowledging that climate change is a common concern of humankind…*" (UNFCCC, 2015, p.4).
The agreement is to implement the convention and work together to counteract the effects of climate change (UNFCCC, 2015, p.5). Keeping the global temperature increase below 2°C above the pre-industrial levels, with a goal of limiting the increase to 1.5°C. Limiting the temperature increase to 1.5°C is important to lessen the impacts and risks linked to climate change. There is a need to increase the actions that are being taken to decrease the harmful effects of climate change, like the threat to food production (UNFCCC, 2015, p.5).

There is no question that human activities have a significant impact on the planet (Rockström et al., 2009). The Anthropocene is a new epoch in Earth's system and the epoch where humans are the drivers of changes in the climate. Rockström et al. (2009) presented a new framework to help understand and evaluate the planetary boundaries. Climate change, ocean acidification, stratospheric ozone depletion, atmospheric aerosol loading, biogeochemical flows, global freshwater use, land-system change, rate of biodiversity loss, and chemical pollution are the nine different planetary boundaries. Transgressing the planetary boundaries can have disastrous effects and trigger significant changes that lead to environmental impacts on a global scale. In 2009, three planetary boundaries had already been transgressed. These are the rates of biodiversity loss, climate change, and changes to the global nitrogen cycle. The planetary boundaries do not stand for themselves; they are all interconnected, and changes in one planetary boundary can result in a shift in another. Biodiversity loss can change how vulnerable terrestrial and aquatic systems are to ocean acidity and climate change. The sixth major extinction is happening right now, and this is the first time a mass extinction is driven by human factors. This is most likely leading to a permanent and irreversible change. Since the start of the Anthropocene, the rate of extinction has increased drastically to a rate that is 100-1000 times the normal rates in the history of the Earth. Even though Rockström et al. (2009) assed that it is very hard to define a planetary boundary for biodiversity loss, it has an impact on ecological functions that are a part of biophysical sub-systems and are a part of the resilience that affect other planetary boundaries.

1.2 Local food systems

The World Wildlife Fund for Nature has been around for more than 60 years (WWF, 2025a). They are also known by the abbreviation WWF. They are a non-profit organisation and are active in several different areas, and have no political affiliations. WWF works with projects in over 100 countries and wants to build a future where nature and humans live together in harmony. To be able to achieve harmony, WWF works with restoration projects as well as nature conservation projects. Besides that, WWF works with questions related to the forests, biodiversity, as well as food and agriculture (WWF, 2025a). In Sweden, WWF works with the food system in several different ways (WWF, 2024d). WWF Sweden believes that sustainable food needs to be enjoyable and tasty, but the eating habits in Sweden are not sustainable today. To make changes in the food systems for the better, WWF Sweden has created a meat, veggie, and fish guide, as well as a tool called One Planet Plate that is a tool which can be used to help pick sustainable food (WWF, 2024d).

WWF Sweden's Meat Guide is produced with the intention to help consumers and others who work with food be more sustainable in their choices around meat (WWF, 2025b). Reduced biodiversity, increased pesticide usage and global greenhouse gas emissions are all connected to meat consumption. Animals can also provide positive services to humans, like providing essential nutrients and benefiting biodiversity. In order to contribute to more positive outcomes and fewer negative ones, there needs to be more awareness when buying meat. WWF Sweden's Meat Guide reviews five different sustainability aspects and makes decisions that help the consumer make better decisions when buying meat. These five criteria are biodiversity, climate, chemical pesticides, animal welfare and antibiotic use. The guide is constructed with a traffic light system to provide easy guidance. WWF Sweden's Meat guide is based on research from the Swedish University of Agricultural Sciences (WWF, 2025b).

WWF Sweden's Fish Guide has a very similar structure to he meat guide with the traffic light system (WWF, 2025c). Fishing has other challenges, where many types of fish have been overfished for a long time, and the fish stocks are depleted. Wild-caught fish are evaluated by how the fish stocks are doing, how the fishing is affecting the rest of the ecosystem, as well as reviewing the control and whether the management is effective. Seafood that is farmed is evaluated based on the resources they use, as well as the environmental impact they have, animal welfare, the social and ethical rights that employees have and where the feed is coming from (WWF, 2025c).

WWF Sweden's One Planet Plate concept and tool is a practical way to plan meals that stay within the planetary boundaries, where the maximum global warming is 1.5°C (WWF, 2024a). The tool combines the climate budget and a biodiversity criterion. Data from the IPCC 2018 was used, which had calculated how much carbon humanity could use and out of that budget, 50% was allocated to food. This means that 11 kg CO_2e per person each week and 0.5 kg CO_2e for lunch or dinner. Biodiversity is a far more complex issue, and this is where WWF Sweden implemented their Meat Guide and Seafood Guide into the One Planet Plate as guidance for animal products. For vegetables, the staple crops that are field-grown need to be, and vegetables need to have a green or yellow light in WWF Sweden's Veggie Guide (WWF, 2024a). The One Planet Plate model and tool are generated in collaboration with scientists from several Swedish universities and a sustainability consultancy firm (WWF, 2021).

1.3 Aim and Research questions

This thesis aims to explore and describe how Swedish municipalities are working with sustainable food and what goals they have in this area. Public meals have the potential to create healthy and sustainable eating habits outside of the meals that municipalities serve. The lack of data on the activities and goals of municipalities in providing sustainable food has left a gap in understanding their impact. Therefore, this thesis intends to investigate the area and focus on increasing knowledge on the practical work of municipalities with sustainable food.

- What activities and goals do Swedish municipalities have in relation to sustainable food?

- How do the goals of municipalities relate/compare to the recommendations by WWF?

To explore these questions, this thesis applies and tests a framework based on the WWF Sweden recommendations on sustainable food targets for municipalities (WWF, 2024b). The target areas are divided into six different categories and have one or several subgoals within them, and indicators that can be used as a way to follow the progress. This framework represents a practical approach for municipalities to have goals concerning sustainable food, and WWF Sweden has created recommendations on sustainable food targets to guide and encourage municipalities in setting ambitious targets (WWF, 2024b).

2. Background

2.1 Food strategy in Sweden

In 2015, the Swedish government announced the intention to create a food strategy. The reason behind the food strategy is to have a long-term perspective and provide better opportunities for growth in every part of the food system. Consequently, this will provide better conditions for Swedish food production in general but also promote a larger consumption of organic and Swedish food (Ministry of Climate and Enterprise, 2017, p.6). The interest in the Swedish food sector is many, as keeping the sector competitive, it has the potential to create job opportunities, sustainable growth, and contribute to the liveliness of rural areas. Producing food in Sweden is important for the social goods they contribute, besides the preparedness that creates reliance in case of crises. Food production is a sector that faces challenges ahead because of climate change. The food strategy is connected to the Sustainable Development Goals (SDGS) called Agenda 2030 (Ministry of Climate and Enterprise, 2017, p.10-11). There are 17 goals in total, and they cover areas such as hunger, poverty, clean water, education, and more (UN, n.d.). From a global perspective, the consumption patterns that exist need to change to be able to secure the food supply. The production of food needs to increase and be sustainable at the same time. Sweden is a country with good opportunities for this. That is the argument that the Swedish government presented on why food production needs to increase in Sweden. To be able to increase production and growth in a sustainable way, the resources put into a unit need to decrease (Ministry of Climate and Enterprise, 2017, p.11).

Another motivation for creating a food strategy is public health. Social, economic, and lifestyle habits are important factors for one's health, and creating goals that have a long-term perspective can have a positive impact on public health. The health goals can also be a tool to decrease the health differences in society. Combating poor health is by creating good eating habits. Food habits for Swedish adults are improving, but they are not good enough from a public health perspective. The problem is that the consumption of sugar, fat, and salt is too high, while the consumption of whole grains, vegetables, and fruit is too low. As previously

mentioned, socioeconomic factors impact health and lifestyle habits, and a part of the food strategy is to especially improve the habits of the groups that are most affected by poor health (Ministry of Climate and Enterprise, 2017, p.14).

The food strategy has an action plan connected to it to keep a steady pace forward (Ministry of Climate and Enterprise, n.d.). The first action plan was released together with the food strategy and was set to be used in the years 2017-2019 (SBA, 2024). Then it was going to be replaced with the second one for the years 2020-2025, and the third action plan is a bit different, where some of the assignments are from 2021-2023 and some from 2021-2025 (SBA, 2024). In the second action plan that is currently in action, there is a goal for organic production and consumption. By the year 2030, 30 percent of the agricultural land is going to be certified organic, and by the same year, 60 percent of the public food consumption should be certified organic (Ministry of Climate and Enterprise, n.d.). The Swedish government started working towards a new food strategy in 2023 (Regeringen, n.d). The food strategy 2.0 was released in 2025 and consists of three areas of focus (Regeringen, 2025). Increased reliance, improving conditions for exporting food and prioritising Swedish quality and gastronomy are the three main priorities. The Swedish government have given different actors tasks to concretise what work needs to be done (Regeringen, 2025).

In 2018, an action plan for food waste reduction was presented (SFA, 2018). The action plan consisted of four important points that needed attention. A national goal combined with methods for following the progress, collaboration between the different actors in the food system, changes in consumer behaviour, and investigation, innovation, and research (SFA et al., 2018, p.2-3). These four points are intertwined, and all of them are equally important to reduce food waste. For example, collaboration between different actors can potentially create synergies and share knowledge. Collaboration can help prevent one party “solves” their problem by sending food waste to another party. Authorities, municipalities, regions, and private actors have good potential to contribute to food waste reduction, but the individual consumer needs to do their part. Aiming to change the behaviour of consumers, the motivation and knowledge of the problem are needed. An important part of creating a food waste action plan is to be able to reach the United Nations Agenda 2023 goal 12.3, which is about food waste (SFA., 2018, p.2). Archiving the goals of the action plan for food waste, several actors have a chance to play their part in the creation, including actors in primary production, retailers, public meals, restaurants, research, and authorities are examples. Liljestand (2016) searched for solutions for reduced food waste and found that no matter the solution, at least two actors need to get involved, and this reinforces the action plan's focus on collaboration (SFA et al., 2018, p.2).

When the action plan for food waste was released, it contained a plan to do a follow-up in 2024 as a half-time check-in (SFA et al., 2018, p.3). In order to better understand where in the food system waste happens, it needs to be measured (SFA et al., 2018, p.5). To be able to reach the goal of reducing food waste by half by 2030, every actor in the food sector needs to accelerate their work. Authorities in Sweden are one of the actors that need to work harder in reducing food waste. They also have a position in society that allows them to keep questions like food waste in the conversation and therefore encourage other actors to do their part. Around 50% of the food waste comes from households, and after that comes the food industry with 24%; these two are the biggest contributors to food waste. Then there are restaurants and hotels (9%), agriculture and fishing (7%), retailers (6%), public meals (3%), and lastly wholesalers and e-commerce (1%) (SFA et al., 2018, p.13-15). There is a national interim goal that between 2020 and 2025, the waste reduction needs to be 20 weight-percent per person, and one way to track the progress is by calculating the total food waste per person. This, unfortunately, does not indicate that the goal for 2025 will be reached. Swedish Food Agency et al. (2018, p.18) have looked into different sectors of the food system to track food waste in the sector. The food waste from public meals has been increasing since 2020, which is a development in the wrong direction. When evaluating the food that was wasted, it was estimated that most of the food could have been eaten. Food waste contributes to the emission of 142 kg of carbon equivalents per person and year (SFA et al., 2018, p.18, 21).

Guidelines for food can vary a lot between countries, especially since national guidelines often consider circumstances like nutritional status, what type of food is available, and eating habits (Ritchie et al., 2018, p.49). Some countries are specific in terms of what quantity should be consumed in the different food groups, and some are not. One example is the UK guidelines, which use the phrase *"eat less red and processed meat"* (Ritchie et al., 2018, p.49), which is unspecific and not something that can be quantified. UK guidelines also use the expression *"at least five portions of fruit and vegetables per day"* (Ritchie et al., 2018, p.49), which is a more specific way to guide individuals into what type of choices around fruit and vegetables are recommended. A part of the diet comparison puts an income-dependent diet in comparison with national and WHO guidelines. The income-dependent diet and business-as-usual consumption provide an insight into how food demand would look rather than the intake, and emissions from this diet would be at 15.5-16 Gt CO2e yr-1 in 2050. The national guidelines that were evaluated were the United States, Australia, China, Canada, Germany, India (non-vegetarian), and India (vegetarian). The emissions were in the order they were mentioned, with the United States at the top with emissions of around 16,5 Gt CO2e yr-1 in 2050. Together with Australia, the United States is the two national guidelines that exceed

the income-dependent diet. Besides the income-dependent diet, other guidelines are not national, and one is from the WHO Healthy Diet. The last mentioned has emissions of around 12,5 Gt CO2e yr-1 in 2050. Only Indias recemommendations ware below WHO Healthy Diet guidelines, where recommendations have been calculated both from a non-vegetarian (just below 8 Gt CO2e yr−1) diet and a vegetarian (~7,5 Gt CO2e yr−1) diet in 2050 (Ritchies et al., 2018, p.51).

2.1.1 Public meals in Sweden

In Sweden, there is a long history of school meals. Between 1959 and 1969, a policy was introduced that said that school meals should be nutritious and free of charge. It specified a nutritional standard that said how much vitamin, calcium, iron, protein, and the maximum amount of fat they should provide, as well as provide a third of the daily caloric need. The intention when the policies as implemented was to improve the nutritional intake of children, rather than poverty relief (Lundborg et al., 2022, p.877). Another motivation for the policy was to decrease the burden on households and the work that women did in providing school meals for their children. With decreased demands for households, there was a belief that more women would join the labour market and contribute to better household finances. Evaluating the long-term effects of school lunches, Lundborg et al. (2022, p. 878) compared the students who were served lunch vs those who were not served lunch; the students who ate school lunch got several benefits. Students who were served lunch every single year in primary school had a 3% higher lifetime income. Most children who were served lunch received some benefit from it, but the group that got the most benefit was the poorest households. Body size was also evaluated, and no negative effects were found, therefore, it can be established that the number of calories that were served was balanced. Length was also compared, and the ones that had school lunches were taller, and these men were in better health when it was time to enlist in the military. Large and positive effects were found on the years of being in school and university attendance. Mortality, morbidity, health outcomes of children in the second generation, disability, and sick leave were also evaluated, but no effects were found there (Lundborg et al., 2022, p.878).

Three million public meals are served every day, in schools, preschools, elderly care homes, and to patients at the hospital (SFA, 2024). Public meals have many functions, they are a place where people meet each other, they fill educational needs, and equalise socio-economic differences. Public meals are also a social activity that can help people feel less lonely, contribute to a feeling of safety, and are important from a health perspective (SFA, 2024). Public meals are only a small part of the food consumption in Sweden, but they have the potential to set a standard for what is healthy food (SFA, 2022a, p.7). In 2018, it was mapped out how municipalities worked with food in preschools, schools, and elderly care. It was

done again in 2021, and now there was potential to look for what changes had been made during these three years. Around 80 percent of the municipalities have answered the survey that the Swedish Food Agency conducted (SFA, 2022a, p.7). The survey from 2021 showed some positive improvements, like municipalities having started prioritising food and meals higher than before. Eight out of ten of them have set goals around what food they buy, the most common goal is for organic food. It is uncommon to have goals around the climate impact of each meal (SFA, 2022a, p.8), but around a third have set their own goals in a broader area around the climate impact of food consumption. Regarding nutrition, somewhere around 60-70 percent of the municipalities have goals for the nutritional value of the meal. The Swedish Food Agency has a goal of serving vegetarian food to all students, which 63 percent of elementary schools offer (SFA, 2022a, p.8). Besides the goal of serving 60 percent organic food as previously mentioned, there is another national goal for food, which originates in the SDG of the United Nations and is about reducing food waste by half between the years 2020 to 2030. Some municipalities have goals around Fairtrade, locally produced, Swedish, and Eco-labelled (SFA, 2022a, p.26-27).

Sweden has a leading role when it comes to public meals (SFA, 2023a). The regions are responsible for the food that is being served at hospitals. That leaves the meals for preschool, school, and elderly care to the municipalities. The demand in terms of food safety is very high and is regulated by European and national food legislation (SFA, 2023a). The Swedish Food Agency (2023b) has something called "The Meal Model," which shows what aspects should be considered in a public meal. It consists of six parts, which are pleasant, tasty, safe, integrated, eco-smart, and nutritious (SFA, 2023b). According to the six parts of "The Meal Model," nutritious and safe meals are a cornerstone in order to make sure the food is nutritionally balanced and safe (SFA, 2023b). The environment needs to be pleasant, and the food needs to be tasty to make sure it gets eaten. An important part of public meals is using their potential and integrating them into a part of education. Lastly, the meals need to be eco-smart, which is an intention to contribute to environmentally sustainable development and Sweden's environmental goals. Since "The Meal Model" has constraints on several different aspects, there is a need for cooperation, knowledge, and commitment (SFA, 2023b).

The Swedish Food Agency (2020, p.7) wanted to explore and understand how much food was wasted in public meals. One part of Agenda 2030 is that one of the goals is to reduce food waste by 50 percent, and one important part is the waste that comes from public meals. In order to reach the goal of half the amount of food waste, there is a need to follow up on the matter. The Swedish Food Agency did the first

assessment in 2019 to better understand food waste in municipalities. A survey was conducted, and the municipalities could report on how much food was wasted in preschools, elementary schools, and geriatric care facilities (SFA, 2020, p.7). The first type of food waste is kitchen waste, and it happens when the food is being prepared, stored, and during the cooking process (SFA, 2020, p.6). Serving waste, which is food that did not end up on a plate, and then being thrown out since it cannot be taken care of. Lastly, there is plate waste, which is simply food that was put on the plate and not eaten, therefore, it has ended up in the trash (SFA, 2020, p.6). When compiling the different types of food waste, the median value is 60-70 g/person getting served food, which is in preschool and elementary school. Of the three different types of areas where public meals are served, the one that generates the most food waste is geriatric care facilities, and it is also uncommon to measure the food waste that occurs there. The lowest amount of food waste is in school, which is also the place where municipalities often measure and actively work to reduce food waste. This places preschools in the middle of the other public sectors. Previously, it was mentioned that there are three different places where food is wasted. Serving waste is the part where most food is thrown away, this sums up to 34 tons of food daily, and is 5,5 kg per student and year, or 6100 tons per year (SFA, 2020, p.7).

In Sweden, there is something called municipal autonomy, which means that both regions and municipalities have a lot of power in deciding for themselves (Swedish Association of Local Authorities and Regions, 2024). This is both an opportunity to create a local society that fits the area as well as a responsibility to make decisions about schools, elderly care, and more. It also means that municipalities need to work around their own prerequisites (Swedish Association of Local Authorities and Regions, 2024). The municipalities make decisions around preschool and school, and this sometimes includes the public meals served in schools (Swedish National Agency for Education, 2024). In some municipalities, the decisions around food are made by the board of the school, and sometimes it is more centralised in a board at the municipality. Meals in school is a great place where pedagogics can be used, talking things like what food does for the body, what different cultures eat, and how food waste and transporting food affect the climate, are just a few great things to talk about during meals (Swedish National Agency for Education, 2024).

2.1.2 Food components in Sweden

Dawkins et al. (2023, p. 7-8) write about three important food components that affect municipalities and their work around food. These are the Swedish Food strategy 2017-2030, which has an action plan connected to it, and then there is the role of the National Food Agency and its publications around public meals. Lastly, there is the National Waste Reduction Plan, which is about food waste. All of these

have been written about previously. In policy analysis done earlier, it was concluded that aims and goals are lacking regarding how to make changes in food consumption to lower the carbon impact of food. It was stipulated that clarity in these areas would provide a way to work on a suitable path forward. There were a few themes in the goals of municipalities that reoccurred, such as reducing food waste, reducing greenhouse gas emissions, sustainable farming, sustainable procurement, organic food, and diet-related sustainable food consumption. The themes are most often formulated in different departments, found in strategy documents, and policy documents. It was found that the municipalities work a bit differently from one another; some focus on climate change mitigation, and others more on the health outcomes of the food. The survey found that "[...] *over 90% of the 103 respondents stated that they have targets for the share of organic food they purchase and 62% have targets to reduce the amount of animal products in their meals" (*Dawkins et al. 2023, p. 8). There are also recurring goals about procurement and food waste *(*Dawkins et al. 2023, p. 9).

458 public catering units shared data on food waste in order for Eriksson et al. (2023, p.229) asses the food waste. This data was used in order the evaluate if an Environmental code that draws a strich line of an acceptable amount of food waste and any waste above that line is seen as illegal. The purpose is to create a strong inductive to work towards less waste. The public catering units had a large variation in the amount of food waste that they created. 11.4g/guest was the lowest average that one catering unit had; the one that had the most food waste had an average that was 161 g/guest, which is 14 times higher. This can be a sign that there is potential to reduce food waste related to public meals. Reusing leftovers, advising guests to start with small tasting portions, serving smaller amounts of each dish as well as refilling the serving containers often (Eriksson et al., 2023, p.233, 236).

In order to make it easier for Swedish preschools and schools to reduce their food waste, being able to predict the number of guests is highly beneficial (Eriksson et al., 2021, p.2). Eriksson et al. (2021, p.1) collected data on guest attendance from 18 different schools and 15 preschools from August 2010 to June 2020 from three different municipalities. Collected data of this kind can be useful for catering management in order to understand consumption patterns. It can be helpful when trying to calculate how many guests will be attending during different seasons, pandemics, seasonal sicknesses such as influenza, and more. The data can also be useful from a nutritional standpoint, where one can analyse how many guests eat the food that is served and how many seek places outside of the catering facility instead (Eriksson et al., 2021, p.2)

Creating a food waste framework for several different catering units takes consideration (Eriksson et al., 2018, p.150). The framework that was developed was also tested in order to assess whether the framework was useful, and it was. One important part of the framework is that it can help professional kitchens quantify their waste. Each catering kitchen can also develop its own quantification system to adapt the framework with information about their work and then find areas where they have significant improvements (Eriksson et al., 2018, p. 150)

In a sustainable food system, food waste needs to be at a minimum (Eriksson et al., 2017, p.415). In order to work on improvements related to food waste, it needs to be quantified, and that is what Eriksson et al. (2017) did with data from preschools, schools, and elderly care. Over a period of three months, data were collected from 30 kitchens that are either in a preschool, school, or elderly care facility, all of which are located in one municipality. When the food waste was summarised on average, it ended up being 75 g per portion served, which is 23% of the food served. 75 g was an average number, and the variation of waste food was from 13% to 34% of the served food. The total waste in all the kitchens that were part of the study was 287 kg/day. If the average food was calculated over a school year, it would be 2.4 tons. The food waste was not the same per portion in preschools, schools, and elderly care facilities. Preschools had the lowest number wth 51g/portion, then schools with 79 g/portion, and lastly, elderly care had the highest number with 90g/portion. When comparing the different kitchens that were studied, the one with the lowest waste had 33 g/portion, and the one with the most waste had 132 g/portion. Satellite kitchens, which prepare food that is then transported to where it is served, had 48% higher waste than production kitchens, which are right beside where the food is served. The reason that satellite kitchens have more waste is that they are less flexible in terms of chilling space, which is in short supply; besides that, they are not made to work with smaller batches of food (Eriksson et al., 2017, p.415, 419, 421)

The literature around sustainable food and municipalities in Sweden has, the recent years, had a focus on food waste. There might be several reasons for this; one likely contributor is the Waste Reduction Plan *(*Dawkins et al. 2023). Food waste is researched from the view of creating better tools to prevent waste by tracking guests and being able to predict how many meals are needed at a certain time (Eriksson et al., 2021). Another research angle is understanding where in the public kitchens the waste is being created. It was found that production kitchens have better opportunities to take care of food than satellite kitchens, partly due to the chilling space available (Eriksson et al., 2017). The fact that Eriksson et al. (2017) found that on average 23% of the food was wasted can give an indication that work in this area is highly needed. Further summary of the scope review can be found in Appendix 1.

3. Methodology

3.1 Literature review

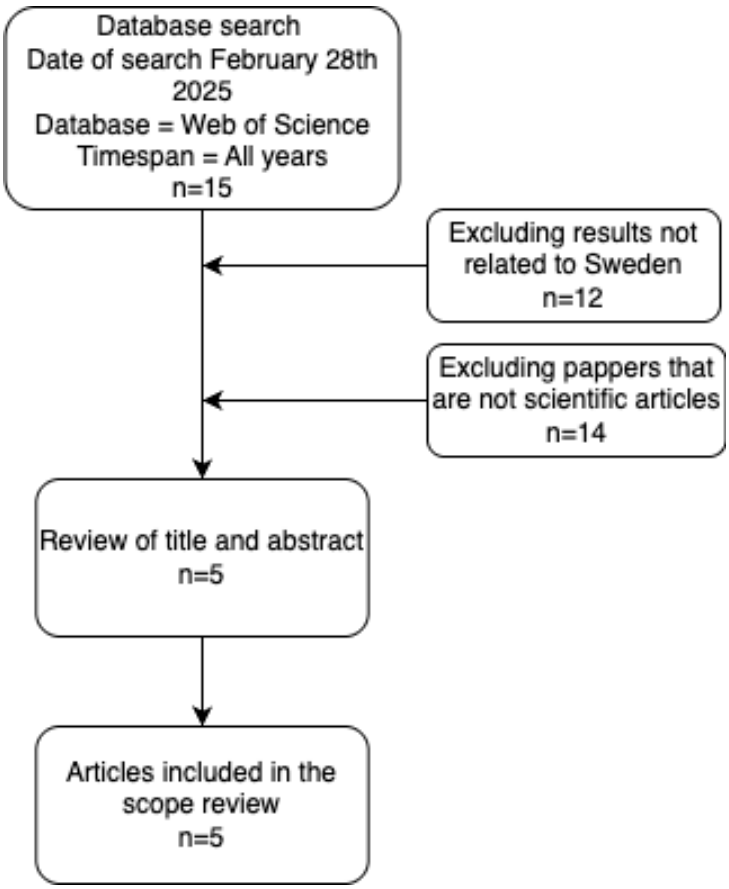

Diagram 1. *Flow diagram of search methodology.*

Inclusion criteria: Contains information that is strongly related to sustainable food systems and can be connected to public meals.

Exclusion criteria: Does not contain information about sustainable food systems, and can not be connected to public meals.

Table 1. *Presents the search strategy for the scope review.*

Search	Search terms	Results
1	Swed*	1 437 745
2	municipalit*	197 953
3	"sustainabl* food*"	16 253
4	1 AND 2 AND 3	15

A scoping review can be used in several situations (Swedish University of Agricultural Sciences, 2024). It can be used as preparatory work before conducting a systematic review. A scoping review can be helpful when trying to filter through a large amount of litterature and find a more specific theme in the literature (SLU, 2024; Pollock et al., 2024, p.2). There are quite a few reasons for using a scoping review; they can help provide data on research gaps and are an efficient way to find available evidence in the research fields (Pollock et al. 2024, p.2). With limited time, a scoping review can contribute to an overview of the field in a relatively short amount of time. Overinterpreting the result of a review is one of the challenges, which means conclusions need to be drawn carefully (Pollock et al. 2024, p.2, 6). In this thesis, the scoping review is used as an extension of the introduction and background and a tool to understand what the literature around sustainable food in municipalities in Sweden is focusing on.

3.2 Online survey

The method in this thesis is an online survey. Since this project aims to find and compare the work that municipalities are doing and planning to do, a survey was the most appropriate method. Choosing to conduct a survey is the most reasonable when trying to collect a large number of answers, instead of an interview that provides the possibility to ask follow-up questions but is also time-consuming (Bell & Waters, 2016, p. 189-190). This project has prioritised a method that has the potential to collect more answers with a survey due to time restrictions and the aim of mapping out how Swedish municipalities work with sustainable food.

The survey is structured to compare it to the recommendations to municipalities that WWF has created (WWF, 2024b). Therefore, the first part of the survey is a question directly linked to the recommendations. The questions are formulated to understand what actions Swedish municipalities already take on sustainable diets. Besides that, there are two other questions: which municipality one works for, and what their title is. These are added to see which municipalities answer to understand where the responsibility of sustainable food is placed in the municipalities. The

second part of the survey is questions about the goals that they have, both questions whether the goals are connected to the recommendations from WWF, where one question about food waste is connected with both the recommendations from WWF and the national goal of reducing food waste. Then there is one question about how much of the food is organic, which is a goal of the Swedish food strategy from 2017, as well as the WWF recommendations (SFA, 2020).

There is usually one person in municipalities who is responsible for the meals; there are several different titles, but usually, they are called *måltidschef*, which kind of translates to manager of public meals (SFA, 2022b). These managers of public meals, in most cases, have a responsibility for meals in preschool, school, and elderly care (SFA, 2022b). Sometimes the ones responsible for public meals are called *enhetschef* or *verksamhetschef*, which translates to unit manager. In total, 96% of the municipalities have managers of public meals or someone in a similar position (SFA, 2022a, p.14-15).

The survey was sent out with the help of WWF using their email tool. Since WWF works closely with municipalities, they have a large network of email addresses for most municipalities to stay in contact. Municipalities that do not have a specific person are going to be contacted anyway, since every municipality has an information email address. Every single municipality that got an email to their information address as well. In total, 1131 emails were sent out with a request to do the survey. In the email list used for the send-out, WWF has contacts relevant to food and sustainability in the municipalities. The first category includes people working with public meals directly, like managers, coordinators and sometimes chefs (titles vary, in Swedish they range from *måltidschef*, *kostchef*, *dietist* and *kock*). The second category is working with sustainability and environmental issues, like environmental managers, coordinators (titles in Swedish range from *miljösamordnare*, *miljöchef* and *klimatstateg*). The email sent out that was made to the municipality's information address will hopefully lead to more answers, as some of these emails might be forwarded to the correct person in that specific municipality. The respondents were informed that if they proceeded to answer the survey, they accepted that the information was being collected and processed.

The email with the survey was sent out 10th of March at 1.20 PM. A few municipalities got in contact right away. One wanted the survey in a PDF format since they knew a lot of different departments needed to contribute in order to be able to give proper answers in the survey. The survey was also published in a Facebook group called Kost & Näring, which translates to The Swedish Association of Dietitans, and they are a professional association for people who primarily work with public meals (Kost och Näring, n.d.). This group is for conversations around

the subject. The group administrator provided consent for publishing this survey in the group, and the post was published on Tuesday, 18th of March at 8:54 PM. The survey was deactivated 25th of March at 9:00 AM. In the email and the Facebook post linking to the survey and an email address was included where the respondents could get in contact if they had issues, questions, or something else. On the last page of the survey, respondents could leave their email for a follow-up question if they wanted. It was clearly displayed that this contact information would not be shared with external parties.

A survey is a good method for collecting facts rather than understanding why (Bell & Waters, 2016, p.27). It can be an efficient way to find answers, but for that to happen, the survey needs to be well-planned and structured. Testing the survey on other people is an insightful way of getting an understanding of whether the questions are easy to understand or if some parts need to be moved somewhere else (Bell & Waters, 2016, p.171). When this online survey was being made, it was reviewed by others to help with making the structure good and making sure the questions were understandable. There is also a need to make sure that the terms that are being used are suitable for the ones that are responding, technical terms should be avoided or carefully used to not create confusion. (Bell & Waters, 2016, p.171) Surveys are also very beneficial since they can be done at a time that suits the respondent well and in a pace that is suitable for them (Bryman et al. 2025, p.272). The downside is that respondents can not ask any questions about the survey when answering (Bryman et al. 2025, p.272). This issue has been reduced a bit since the respondents in this case can send an email and ask questions. A risk with online surveys is that they can be answered by someone other than the one they were intended for (Bryman et al. 2025, p.272).

According to Bell & Waters (2016, p.179), instructions should be written in a text style that has been used in the survey. There should be a nice amount of space between the questions to make it easier for the respondents to answer (Bell & Waters, 2016, p.179; Bryman et al., 2025, p.277). It is essential not to ask any unnecessary questions since it is unethical to ask for more time than is absolutely needed (Säfsten & Gustavsson, 2023). It is important to be precise in the instruction, the respondent should easily find if they can fill out several answers in one (Bryman et al. 2025, p.280). Otherwise, respondents might be insecure about how to answer and therefore not provide the information that was asked for correctly. In online surveys, open questions tend to be answered more often while also providing more precise answers (Bryman et al. 2025, p.280, 287). All of these things mentioned above were taken into consideration when the survey was being made.

3.2.1 Data handling

The first part of the survey asked two simple questions: Which municipality do you work in, and what is your title? The respondents have been promised that nothing that can easily be traced to a respondent will be published. Bell and Waters (2016, p.64) state that confidentiality is when you, as a respondent, can not be identified, while anonymity is when researchers can not trace the answers to a single individual. This online survey promised confidentiality.
Firstly, every data point was downloaded and sorted into three categories. Since the first two questions were mandatory, everyone who entered the survey answered them. So the first category is the ones that just answered the mandatory questions, and then nothing else. The second category is the ones that have answered the mandatory questions and something more. Lastly, the third category is the ones that have completed the survey and added data at least somewhere in the survey.

There are quite a few municipalities that have started the survey more than once. A pattern can be found of the municipality entering the survey and seemingly looking through it. Then, coming back some time later to enter data. In these cases, the complete answer is the one that have been used. One municipality had two different answers, where some of the numbers were different from one another. In that case, both respondents had left their email, and they were contacted and answered the questions with clarified which numbers were correct for that municipality.
Some answers have been removed due to the low quality of the data. For example, there were a few that answered the two mandatory questions, then one or two in the entirety of the survey.

After all of the low-quality data and duplicates were removed, there were answers from 85 different municipalities left. Not every one of these municipalities has responses to each question; every figure will contain information on how many responses each question had. This means that the answers that were zero or empty will not be in the figure, only the answers with data.

3.2.2 Limitations

In the survey, the respondents have been encouraged to answer 0 if they do not have data for a question. This means that some respondents might have answered 0 since that is the correct response for a question. Unfortunately, this means that the responses are sorted, there is no way to know which answers of 0 mean “we do not track or can not access data” and which responses mean we buy 0 procent of this, for example.
Since this research was done on Swedish municipalities, the survey was conducted in Swedish. The original form of the survey can be found in Appendix 2. Every question and answer is translated solely by the author.

4. Framework

In November 2024, WWF Sweden published recommendations on sustainable food targets for municipalities (WWF, 2024b). The targets are divided into six categories and have one or several subgoals within them, and indicators that can be used as a way to follow your progress. Public meals, food served at the municipality's events and food available in schools' cafeterias/sports centres have the potential to inspire and lead to a more sustainable way of eating in other places as well. It has become more common for municipalities to have goals concerning sustainable food, and WWF Sweden has created recommendations on sustainable food targets to guide municipalities in setting ambitious targets. The targets can be used by *måltidschefer*, *miljösamordnare,* and other stakeholders who work with sustainability and food in municipalities. The framework is one way to encourage and guide work around sustainable food (WWF, 2024b). There is a summary of these sustainable food targets that presents the areas of focus in Swedish, which are the foundation of this conceptual framework and are presented below (WWF, 2024c).

This research combines the framework from WWF with a focus on activities and goals by municipalities (Table 2).

Table 2: *Displays the targets from WWF's recommendations. Each target is going to be researched under activities and goals.*

Targets	Activites	Goals
Biodiversity	Focus on how and who	Focus on what and why
Climate impact		
Food Waste		
Sustainability requirements regarding the food served at the municipality's own events		
Sustainability requirements for actors operating in buildings or on land owned by the municipality		
Integrating food as an educational resource in schools		

Recommendations on Sustainable Food Targets for Municipalities

1. **Biodiversity:** ORGANIC

Indicator	Measure	Year 2026	Year 2030	Year 2040
Share organic (KRAV and EU-organic)	% of purchased food in kg	>45	60	60

Biodiversity: MEAT

Indicator	Measure	Year 2026	Year 2030	Year 2040
Share green light in WWF Sweden's Meat Guide	% of purchased meat in kg that is: •KRAV •Svenskt Sigill Naturbeteskött •Swedish game not having been given additional feed •EU-organic pork and lamb from Sweden •Swedish laying hens (i.e., from egg production)	50	70	100
Grazing-based meat from Sweden (Svenskt Sigill Naturbeteskött, KRAV or equivalent requirements regarding grazing)	% of all meat purchased in kg (i.e., also including poultry and pork in the total figure)	25	50	75
Share red light in WWF Sweden's Meat Guide	% of purchased non-certified meat originating outside Sweden	0	0	0

Biodiversity: SEAFOOD

Indicator	Measure	Year 2026	Year 2030	Year 2040
Share green light* in WWF Sweden's Fish Guide	% of purchased seafood in kg	30	100	100
Share yellow light in WWF Sweden's Fish Guide that is also certified according to KRAV, ASC or MSC	% of purchased seafood in kg	70	0	0
Share red light in WWF Sweden's Fish Guide	% of purchased seafood in kg	0	0	0
* Note that MSC, ASC and KRAV are as of May 2022 no longer automatically given a green light in WWF Sweden's Fish Guide				

Biodiversity: CHEESE

Indicator	Measure	Year 2026	Year 2030	Year 2040
Share green or yellow light in WWF Sweden's Meat Guide	% of purchased cheese in kg that is Swedish, KRAV or EU-organic	100	100	100

2: Climate Impact

Indicator	Measure	Year 2026	Year 2030	Year 2040
Impact on the climate from purchased food	kg CO2e/kg purchased food	1.6	1.25	1.25
OR				
Impact on the planet from meals	kg CO2e/average meal	0.8	0.5	0.5

3: Reducing Food Waste

Indicator	Measure	Year 2026	Year 2030	Year 2040
Share food waste preschool	Plate waste gram/portion	20	12	10
	Serving waste gram/portion	30	17	5
	Kitchen waste gram/portion	8	5	5
Share food waste primary school	Plate waste gram/portion	18	10	5
	Serving waste gram/portion	18	12	5
	Kitchen waste gram/portion	8	5	5
Share food waste secondary school	Plate waste gram/portion	25	15	5
	Serving waste gram/portion	17	12	5
	Kitchen waste gram/portion	8	5	5
Share food waste nursing homes	Plate waste gram/portion	25	15	10
	Serving waste gram/portion	55	38	15
	Kitchen waste gram/portion	8	5	5

4: Sustainability requirements regarding the food served at the municipality's own events

Indicator	Measure	Year 2026	Year 2030	Year 2040
Share of meals/food with sustainability requirements served at the municipality's own meetings, conferences, activities, and events.	% served meals/food living up to climate and biodiversity requirements For example, this may be achieved by procuring actors complying with One Planet Plate's requirements or by using the specific requirements presented under target areas 1 and 2 (Biodiversity and Climate).	25%	100%	100%

5: Sustainability requirements for actors operating in buildings or on land owned by the municipality

Indicator	Measure	Year 2026	Year 2030	Year 2040
Share of contracts that include sustainability requirements with actors operating food services/sales in buildings or on land owned by the municipality (e.g., sports centres).	% contracts with climate and biodiversity requirements For example, this may be achieved by procuring actors complying with One Planet Plate's requirements or by using the specific requirements presented under target areas 1 and 2 (Biodiversity and Climate).	Pilot testing in some locations	50%	100%

6: Integrating food as an educational resource in schools

Indicator	Measure	Year 2026	Year 2030	Year 2040
School restaurants and school activities engaged in an active collaboration regarding sustainable food	% of schools have an action plan for an increased integration of food in their activities.	Some pilot schools are testing this	Evaluate and disseminate this approach to 25% of schools	Norm

5. Results

5.1 Activities on sustainable food

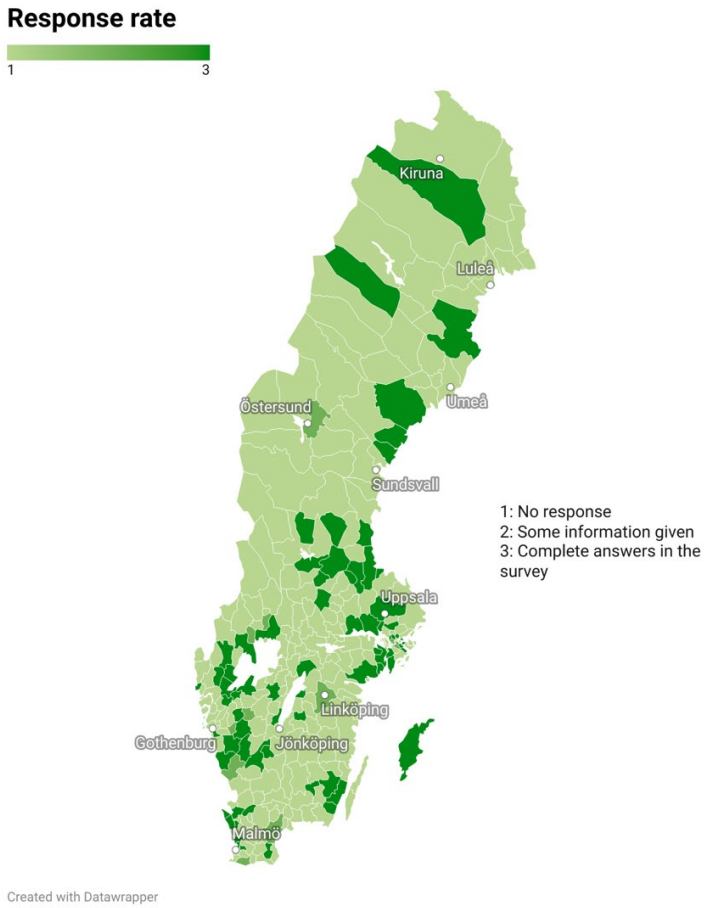

Figure 1: *Created with Datawrapper. Visualise the response rate in the survey. The lightest coloured ones provided no data or no data that could be used, the second lightest colour data are municipalities that provided some data that was used. The darkest municipalities filled out the survey completely and provided considerable data.*

The first question was mandatory in the online survey was where the respondents needed to say which municipality they worked for, and this is displayed in Figure

1. 85 municipalities are highlighted which means they have completed the survey and provided data or provided some data. The survey received more answers than the ones that were used, but they were sorted out because of low quality. Then the second was also mandatory, where the respondents needed to answer what their title was. They had three options: firstly, a food/meal related title (*kostchef, måltidschef* and more), a sustainability related title *(miljösamordnare, hållbarhetssamordnare* and more) or other. The respondents who answered other had a few different titles. Their answer was in Swedish, so the Swedish title is written after in brackets. Operations developer within diet (verksamhetsutvecklare, kost), another was just a operations developer (verksamhetsutvecklare), coordinator within diet and a chef (Samordnare inom måltid och kock), developer of meals (måltidsutvecklare), restaurant area manager (resturangområdeschef), Head chef (köksmästare), service manager (servicechef), two respondets were adminstators (administratör), Food waste controller & environmental respective within the educational office (Matavtalscontroller och miljöombud för utbildningskontoret), Sustainabilty chef (hållbarhetskock), operations manager with education, (verksamhetschef bildning), operations developer meal (verksamhetsutvecklare måltid) and adminsitrator & first chef (administratör & förste kock). The complete questionnaire can be found in Appendix 2. Several of the titles that wre entered manualy could have been placed in the food/meal related title.

If the respondents did not measure something that was asked about, they were encouraged to answer zero or leave the question unanswered.

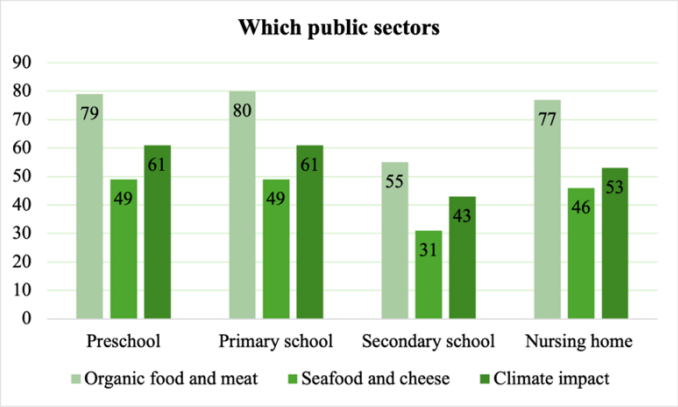

Figure 2: *Displays which sectors municipalities measure in relation to organic food and meat (80 responses), seafood and cheese (49 responses), as well as climate impact (61 responses).*

The three questions that have their results in Figure 3 are: “If you measure your purchases of organic food and meat, which public sectors are included?”, “If you measure your purchases of seafood and cheese, which public sectors are included?” And “If you measure the climate impact of public meals, which public sector is included?”.

Biodiversity: ORGANIC

The decision to inquire about measuring organic purchases in both KG and SEK was made with the knowledge that many municipalities measure in SEK, while WWF's recommendations measures in KG. By asking both questions, more data can be gathered. WWF's recommendations uses KG in the measure because it presents a fairer picture of the amount of organic purchases. The problem with measuring in SEK is that by focusing on purchasing a few expensive organic items, they can present a high percentage of organic relative to the money spent, even though a small amount of the purchased food is organic. The answers to these two questions can be found in Figures 3 and 4. The most common answers that are given in the question, where to measure, as done in kg, are in two increments, and those are 21-30% and 31-40%. These two have 34 out of 58 responses. In Figure 4, the answers that had been measured in SEK one increment were far more common, and that is 21-30%, with 27 out of 58 responses.

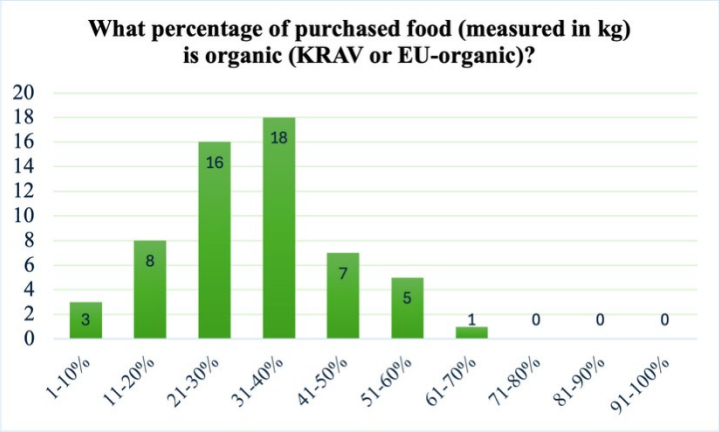

Figure 3: *Visualise how many percent of purchased food (measured in kg) is organic, presented in increments of 10%. Contains 58 responses.*

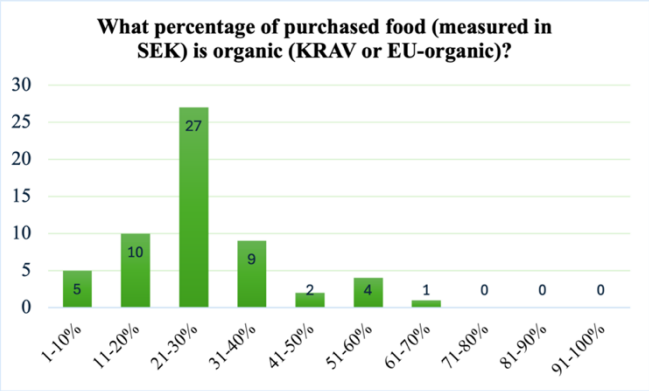

Figure 4: *Displays what percentage of purchased food is organic (measured in SEK) in increments of 10%. Contains 58 responses.*

Biodiversity: MEAT

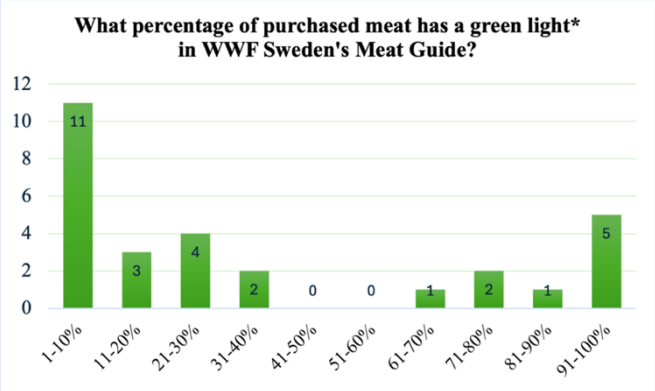

Figure 5*: Displays the percentage of meat with a green light in WWF Sweden's Meat Guide in 10% increments. Contains 29 responses.*

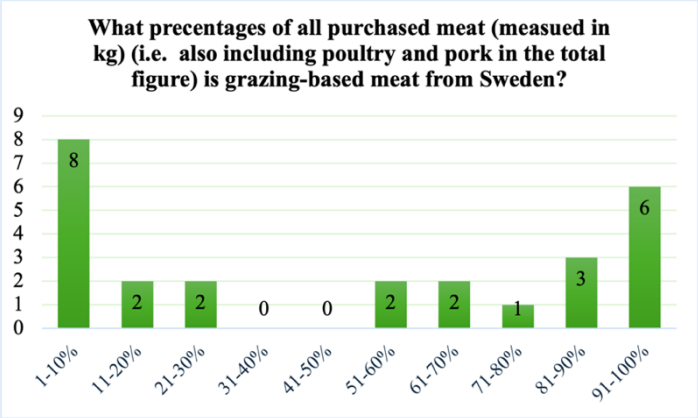

Figure 6: *Displays percentages in 10% increments of purchased meat (measured in kg) is grazing-based from Sweden. Contains 26 responses.*

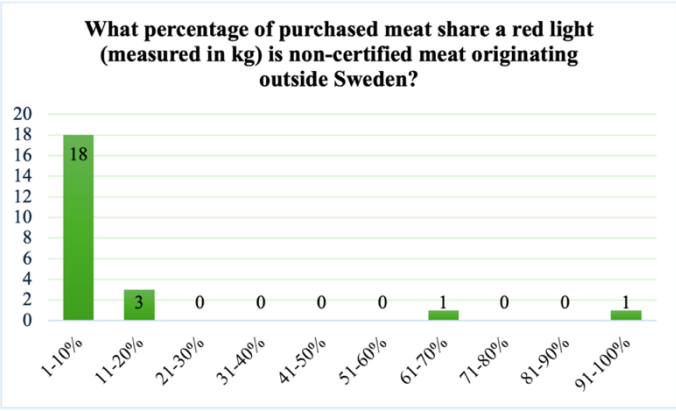

Figure 7: *Visualise the percentage of purchased meat that is not certified and originates outside of Sweden (measured in kg), dilated in increments of 10%. Contains 23 responses.*

Figures 5, 6, and 7 display the answers to questions revealing meat. Figure 5 is related to meat with a green light, and the answers are dispersed throughout the scale. Most respondents reported that they purchased between 1-10% meat with a green light, and then the second largest group of eight respondents were in the 91-100% increment. The answers are dispersed in the same way in Figure 6, where the question was what percentage of the meat purchased is grazing-based. Eight respondents out of 26 were in the 1-10% increment, and the second largest group were in the 91-100% increment. Figure 7 displays the answers to the question of what percentage of purchased meat has red light, i.e. non-certified meat originating outside of Sweden. 18 out of 23 responses are in the 1-10% increment, and the second most common, with 3 answers, are in the 11-20% increment.

Biodiversity: SEAFOOD

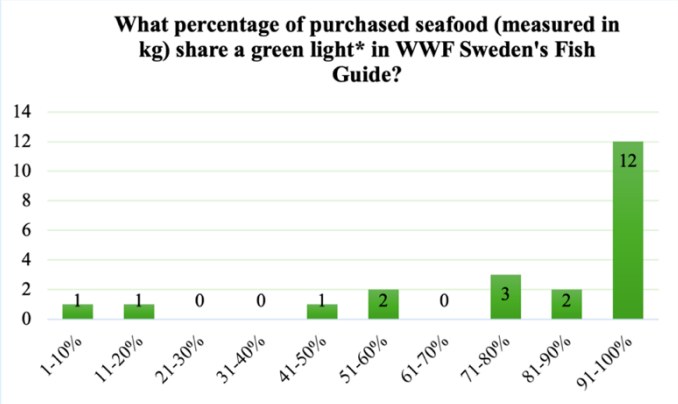

Figure 8: *Displays the percentage of purchased seafood (measured in kg) with a green light in Sweden's WWF Fish Guide with increments of 10%. Contains 22 responses.*

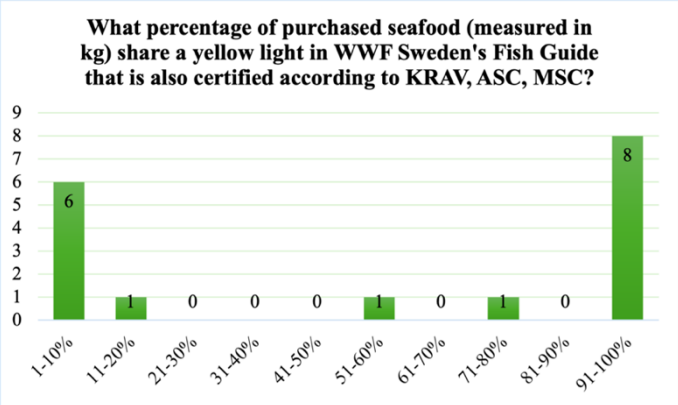

Figure 9: *Displays the percentage of purchased seafood (measured in kg) with a yellow light presented with 10% increments. Contains 17 responces.*

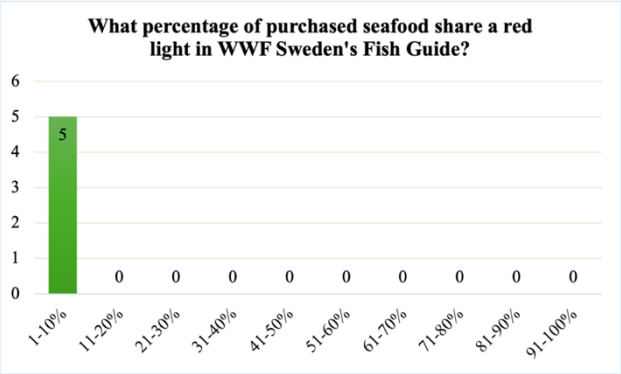

Figure 10: *Displays the percentages of purchased seafood that have a red light the WWF Sweden's Fish Guide, presented in 10% increments. Contains 5 responses.*

Figures 8, 9, and 10 are all about seafood. Figure 8 is about the percentages of seafood with a green light, where 12 out of 22 respondents answered that they bought between 91% and 100% of seafood with a green light. In Figure 9, the question was around seafood with a yellow light, and almost all responses are in two increments. Eight out of 17 answers are in the 91-100% increment, and the other large group of answers were in the 1-10% increment, with 6 responses. Lastly, Figure 10 displays how many percentage of purchases that have a red light. There were only five respondents who provided a number, and every answer was in the 1-10% increment.

Biodiversity: CHEESE

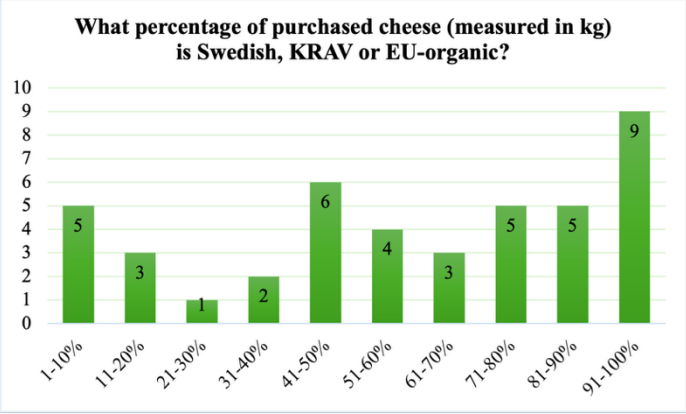

Figure 11: *Displays the percentage of cheese that is Swedish or organic (measured in kg), presented in 10% increments. Contains 43 responses.*

Figure 11 displays what percentage of cheese that is purchased that is certified organic or Swedish. 43 responses were received, and they are spread out throughout the entire scale. 26 out of 43 were from 51% to 100%, which is a majority of the answerers in this question.

CLIMATE IMPACT

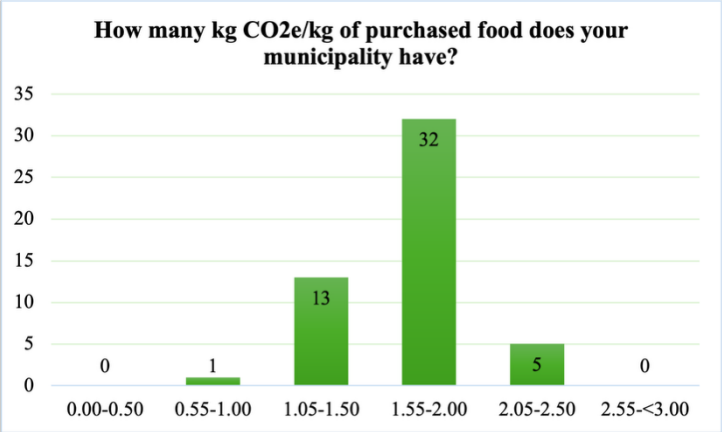

Figure 12: *Displays the kg CO2e/kg of purchased food in 0.50 CO2e/kg increments. Contains 51 responses.*

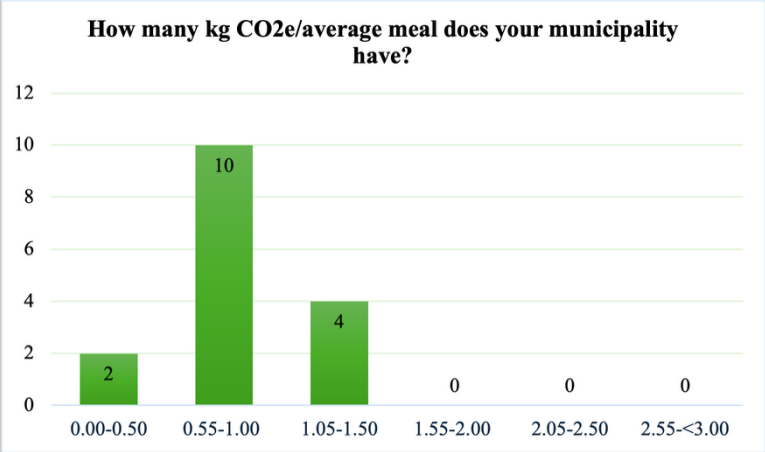

Figure 13: *Visualise kg CO2e/average portion in increments of 0.50 CO2e/kg. Contains 16 responses.*

Figures 12 and 13 display two questions around climate impact, the first one about kg CO2e/kg purchased food and the other one about kg CO2e/average meal. 51 answers were provided in the first question (Figure 12), and the most common answer was that the food they purchase has a climate impact between 1.55-2.00 kg CO2e/purchased food. For the question about the climate impact of an average meal, ten out of 16 responses reported that their average meal has an impact of 0.55-1.00 kg CO2e/meal.

FOOD WASTE

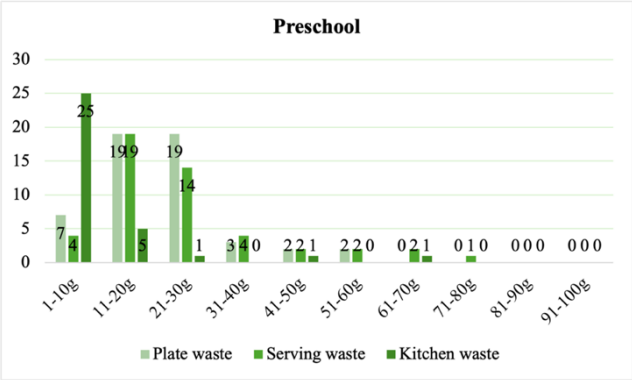

Figure 14: *Presents the food waste in preschools, divided into plate (52 responses), serving (48 responses), and kitchen waste (33 responses). Summerised in increments of 10g. Contains 52 responses.*

Kalmar says they have three units that measure food waste every day. The data they provided is from the 4 measurements they did in 2024 for every single preschool. Gnosjö is going to start in March 2025, and Sorsele is also going to start measuring in the fall of 2025. Höganäs has the number in weight-procent and that is 12,3%. Uppsala measures food waste for preschools twice a year. While Södertälje only measures kitchen waste. The municipality of Trosa does not measure food waste for preschools. In Tomelilla, the school kitchen also provides food for preschools. Vårgårda calulate food waste per potion and it is 36 g. Botkyrka tracks serving- and plate waste, which is 40g/portion. Gislaved is implementing a new system, which means that they do not track food waste at the time.

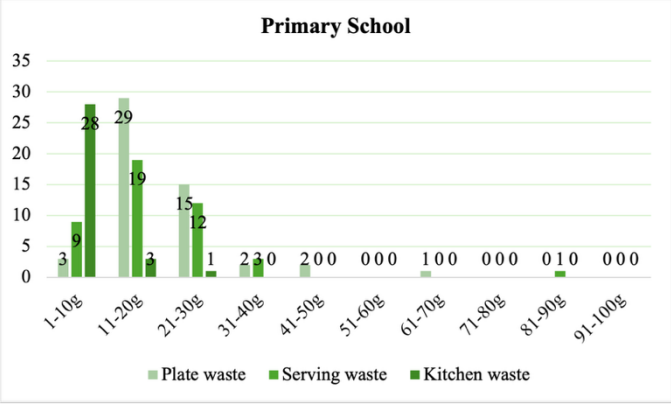

Figure 15: *Presents the food waste in primary school, divided into plate (52 responses), serving (44 responses), and kitchen waste (32 responses). Summerised in increments of 10g.*

Botkyrka tracks serving- and plate weight, which is 25 g/portion for primary school. Härnösand measures twice a year but does not provide the number from the measurements. Kalmar measures daily on six units, and for every school, they do

measures for a year, and that is the data they provide. Sollentuna has an average for preschool, primary school, and secondary school, which is 23g of plate waste, 12 g of serving waste, and kitchen waste is 5g. Svenljuga saves data for total waste, but does not provide any numbers. Södertälje measures plate waste in primary school, and that is 24 g. Nykvarn has 12 g of plate waste, 3 g of serving waste, and 1 g of kitchen waste in one primary school, this particular school has a good number in the municipality. Tomelilla has 18g of plate waste, 15 g of serving waste, and 8 g of kitchen waste, but the kitchen waste might not be entirely accurate since their school kitchen also provides food for nursing homes. Tingsryd compiled the numbers for every type of public service and has 18 g of plate waste, 30 g of serving waste, and provides no data for kitchen waste. Varberg measures % waste of produce volume but does not provide a number.

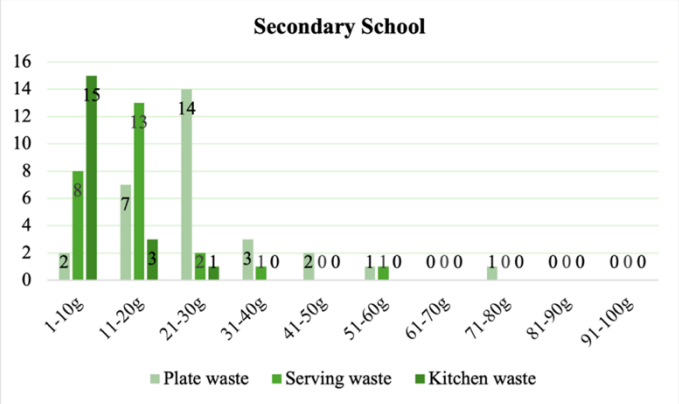

Figure 16: *Presents the food waste in secondary school, divided into plate (30 responses), serving (25 responses), and kitchen waste (19 responses). Summerised in increments of 10g.*

Borlänge, Kramfors, Leksand, Mellerud, Mölndal, and Nybro municipalities compile the number from primary and secondary schools. Boktyrka has 23g/portion, so plate and serving waste together. Habo, Sorsele, Trosa, and Vaxholm do not have any secondary schools.

In figures 14, 15, 16 and 17, the food waste is presented in the following order: preschool, primary school, secondary school and nursing homes. It can be seen that the amount of waste is quite similarly distributed in preschools, primary schools and secondary schools, where the number of answers that say they have either plate, serving, or kitchen waste is ≥ 41g is very few. While for nursing homes, the responses are more spread out over the entire scale.

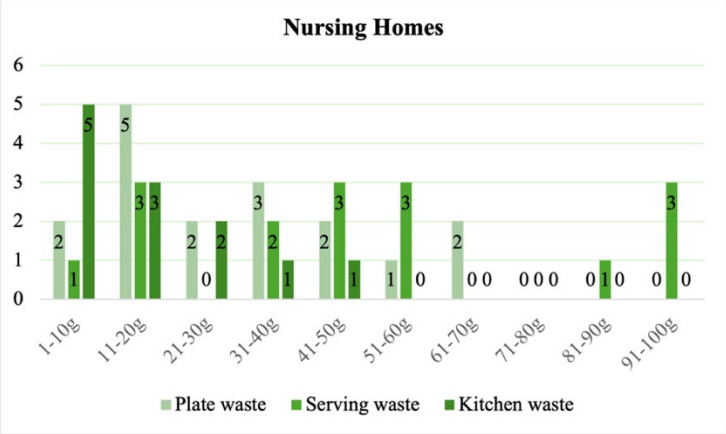

Figure 17: *Presents the food waste in nursing homes, divided into plate (17 responses), serving (16 responses), and kitchen waste (12 responses). Summerised in increments of 10g.*

Kävlinge municipality says that since the type of work that is done in nursing homes is quite a bit different from the work in schools, it is hard to measure numbers in the same way. Orsa is working on changing their routine to have more reliable numbers moving forward, they have 27g/portion of plate waste and 92 g/portion of serving waste. Trosa says something similar, that they are a bit unsure of the numbers that they have right now. Svenljunga compiled all types a waste for nursing homes into one number. Vårgårda has a goal for food waste, but it is about waste/meals for one whole day. Vaxholm only has nursing homes owned by the private sector. Borlänge, Härnösand, Södertälje, Västerås and Ängelholm does not measure the food waste in nursing homes.

SPECIFYING REQUIREMENTS REGARDING THE FOOD SERVED AT THE MUNICIPALITY'S OWN EVENTS

Do you specify requirements regarding the food served at the municipality's own meetings, conferences, activities, and events?

Table 3: *Displays the requirements municipalities have for their meetings, conferences, activities, and events. Encompasses the response that provided information about the demand for their set, responses from 13 municipalities.*

Municipality	Requirements: Own meetings, conferences, activities, and events
Askersund	We have a dietary policy that decides what we cook. Conferences and activities are often internally managed
Falun	Catering for coffee breaks: Some products should be organic, animal products should be sourced from Sweden, vegetables should be in season, and coffee and tea should be Fairtrade. Mugs, cutlery, and plates should be "environmentally friendly". Catering for lunch meetings: organic and sourced from Sweden should be encouraged, the meal should always be according to the plate model (i.e., a large proportion of plant foods).
Gnosjö	Demand through the public procurement process
Gotland	Food- and meal policy for the Region of Gotland
Grästorp	Follow the municipality's Meal policy that contains sustainability goals

Gävle	Serve only tap water, no bottled water. Organic coffee and milk. Sometimes locally- and Swedish-sourced. In certain cases, no single-use material.
Hofors	Local
Karlstad	On manager's day, only vegetarian food. For coffee breaks and catering deals, we require Swedish meat. Coffee, tea, bananas, and cacao are to be organic and Fairtrade. Palm oil free, MSC/ASC fish and shellfish. Environmental demands on packaging and transport.
Kramfors	In our meeting with the dietary department, we have the same demand as we have for public procurement. Other departments I do not know about.
Nykvarn	The dietary department has sustainability demands that they work with
Tingsryd	Not really today, but our next public procurement will have demands for coffee breaks and more.
Täby	Organic coffee and bananas. MSC/ASC fish, Swedish welfare demands for animal products. Shorter and more fossil-free transport. Reduced usage of single-use materials
Uppsala	The goal is to make 75% organic purchases for all public sectors. No cold cuts on sandwiches at e.g., meetings.

SUSTAINABILITY REQUIREMENTS FOR ACTORS OPERATING IN BUILDINGS OWNED BY THE MUNICIPALITY

Do you specify requirements that include sustainability in contracts with actors operating food services/sales in buildings or on land owned by the municipalities (e.g., sports centres)?

Table 4. *Displays the requirements that municipalities set for actors that operate in buildings or on land that they own. Contains 4 responses.*

Municipality	Requirements: actors operating food services/sales in buildings or on land owned by the municipality
Gotland	The contracted service provider needs to declare that they follow the demand each year.
Leksand	Wishes: As much organic as possible, produce, and the menu should vary with the season. Menys should be planned to have the smallest environmental impact possible. Eco-labels such as Nordic Swan ecolabel, Good Environmental Choice, KRAV, MSC, Fairtrade, and more. Requirements: Chemical products need to be certified with Good Environmental Choice, Nordic Swan ecolabel, EU ecolabel, or similar. Rules for waste need to be followed. As little usage of single-use items as possible, and if needed, they should be compostable. Every type of paper (e.g., napkins, toilet paper, and more) needs to be certified Nordic Swan ecolabel, Good Environmental Choice, or similar. Actively working for reduced food waste and presenting the number in the canteen for the guests.
Sundsvall	Cafeterias in schools and similar places need to offer a healthy assortment.
Säffle	Food- and meal policy

INTEGRATING FOOD AS AN EDUCATIONAL RESOURCE IN SCHOOLS

Do school restaurants and educational activities actively engage in collaboration regarding sustainable food*?

Table 5. *Displays the collaborations that are happening in schools between school restaurants and educators. Contains 34 responses.*

Municipality	Collaboration in schools between school restaurants and educators
Borlänge	The collaboration looks different at each school/preschool
Enköping	Collaboration with the nature school (naturskolan) about biodiversity
Falun	Partly, there is one school where the students get to calculate the climate impact of meals
Gnosjö	Through meal pedagogy in preschool and collaboration in primary school.
Gotland	There is a local collaboration between school canteens and the pedagogic department, but the work can vary. In some schools, there is a more developed collaboration where school staff and the pedagogic staff are working to improve the environment in the school canteen and create more engagement for food waste. The are many potential ways to improve with this type of collaboration.
Grästorp	Our pedagogical work around the vegetable of the month and collaboration with the student council, which has a lot of potential.
Habo	We actively work with minimizing food waste, where we try to involve as many as possible, we prioritize climate-friendly food, and more.
Helsingborg	It looks a bit different, but we try to make the meal staff and the board of the school increase the understanding of the food that is being served and what sustainable food is.
Håbo	Food council, student chefs, internal work experience, and a pedagogical meal.
Järfälla	It varies, since the headmasters are responsible for the canteens.
Kalmar	Several schools collaborate with subject teachers across different subjects. Home- and consumer knowledge, arts and crafts, and science. We are working on creating teaching material about food waste and sustainability.
Karlstad	Several activities related to meal pedagogy, theme weeks, visiting farms, and more.
Kävlinge	Theme days, food council, and other collaboration events.
Lidköping	Meal council
Nacka	Food is integrated into several subjects, and meal staff and other staff have the possibility to participate in a network around food and meal pedagogy
Nyköping	Every fall, we have a food waste campaign at primary and secondary schools, which is called "take a moderate amount" ("lassa lagom"), and this is where we teach students about food waste. They get to learn why we should reduce food waste and how students can do that, partly by "taking a moderate amount" and eating their lunch calmly. From this year, we are doing this from preschool and up.
Nynäshamn	We are on the way towards more collaboration, but it is not ongoing in every school yet. There are meal councils are projects around growing vegetables and a week about game meat. In some preschools, there is a vegetable of the month that is used in pedagogy. We are working towards where food waste calculations are going to happen in maths class.
Orsa	Collaboration around local food through study visits on farms, dairies, and vegetable farmers.
Skövde	We are just starting this work
Smedjebacken	The dietary unit has education in class about food and health.
Sotenäs	Meal council in some schools, good collaboration between the meal unit and the school developers. They have participated in class.

Staffanstorp	The educational council is supposed to have a meeting where the diet sections staff/board is supposed to join, and the protocol is sent to the kostchef.
Sundsvall	The work has recently started, a collaboration between sustainability pedagogues in the educational sector and the sustainability chef.
Svenljunga	It has started on a small scale, with good collaboration and information to students and pedagogues in the canteens. There are more plans in the works.
Söderhamn	The food council and coworking groups where we talk about sustainable food and sustainable meals, and more.
Tranås	We have recently started, and it is mostly about the environment in the canteen
Trelleborg	These collaborations are different in different parts of the municipality since each headmaster is responsible for a number of chefs who make these collaborations where they work. A few examples are: pedagogical meals about food waste, sustainability, and more.
Tyresö	Theme weeks about food waste, growing cabinet, and more.
Täby	Food waste weeks annually
Uppsala	Local collaborations, like a specific project, we have no comprehensive goals
Vadstena	Food for life, farm to table
Varberg	Depends on the intrest from pedadogues. In some places, it works, but there is a lack of interest in a lot of places
Vaxholm	In one primary school, in the class of home and consumer knowledge, we have talked about what a good breakfast is, we have a growing cabinet where we sow and take care of herbs and lettuce. We have visited classes and talked about food and meals.
Örkelljunga	Food council

5.2 Goals on sustainable food

Every question in the second part of the survey, concerning goals, is composed of two questions. One is which year the goal is supposed to be reached, and the second is about the goals. In the first part of the question, there is a possibility to answer ”No Year” if there is no specific year for when the goal is supposed to be reached. The second part of the question is sometimes open-ended and other times a specific number.

Biodiversity: ORGANIC

Figure 18 presents the municipality's goal for how much of their purchases they intend to buy organic, and each bar also has the year they want to reach that goal. They are sorted from No Year to 2030, which was the goal year furthest ahead. Even though the responses are different, some trends can still be found. For example, for 2030, out of 13 responses, 10 are aiming at 60% organic or above.

If your municipality has a goal for purchases of organic food, which year is that goal set for? What percentage of purchased food should be organic?

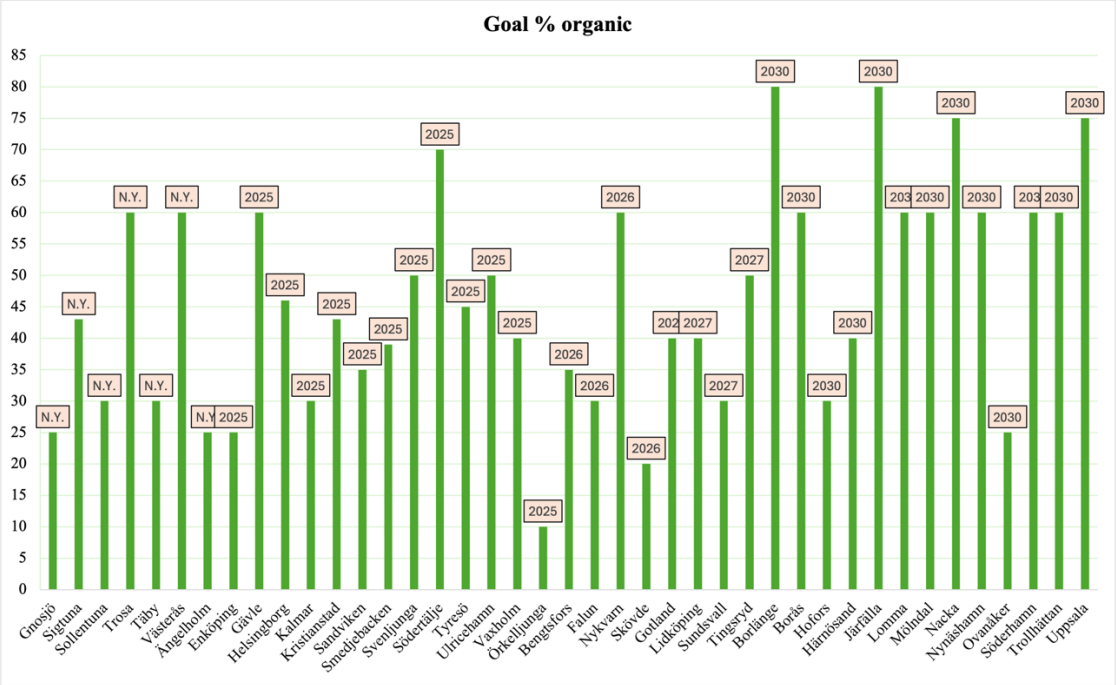

Figure 18: *Presents their goals for what percentage of organic they want to buy and the year they intend to reach that goal. They are sorted by year from left to right. There was an option to not add a specific year, and those have N.Y. (No Year). Contains 41 responces.*

FOOD WASTE

If your municipality has a goal to reduce food waste, which year is that goal set for? What does your food waste reduction goal look like?

Table 6. *Displays the food waste goals that the municipalities have and the year they intend to reach them. Sorted by year, N.Y. (No Year) are the ones that did not specify when the goal is going to be reached. Contains 61 responses*

Municipality	Goal Year	Food Waste Goals
Botkyrka	N.Y.	Reduce food waste
Gislaved	N.Y.	The proportion of organic food is large. Public meals are highly impacted by the responsibility for the climate and the environment. This includes keeping the food waste to a minimum, as well as limiting the use of processed food and picking seasonal foods.
Hofors	N.Y.	We work hard with food waste and have already seen a reduction
Håbo	N.Y.	Reduce food waste
Härnösand	N.Y.	Reduce food waste
Järfälla	N.Y.	Reduce food waste, according to Järfälla municipality's environmental plan 2023-2030. Within the educational sector is the goal is to reduce food waste by 5g/portion by 2025 in comparison with 2024.
Karlstad	N.Y.	Maximum of 15 g of plate waste per child (preschool and primary school)

Kävlinge	N.Y.	We measure and follow up on food waste monthly. We have no political goals that demand results
Lessebo	N.Y.	Reduce food waste. This year, we have started measuring more and set up their own goals for the public sector for them to have something to strive for. The goals in to have 50g/portion, and plate- and serving waste is included in that number.
Nykvarn	N.Y.	All units should average below 30g/guest, which includes serving, kitchen, and plate waste.
Sigtuna	N.Y.	Continue reducing plate waste foremost
Säffle	N.Y.	Our goal is to reduce, but no exact number.
Torsås	N.Y.	Constantly reduce food waste, and develop a plan for this. We have internal goals and work in different ways with these questions, but we do not have that much data
Trelleborg	N.Y.	Trelleborg's schools are going to work in a way that minimizes the food waste to as little as possible
Täby	N.Y.	Maximum of 10g of serving and kitchen waste
Varberg	N.Y.	Reduce food waste from the previous year
Vaxholm	N.Y.	We do not have a reducing goal, but to keep and the goal we have had over the last years is 12g/portion, and some years we have made it and some years we have not.
Västerås	N.Y.	Reduce food waste
Askersund	2025	Lower than 2024
Bengtsfors	2025	Preschool 58g, School 44g, Nursing home, 88 g
Bjuv	2025	35g/portion, kitchen- and serving waste
Enköping	2025	Reduce food waste
Färgelanda	2025	Reduce food waste
Gävle	2025	The amount of food waste that is being wasted within care-giving, welfare, preschools, and schools within Gävle municipality is going to be reduced by 15% between the years of 2020-2025.
Helsingborg	2025	Maximum of 30g/person eating (all three waste types included)
Kalmar	2025	Reduce food waste from the previous year
Kristianstad	2025	Reducing food waste by 10% from 2024
Landskrona	2025	Serving waste of 23g for preschool, 19 g for primary school, and 10g for secondary school. Plate waste of 32 g for preschools, 20 g for primary schools, and 17 g for secondary schools.
Mellerud	2025	35g/portion
Nyköping	2025	We are going to reduce total food waste to 35 g/portion by 2025 (every public sector).
Orsa	2025	We work continuously with food waste questions and have a goal for how much our costs for food purchases to be reduced if we reduce the food waste.
Sandviken	2025	Serving waste 22g and plate waste 19,5g.
Svenljunga	2025	Reduce from 35g/portion to 30g/portion within preschools, schools, and nursing homes. All three food waste types are included
Tranås	2025	Yearly follow-up and visualization of food waste in terms of plate waste in the public kitchens and in the dining areas
Tyresö	2025	Less than 35g/portion
Vänersborg	2025	Goal 35g/portion lunch for preschool and school. The goal of 100g/portion for nursing homes which is for lunch and dinner.

Grästorp	2026	Our municipality's climate promise 21: Reducing food waste in public meals and reaching our goal. This means that the municipality measures food waste with a set goal of a maximum of 35g/portion on average for preschools and schools. As well as a goal of a maximum of 100 g/portion within nursing homes. Kitchen-, serving-, and plate waste are included in the numbers given. Within nursing homes are both lunch and dinner measued.
Lidköping	2026	The municipality has adopted the climate promise number 21 (Climate 2030, Västra Götaland is transitioning), which says that food waste within public meals is going to be reduced and reach the goal. This means that the municipality measures food waste with a goal of a maximum of 35 g/portion on average for preschools and schools, and a goal of a maximum of 100 g/portion for nursing homes. In these numbers are kitchen-, serving- and plate waste are included. Within nursing homes is lunch and dinner are measured.
Nacka	2026	From 2022, a reduction of total waste by 20%, i.e., a maximum of 53g per person per day. Plate waste maximum 30 g per person eating
Skövde	2026	35g/portion
Sotenäs	2026	We reduce food waste in public meals and reach goals. This means that the municipality measures food waste with a goal of a maximum 35 g/portion on average för school and preschool, and a goal of a maximum 100g/portion for nursing homes. Plate-, kitchen-, and serving waste are included. Within nursing homes is lunch and dinner are measured.
Gotland	2027	Increase the food that is being eaten in our school kitchens by reducing waste yearly med 25% during 2024-2027.
Sundsvall	2027	Reduction of food waste yearly since 2020.
Tingsryd	2027	Food waste in the public sector is going to be reduced by at least 55 percent by 2027 in comparison with 2020. Indicator: Food waste (g/guset), reference point 2020 for the entire municipality is 75 g/guest
Gnosjö	2028	The municipality is going to reduce food waste within preschools from the year 2025-2028. We continue with the good work with as little food waste as possible within primary schools.
Borlänge	2030	Plate waste 50% reduction, serving waste 90% reduction and kitchen waste is supposed to be close to 0. 2022 is the reference year. Have been measuring since 2018
Falun	2030	At most 30 g of plate and serving waste/portion.
Habo	2030	Two goals in our program for a sustainable environment: Goal 13: The municipality is going to actively work to reduce environmental and climate impact from food consumption. We use the indicators: "amount of locally produced food within the public sector", "amount of produced vegetarian meals within school", "amount of vegetarian meals within preschools", and "number of kg CO2e/kg food". Goal 14. Food waste from the public kitchen units and satellite kitchens is going to be reduced. We use the indicators: the amount of serving waste and the amount of plate waste are measured through samples.
Leksand	2030	Maximum of 30g/portion for primary school and secondary school, 40g/portion for preschool. To start measuring nursing homes and reduce there too.
Mark	2030	Reduce by 50%
Mölndal	2030	Total waste of 35 g/portion within primary school, preschool, and secondary school. Nursing homes have 100g/portion. This follows the municipality's climate promise
Nynäshamn	2030	Kitchen waste within all public sector is going to be reduced to at least 8 g/portion. Plate waste is going to be reduced to at least 12g/portion in schools and preschools. Lastly, the serving waste is going to be reduced to at least 20 g/portion.
Ovanåker	2030	Half the food waste from 2020.
Smedjebacken	2030	Reduce by 50% with the reference year of 2018.

Sollentuna	2030	Reduce by 50%, probably from the reference year 2024. Food waste is supposed to be lower in 2026 than in 2023.
Staffanstorp	2030	Recently, there has been a discussion of a food waste goal from the political side, but no decisions have been made. Even though there are no food waste goals, there has been work within the food sector to reduce food waste, and a goal that is not attached to politics of 40g/portion. We have also looked more and more at the goals that WWF's has set around food waste.
Söderhamn	2030	We work towards reducing food waste by half, according to the goal in Agenda 2030.
Tomelilla	2030	The goal is to reduce, no actual number; we have already reduced substantially
Trosa	2030	Reduce by 50% by 2030, starting from 2021.
Vårgårda	2030	Two goals, an Environmental policy that says that food waste is going to be reduced. Regional waste pkan is 35g/portion for schools and preschools, as well as 100g/day for assisted living facilities
Älvkarleby	2030	Serving waste 25g/person eating, and Plate waste 15g/person eating.

Biodiversity: MEAT

If your municipality has a goal for purchases of meat, which year is that goal set for? What does your goal look like for purchases of meat?

Table 7. *Presents the municipality's goals for purchases of meat. Sorted by year and starts with N.Y. (No Year). Contains 27 responses.*

Municipality	Goal Year	Meat purchase goals
Gislaved	N.Y.	In public procurement and purchases of food, the National Agency for Public Procurement has sustainability demands for each product group. These are the same as Swedish animal welfare rules
Kävlinge	N.Y.	We have no political goals. We work towards 100% Swedish meat
Leksand	N.Y.	Swedish meat
Nacka	N.Y.	Locally sourced (defined as Swedish) food within the group of animal-based products. (The proportion is based on the amount of purchases). Goal 2020: 80% Goal 2030: 90%. Cheese and dairy products are also included in this.
Nykvarn	N.Y.	100% Swedish meat
Orsa	N.Y.	We purchase our meat from a local supplier and have a requirement to only buy Swedish meat
Torsås	N.Y.	According to Swedish animal welfare demands, Swedish meat and as much locally sourced as possible
Trollhättan	N.Y.	Reduce the purchases of meat
Täby	N.Y.	According to Swedish animal welfare demands
Uppsala	N.Y.	In order to promote the local environment is Uppsala municipality is going to select locally sourced products whenever possible, primarily close to the municipality, then secondly within Sweden
Vaxholm	N.Y.	No goals but guidelines to firstly by swedish and Swedish and organic when possible (due to prices)
Ängelholm	N.Y.	Continue to only buy Swedish meat
Askersund	2025	The proportion of plant based is supposed to increase
Enköping	2025	Reduce the proportion

Gävle	2025	Gävle municipality's purchases of red meat are going to be reduced by 20% from the year from 2020 to 2025, and the proportion of plant-based proteins is supposed to increase
Håbo	2025	100% Swedish meat
Sandviken	2025	Reduce by 20%
Smedjebacken	2025	The proportion of meat should be 8%
Svenljunga	2025	100% Swedish meat, no or very little red meat. As much organic meat as possible
Södertälje	2025	100% Swedish meat and locally sourced
Tyresö	2025	At least 90% of Swedish meat
Vadstena	2025	100% Swedish meat, 30% locally sourced
Vårgårda	2025	Any unprepared meat should be Swedish
Älvkarleby	2025	Reduce the proportion of red meat and charcuterie in order to align with the Swedish Food Agency
Örkelljunga	2025	We only buy Swedish meat
Sundsvall	2027	Meat, poultry, and dairy products should be Swedish or should fulfil national animal welfare demands. Every public sector should reduce the amount of meat and benefit more vegetables, root vegetables, beans, and lentils on the plate. At least of day of the week should be entirely vegetarian, with the exception of meals prepared for care recipients
Gnosjö	2028	The municipality has a goal of increasing the purchases of Swedish ingredients

Biodiversity: SEAFOOD

If your municipality has a goal for purchases of seafood, which year is that goal set for? What does your goal look like for purchases of seafood?

Table 8. *Presents the municipality's goals for seafood purchases. Sorted by year, starting with N.Y. (No Year). Contains 11 responses.*

Municipality	Goal Year	Seafood purchase goals
Gislaved	N.Y.	In public procurement and purchases of food, the National Agency for Public Procurement has sustainability demands for each product group. These are the same as Swedish animal welfare rules
Kävlinge	N.Y.	We have no political goals. Work so that 100 % of the seafood is MSC certified
Leksand	N.Y.	Green light in WWF Sweden's Fish Guide
Nykvarn	N.Y.	Always MSC & ASC certified fish and shellfish
Täby	N.Y.	We have a requirement that seafood should be green/yellow according to WWF Sweden's Fish Guide
Vaxholm	N.Y.	No goals, but guidelines to buy MSC-certified
Håbo	2025	MCS or ASC certified
Tyresö	2025	100% MSC or ASC-certified fish
Vadstena	2025	Fish and shellfish should be MSC-certified or similar
Älvkarleby	2025	MSC or ASC-certified fish
Sundsvall	2027	Purchased fish is sourced from sustainable stocks and regulated fishing

Biodiversity: CHEESE

If your municipality has a goal for purchases of cheese, which year is that goal set for? What does your goal look like for purchases of cheese?

Table 9. *Presents the municipality's goals for purchases of cheese. Sorted by year, starting with N.Y. (No Year). Contains 10 responses.*

Municipality	Goal Year	Cheese purchase goals
Gislaved	N.Y.	In public procurement and purchases of food, the National Agency for Public Procurement has sustainability demands for each product group. These are the same as Swedish animal protection rules
Kävlinge	N.Y.	We have no political goals. We try to buy Swedish or at least Nordic cheese
Askersund	2025	We are going to prioritise locally sourced. Locally sourced = Swedish
Håbo	2025	100% Swedish cheese
Svenljunga	2025	A goal of buying 100% of our dairy products from Sweden
Tyresö	2025	Increase the proportion of Swedish cheese
Vadstena	2025	100% Swedish cheese
Sundsvall	2027	Dairy products should be from Sweden and should fulfil national animal welfare demands
Gnosjö	2028	The municipality has a goal of buying more Swedish goods
Ängelholm	2030	Only buy Swedish cheese

CLIMATE IMPACT

Figures 19 and 20 both present goals related to climate impact. Figure 19 displays the goal for kg CO2e/kg food and the year they intend to reach that goal. The answers from Sigtuna of 0.10 kg CO2e/kg food and Tingsryd with 0.20 kg CO2e/kg food are quite far from realistic, and there is a risk that the question was misunderstood. Excluding the two anomalies, 23 out of the remaining 28 responses have a goal level between 1.00-1.60 kg CO2e/kg food. Figure 20 displays the goals for kg CO2e/average meal, and from the responses, it is less common to have a goal for the climate impact or an average meal.

If your municipality has a goal for how many kg CO2e/kg food, which year is that goal set for? How many kg of CO2e/kg food is that goal?

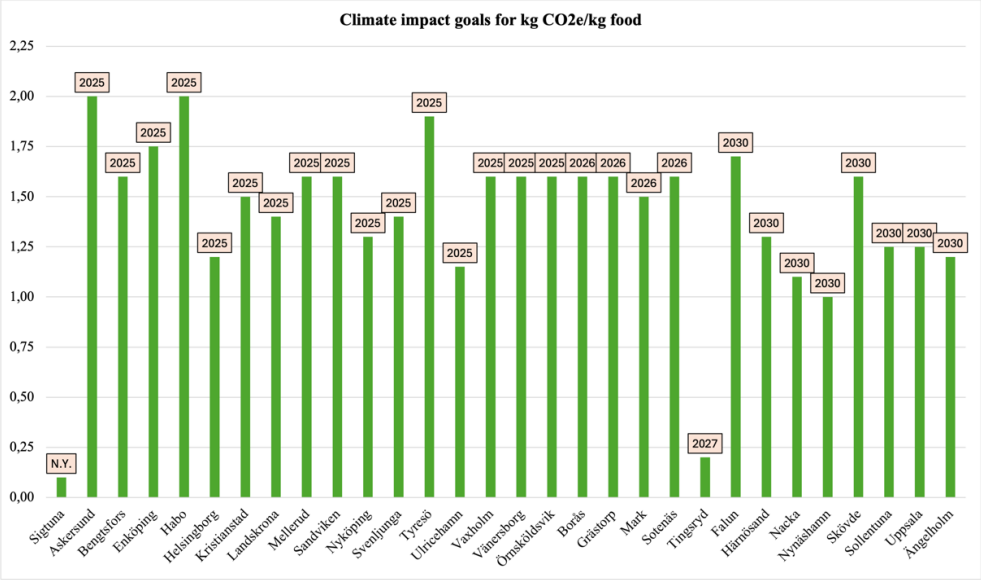

Figure 19: *Presents the municipalities' goals for climate impact for kg CO2e/kg food and the year they intend to reach it. Sorted by year from left to right, starting with N.Y. (No Year). Contains 30 reponses.*

If your municipality has a goal for how many kg CO2e/average meal, which year is that goal set for? How many kg CO2e/average meal is that goal?

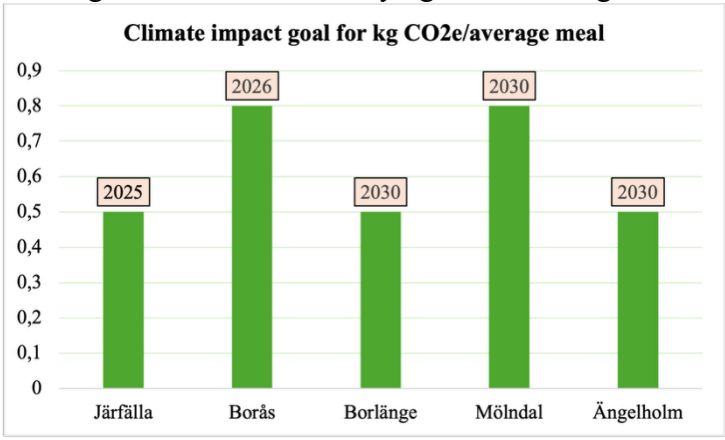

Figure 20: *Displays the goals that municipalities have for the climate impact in kg CO2e/average meal and the year they intend to reach it. Sorted by year. Contains 5 responses.*

SPECIFYING REQUIREMENTS REGARDING THE FOOD SERVED AT THE MUNICIPALITY'S OWN EVENTS

Does your municipality have a goal for the proportion of meals that are served with sustainability requirements a the municipality's own meetings, conferences, activities, and more?

Table 10. *Presents the goals that municipalities have for the proportion of meals with sustainability requirements at their own meetings, conferences, and more. Sorted by name of municipality. Contains 5 responses.*

Municipality	Goal: Own meetings, conferences, activities, and more.
Askersund	The dietary policy should be followed
Gävle	Only tap water, no bottled water. Organic coffee and milk, in some cases, are locally sourced and produced in Sweden
Söderhamn	An increased amount of sustainable food choices, drinks, and packaging. As well as reduced food waste, single-use items, and littering
Södertälje	The goals for the public meal are set to our own goals for volume that align with a Diet for a Green Planet
Uppsala	The goal is to have 75% organic purchases within every single public sector

SUSTAINABILITY REQUIREMENTS FOR ACTORS OPERATING IN BUILDINGS OWNED BY THE MUNICIPALITY

Does your municipality have goals for the share of contracts that include sustainability requirements with actors operating food services/sales in buildings or on land owned by the municipality (e.g., sports centres)? What does that goal look like?

Table 11. *Present the goals that municipalities have for the share of contracts that have sustainability requirements for actors that sell food in buildings that municipalities own or on land that they own (e.g., sports centers). Sorted by name of municipality. Contains 2 responses.*

Municipality	Goal: Share of contacts with sustainability requirements at e.g., Sports centers.
Gävle	We have the same demand that we have for the food
Sundsvall	School cafeterias and similar places should offer a healthy selection

INTEGRATING FOOD AS AN EDUCATIONAL RESOURCE IN SCHOOLS

Does your municipality have a goal for school restaurants and educational activities that actively engage in collaboration regarding sustainable food? What does that goal look like?

Table 12. *Presents the goals municipalities have around the collaboration of schools, restaurants, and educational activities. Sorted by name of municipality. Contains 17 responses.*

Municipality	Goal: School restaurants and educational activities
Askersund	The dietary policy should to be followed
Falun	The meals should be an integrated part of preschools and schools. This also includes that employees have good knowledge that public meals have an impact on health, well-being, and learning is an important part of the municipality's work towards good public health and sustainable development. In preschool and school, meals should be used as a resource in the learning experiance. The meals should be used to teach children and teenagers healthy and environmentally friendly food habits.
Gnosjö	Food waste
Habo	Two goals in our program for a sustainable environment: Goal 13: The municipality is going to actively work to reduce environmental and climate impact from food consumption. We use the indicators: "amount of locally produced food within the public sector", "amount of produced vegetarian meals within school", "amount of vegetarian meals within preschools", and "number of kg CO2e/kg food". Goal 14. Food waste from the public kitchen units and satellite kitchens is going to be reduced. We use the indicators: the amount of serving waste and the amount of plate waste are measured through samples
Härnösand	Pedagogical meals
Kävlinge	Theme days, food councils, and other coworking events
Mellerud	The municipality's meal and food policy
Nynäshamn	Implementing a Diet for a green planet
Sigtuna	Teaching kitchen knowledge in primary school and having children be mini chefs in preschools. Children are a part of the kitchen's different activities, and they get an opportunity to learn about food and food habits
Staffanstorp	The dietary section has a task where they are supposed to present a suggestion to the environmental board on how the dietary section and the educational management are supposed to collaborate around food waste questions
Sundsvall	Pedagogical meals are used in schools and preschools with the intention of creating a role model, fostering a sense of community, as well as creating calm and positive feelings towards food, besides knowledge of healthy and sustainable habits.
Trelleborg	Food and meals should be integrated as a resource within preschools, schools, and youth leisure centres. They should also be used as a pedagogical tool in education in order to create interest and make students curious about food and flavours. Food and meals should also be a way to present culture, and the meals should be a mix of traditional and modern. A pedagogical meal provides an opportunity to create interactions between children and adults. The pedagogical meals should contribute to a positive experiance of the meal and enjoyment of food. The food and meals that are served should always be nicely presented for the guests.
Trollhättan	We have a dialogue right now about this subject
Tyresö	Theme weeks about food waste, and indoor growing cabinets in some canteens
Täby	No goals, but we a collaboration where we are going to talk about this subject
Vadstena	We work with Food for Life, so this is a mode of operation that is cemented into our sector
Örkelljunga	Pedagogical meals

6. Analysis and Discussion

6.1 Activities on sustainable food

PUBLIC SECTORS AND FOOD WASTE

Reviewing which sectors the municipalities measure certain things like food waste, purchases of meat, and more (Figures 3,9, and 14), it looks like these measures are most commonly done in preschools and primary schools, then in nursing homes are in third place. Then, secondary school is the least common one. In the question where the municipality was asked for the number of plate, serving, and kitchen waste for each sector, they also had an opportunity to write something if they wanted. There are quite a few who answered that they save food waste numbers for primary and secondary schools together (Borlänge, Kramfors, Leksand, Mellerud, Mölndal, and Nybro). Sometimes the reasons for this were that the schools are close together and they are served in the same canteen, but others did not explain. Therefore, looking only at figures 3, 9, and 14 might be misleading since some of the data for secondary school is "hidden" in the data for primary school. Another reason for not having data is as simple as not having any secondary schools, like the municipalities of Habo, Sorsele, Trosa, and Vaxholm.

For preschools, the target level for 2026 is always for a portion, and those numbers are 20g plate waste, 30 g serving waste and 8 g kitchen waste. For plate waste the 26 out of 52 responses are ≤20g (Figure 14). The category above the target has many responses, are an additional 9 responses are just 3 g or less above the target for next year. They can likely reach the target with some effort. For serving waste, 37 out of 48 responses are ≤30 g. Kitchen waste of ≤8g is 23 out of 33 responses, aligning with. For primary school, the target levels for 2026 are as follows: 18 g plate waste, 18 g serving waste and 8 g kitchen waste. 22 out of 52 reported having ≤18 g of plate waste, and for serving waste, 21 out go 44 responses are at ≤18 g (Figure 15). Lastly, for the kitchen waste responses, 26 out of 32 are at ≤8g. For secondary schools, the target levels are 25g of plate waste, 17g of serving waste, and 8 g of kitchen waste. Exactly half of the responses for plate waste align with ≤25 g (Figure 16). While for serving waste, 13 out of 25 responses are at ≤17g. Then, 14 out of 19 respondents had kitchen waste ≤8g. For nursing homes, the target

levels for 2026 are 25g of plate waste, 55 g of serving waste and 8 g of kitchen waste. 8 out of 17 responses are at the target level for plate waste, and 11 out of 16 responses are at ≤55g for serving waste (Figure 17). Kitchen waste responses had 5 out of 12 responses that were in line with ≤8g.

Concluding for prechools, half will align with plate waste, serving waste, and a majority are at the target, for kitchen waste, a majority of the responses align. For primary schools, slightly less than half are aligning with the target level for plate waste, and the same goes for serving waste. A large majority of the responses for kitchen waste aligned with the target level. When it comes to secondary school, for both planning and serving waste the half of the responses are at the target level for 2026. Kitchen waste responses presented that a majority are aligning. Then, for nursing homes, plate waste aligned in slightly more than half of the responses, while slightly less than half were in line for serving and kitchen waste. The number of responses was always lowest for kitchen waste, and when comparing the different public sectors, the number of responses was lowest for nursing homes. The Swedish Food Agency (2020, p.7) have stated that it is uncommon to measure food waste in nursing homes, and this survey found that it is at least the most uncommon of the four different public sectors.

The answers about nursing homes said that some (Svenljunga and Vårdgårda) measure the amount of waste for a full day of meals since nursing homes are always open. Then, a few municipalities were a bit unsure of the method they were using right now (Orsa and Trosa). A few municipalities (Borlänge, Härnösand, Södertälje, Västerås, and Ängelholm) mentioned that they do not measure food waste in nursing homes, but did not provide a reason for that.

Biodiversity: ORGANIC

When measuring in KG, most responses say they purchased around 31-40% organic (Figure 3). While the number is a bit lower for SEK, around 21-30% (Figure 4). In WWF's recommendations, the target is >45% (measured in kg) by 2026, which leaves a bit of a gap from where the municipalities are now and the target. 9 respondents out of 58 buy >45% organic, measured in KG. This means that 49 respondents have a chance to do so if they want to reach the target level by next year. One single respondent is quite far ahead and has already purchased 66% organic, which leaves them above the target level of 60% by 2030.

Biodiversity: MEAT

Out of the 29 respondents, 20 purchased less than 50% meat (Figure 5) that has a green light in WWF Sweden's Meat guide. This leaves 9 respondents who bought more than 61% meat with a green light. The target in the WWF's recommendations

is that by 2026, 50% of the meat will have a green light. This means that most of the respondents have quite significant adjustments to make to follow the recommendations from WWF. When it comes to grazing-based meat, the target for 2026 is 25% (Figure 6). 14 out of 26 respondents are above the target for 2026, and all of them are also above the target level for 2030, which is 50%.

The target levels for meat with a red light are already at 0 for the year 2026. Since the target level is zero, every answer displayed purchases too much meat originating outside of Sweden. But 18 out of 23 respondents are purchasing 10% or less, which means they are close and can with good work reach the target by 2026 (Figure 7). One thing that makes the results for the purchases of meat more difficult is that respondents are encouraged to answer zero if they do not have the information to answer the question. This is the reason why answers with the number 0 are removed. But there could also be municipalities that have answered zero because they do measure, and for example, do not buy any meat originating outside of Sweden.

Biodiversity: SEAFOOD

The public sectors that municipalities measure seafood and cheese follow the same trend as the other questions surrounding public sectors (Figure 2). Most commonly, they measure for preschool and primary school. After that comes nursing homes, and lastly, secondary school. It is likely that the numbers for secondary school are in some municipalities hidden in the numbers for primary school, and some municipalities did not have a secondary school. WWF's recommendations have a target level of 30% with a green light by 2026, and 20 out of 22 responses are above 41% already (Figure 8). 16 of these responses are also above the target level of 75% by 2030. Only two responses are below the target for 2026.

For seafood with a yellow light, the target level for 2026 is 70%. Out of 17 respondents, 8 are below the target (Figure 8). Since the target for 2030 is 0%, the percentage of seafood with a yellow light should decrease. Since 6 responses are ≤10%, it is likely that these responses will reach the 2030 target earlier. For seafood with a red light, the target level is the same for 2026, 2030, and 2040, with 0%. Only five respondents provided a number of ≤8% (Figure 10). They have good potential to reach the target for 2026 of 0%. Since respondents who did not have data were encouraged to answer zero, there is uncertainty whether some of the responses of zero mean that the respondents do not know, or if the purchase of 0% seafood with a red light.

Biodiversity: CHEESE

In the purchases around cheese, there is no clear trend on how much of it is Swedish, KRAV or EU-organic today. WWF's recommendations have a target level of 100%

by 2026, which only four out of 43 respondents have reached already (Figure 11). Another five respondents are purchasing ≥92%, which positions them very close to the target level of 2026. This leaves 34 respondents who are ≤90%. Some of them might be able to reach the target level, while others most likely will not.

CLIMATE IMPACT

Purchased food: WWF's recommendations have a target level of 1.6 kg CO2e/kg purchased food by 2026, and 26 out of 51 respondents are at 1.6 kg CO2e/kg purchased food by or below already (Figure 12). If examining the answers in the 1.55-2.00 increment, five respondents have a measurement of 1.65-1.75 kg CO2e/kg purchased food, which is very close to the target level for 2026. The next target level is 1.25 kg CO2e/kg purchased food by 2030, and five respondents have given answers that align with that target level.

Average meal: When looking at the WWF target level for 2026, for kg CO2e/average meal is 0.8. Most respondents, 10 out of 16, are ≤0.8 kg CO2e/average meal (Figure 13). One respondent answered 0.85 kg CO2e/average meal, which is slightly above and can most likely reach the target level if some work is focused on lowering the climate impact. For 2030, the target level is 0.5 kg CO2e/average meal, and two municipalities are below the target level several years before.

FOOD WASTE

Preschool: WWF's recommendations have a target for 20 g plate waste, 30 g serving waste and 8 g kitchen waste. Starting with plate waste, 27 out of 52 respondents align with the target level, but 15 respondents are slightly above, and between 20 and 25 grams are close, which means with continuous work, they have a good opportunity to reach the target (Figure 14). For serving waste, 38 respondents are at 30 g or below. When evaluating the kitchen waste, 23 out of 33 responses are at the target level. Another two responses are 2 g or less above the target are can possibly meet the target for 2026. The one waste type that needs the most work in preschools is plate waste, where about half of the respondents are above the target level.

Primary school: WWF's recommendations target level for plate waste is 18 g, serving waste is 18 g, and kitchen waste is 8 g for 2026. 22 out of 52 responses for plate waste are 18 g or below (Figure 15). When doing some further evaluation, another 14 respondents are close to the target with 19 to 21 g of plate waste today. Almost half 21 respondents out of 44 have a maximum of 18 g of serving waste. Another ten are between 19 to 21 g. Then, looking into kitchen waste, 26 out of 32 responses are at the target level. Then, two other respondents are at 9 to 10 g of kitchen waste.

Secondary school: The target level in WWF's recommendation is 25 g for plate waste, 17 g for serving waste, and 8 g for kitchen waste by 2026. Exactly half of the respondents are at the target level for plate waste, and eight respondents are just slightly over and have between 26 to 30 g (Figure 16). In these waste categories, there is one respondent who gave the number 75 g, which is three times the target level, leaving a lot of room for improvement. For serving waste, 13 out of 25 are a the target of 17 g. Lastly, kitchen waste, where 14 out of 19 respondents are at 8 g. One respondent is at 9 grams and has a good opportunity to reach the target by 2026.

Nursing homes: WWF's recommendations target levels for nursing homes are 25 g of plate waste, 55 g of serving waste, and 8 g of kitchen waste by 2026. Eight out of 17 responses are aligned with the target for 2026 (Figure 17). Three responses are above 50 g, which is double the amount of the target. For serving waste, 11 out of 16 responses are at or below 55 g. For the kitchen waste, 5 out of 10 responses align with 8 g of waste.

Summarising the trend for food waste and looking through all of the public sectors above, kitchen waste is the least common to measure, and plate waste is the most common. While serving waste is always somewhere in between. It is least common to measure in nursing homes, and that might be because the nature of the work is around the clock in which Kävlinge munciaplity mentioned in contrast to preschools and schools, where there are breaks, no meals on the weekends and more. There are in every category of waste and in each public sector municipality that provided a good number that aligns with WWF's recommendations, and at most times, quite a few that have a bit of work to do to reduce the waste.

SPECIFYING REQUIREMENTS REGARDING THE FOOD SERVED AT THE MUNICIPALITY'S OWN EVENTS

The responses from Askersund, Gnosjö, Gotland, Grästorp, Kramfors, Nykvarn and Tingsryd have demands in other parts of the municipality that they have also applied to or are in the process of applying to the events that the municipality has as well (Figure 3). Like using the dietary policy or the demands set in their public procurement. While Falun, Gälve, Hofors, Karlstad, Täby, and Uppsala are mentioned, specific things like purchasing local (but not specifying what local refers to), buying some things or a percentage of organic food. WWF's recommendations have a target to have 25% of meals/food on the munciaplitys events live up to biodiversity and sustainability requirements by 2026. Sustainability and biodiversity requirements can be purchasing organic, reducing animal-based products, and reducing the climate impact of the meals served. It is difficult to simply evaluate anything about the municipalities that set demands

through meal policies and public procurement without reading every single one. But the answers for Falun and Uppsala give a clear indication that work with buying more organic, reducing meat consumption, which are important demands to set to reach the target level of 25% by 2026. Therefore, it can be assessed that these two municipalities are working towards the target, and the demands they set are for every type of event that the municipality has, but it can not be evaluated completely whether the demands they set are enough to fulfil the target.

SUSTAINABILITY REQUIREMENTS FOR ACTORS OPERATING IN BUILDINGS OWNED BY THE MUNICIPALITY

Very few answers were given regarding the requirements that are set upon actors operating in spaces that are owned by the municipality (Table 4). Gotland says they have requirements but does not provide any specifics, while Säffle simply states that their food- and meal policy is applied. Sundsvall wants cafeterias in schools to provide a healthy assortment, but without any details of their evaluation of what this includes. Leksand has taken a bit of an approach where they have wishes and requirements, which specify in more detail what they prioritise or have decided to prioritise. Comparing the answers with WWF's recommendations, where a target is set for a percentage of the contracts that have a climate and biodiversity requirement written in. That number is 25% by 2026. The answer that every respondent provides can be interpreted like they have a requirement that is set for every actor. A conclusion can not be derived single-handedly from interpretations that also consist of guesses. Therefore, a comparison with WWF's recommendations can simply be concluded as there is work happening surrounding the requirement, but exactly how many of the contracts have a sustainability requirement cannot be answered in detail.

INTEGRATING FOOD AS AN EDUCATIONAL RESOURCE IN SCHOOLS

There are a few recurring themes where meal pedagogy, talking about food waste, theme weeks/days, and other initiatives, where food is integrated into other subjects (Figure 5). Falun has one school that has calculated the climate impact of meals, while in Smedjebacken, the dietary unit is educating about food and health. There are many initiatives, and they vary a bit from each other, which most likely means that there is a lot of inspiration to be found if other municipalities want to start this work. In WWF's recommendations, the target for 2026 is to have some pilot schools testing an action plan to increase the integration of food into their activities. Comparing the answers to the target in WWF's recommendations, it can be established that several municipalities are working in this field with different activities. Therefore, it can be established that the target for 2026 is going to be reached.

6.2 Goals on sustainable food

Biodiversity: ORGANIC

About half of the total number of respondents have a goal for their purchases of organic food (Figure 18). WWF's recommendations have a target level for 2026 of >45%. When including municipalities that had answered N.Y. to 2026, it can be seen that Trosa, Västerås, Gävle, Helsingborg, Svenljunga, Södertälje, Tyresö, Ulricehamn, and Nykvarn have a goal that is 45 or above. But that leaves 14 municipalities that have a lower goal than the recommended >45% by 2026 from WWF Sweden. Looking further ahead, the rest of the respondents have a goal for 2027 to 2030. The target level for 2030 is 60%. Borlänge, Borås, Järfälla, Lomma, Mölndal, Nacka, Nynäshamn, Söderhamn, Trollhättan and Uppsala are all above the target level of 60% for 2030. This leaves 7 municipalities where the goals for organic are lower than the target level. The level of 60% organic by 2030 is the same level that is set in the first Food Strategy (Ministry of Climate and Enterprise, n.d.). Gävle, Södertälje, Nykvarn, Borlänge, Borås, Järfälla, Lomma, Mölndal, Nacka, Nynäshamn, Söderhamn, Trollhättan, and Uppsala are the municipalities that have a goal for 60% organic by 2030 or earlier. Trosa and Västerås also have a goal of 60% organic, but the goal year is not specific. Several municipalities have a goal for slightly less than 60%, but that goal is set for a few years before 2030; this leaves some space for these municipalities to raise the bar to 60% for 2030 as well. When evaluating whether the goal that 60% of public food consumption should be organic by 2030 will be reached, it can be considered unlikely. According to the responses in the survey, 13 municipalities have a goal that aligns with 2030, and two other municipalities have a goal of 60%, which is not specified with a goal year, as mentioned earlier. This leaves 15 out of 41 responses in line with the targets and national goal for organic food. Based on the results of the survey, the goal of the first Food Strategy will not be reached. A few years ago, it was found that the most common area that municipalities have goals is is organic food (SFA, 2022a, p.8). However, in the results from the survey (Figure 18), it was found that the is was only the second most common goal. One reason for this could be the response rate difference of 85 municipalities in contrast to the Swedish Food Agency, which received answers for 80 percent of the municipalities (SFA, 2022a, p.8).

Biodiversity: MEAT

There are a few very strong themes surrounding the goal of purchasing meat (Table 7). For those who are buying Swedish meat, for some, it is 100%, and for others, the goal is a bit lower. Then, many answers say local meat, for Uppsala, that means primarily from their own municipality, Nacka says local means Swedish, for others, the term is not specified. Another theme is reducing the purchases of meat in favour of plant-based, as well as making sure the meat that the purchased follows the Swedish animal welfare rules. Comparing this to the target level of 0% in WWF's

recommendations, it can be interpreted that the focus on Swedish meat means that municipalities do not want to purchase non-certified meat originating outside of Sweden (meat with a red light in WWF Sweden's Meat Guide), which means that a majority of the munciaplities will reach the target level for meat with a red light by 2026.

Biodiversity: SEAFOOD

The number of responses around goals for purchases of fish was few, only 11 (Table 8). Two municipalities work with WWF Sweden's Fish guide and purchase seafood that is green or at least yellow in the guide. One municipality works with the Swedish animal welfare rules for their purchases. Then the rest of the responses say the focus is on MSC or ASC-certified. Before May 2022, seafood with an ASC-, MSC-certification, and KRAV were automatically given a green light. Since that is no longer true, evaluating if multiplicities will reach the target level for seafood is slightly more difficult now. Municipalities focus on ASC- and MSC-certification, and some also specify that they purchase seafood that has a green or yellow light.
A careful evaluation suggests that it is likely that most municipalities will reach the target of 30% seafood with a green light by 2026.

Biodiversity: CHEESE

The number of answers related to cheese was also few (Table 9). The main focus that almost every respondent has is a goal to buy mostly or only Swedish cheese. Compared to WWF's recommendations, which has a target of 100% Swedish or organic (certified) cheese by 2026, most of the answers are close or perfectly align. Besides, there are two answers forced on following the Swedish animal welfare demands.

CLIMATE IMPACT

Climate impact food - Bengtsfors, Kristianstad, Landskrona, Mellerud, Sandviken, Nyköping, Svenljunga, Ulricehamn, Vaxholm, Vänersborg, Örnsköldsvik, Borås, Grästorp, Mark, Sotenäs are all municipalities that have a goal for 2025 or 2026 with a target of at most 1.6 CO2e/kg purchased food (Figure 19). This aligns perfectly with WWF's recommendations of 1.6 kg CO2e/kg purchased food by 2026. For 2030 and 2040, the target is 1.25 CO2e/kg purchased food, and Härnösand, Nacka, Nynäshamn, Sollentuna, Uppsala, and Ängelholm are all working towards that target or a slightly lower target. Two responses deviate from the rest with numbers of 0.10 and 0.20, which are so low they are likely not attainable. There might even be the result of misunderstanding the question.

Climate impact meals - Responses related to climate impact goals were very few (Figure 20). For 2026, the target is 0.8 kg CO2e/kg average meal, and Borås is right on, and Järfälla is more ambitious than the target set in WWF's recommendations.

For 2030 and 2040, the target is 0.5 kg CO2e/kg average meal, where Borlänge and Ängelholm are on target level, while Mölndal is on the target level for 2026. In a survey from the Swedish Food Agency (2022a, p.8), they found that having a goal related to the climate impact of each meal was uncommon, and that is the same results that was shown in this thesis. Only five out of 85 respondents answered that they have a goal.

FOOD WASTE

Food waste goals are the one question in the goal section that has generated the most responses of all (Table 6). This might be a reflection of Goal 12.3 in Agenda 2030, which is about reducing food waste by half, as well as an effect of the food waste assessment that the Swedish Food Agency made (2020, p.7). Six different municipalities have a goal that simply says Reduce Food waste. What these goals mean in practice is unknown. The answers contain quite a few mentions of environmental policies, Agenda 2030 and other types of commitments that are related to reducing climate impact overall, while some say that they have a goal, but they are not connected to any political decisions.

Vaxholm municipality stands out, where they say they do not have a goal for reducing food waste, but rather a target of 12 g/portion, which is 3 g/portion lower than the target number in WWF's recommendations for primary and secondary schools for 2040. Vaxholm informs that they continue working towards the target, and some years they reach the goal and some years they do not. Many responses contain a specific number for one or two of the different waste types, which makes it hard to assess if that goal will be aligned with WWF's recommendations. Even if the number/numbers that are presented are a good number, the ones that are not presented are an uncertainty. The same goes for the answers that say they are going to reduce by a certain percent, since that does not display how much waste is happening at the starting point or at the point when the goal is supposed to be reached. One striving municipality is Nyköping, where the goal is that by the end of 2025 have food waste will be 35g/portion. Tyresö has the same goal, but specifies that it should be less than 35g/portion, which is almost the same as Skövde, but they intend to reach 35 g/portion by 2026. These three goals are more ambitious than the target levels for WWF's recommendations, which range from 44 to 88g/portion. Nykvarn is also very ambitious with a goal that is a maximum of 30g/portion, but does not specify which year this goal is for. If the goal is reached by 2026, they are ahead of the target levels, and if the goal is reached by 2030, they are below the targets for all except primary schools. Just a few good answers have been exemplified above. There are many ambitions shown within the answers that have not been named specifically here.

The Swedish Food Agency (2020, p.7) concluded that public meals are an important area where food waste needs to be reduced to reach the goal in Agenda 2030 about

reducing food waste by 50 percent. The fact that there is a goal to reduce food waste is likely the reason this is the most common area to set goals in.

SPECIFYING REQUIREMENTS REGARDING THE FOOD SERVED AT THE MUNICIPALITY'S OWN EVENTS and SUSTAINABILITY REQUIREMENTS FOR ACTORS OPERATING IN BUILDINGS OWNED BY THE MUNICIPALITY

The answers for goals surrounding the municipality's own meetings, activities, as well as goals surrounding demands on actors that work in buildings that the municipality owns or operates. The target from WWF's recommendations is that 25% of the meals have sustainability requirements for the municipality's own meetings, while for actors operating on land owned by the municipality, they are in a stage of pilot tests for 2026. Therefore, any goals relating to requirements for actors on land owned by the municipality can be seen as pioneers in this area. A few examples are that Askersund says the dietary policy should be followed, Gävle focuses on no bottled water, organic coffee, and Söderhamn wants to increase the sustainable food choices, Södertälje wants food that aligns with Diet for a Green Planet, and Uppsala want 75% organic food (Table 10). Moving on to actors operating on land owned by the municipality where Gävle set the same demands for external actors that they set for themselves, while Sundsvall want school cafeterias and similar places to offer a healthy selection (Table 11). Policies can be very effective in lowering GHG emissions, such as policies made around public health to improve nutrition by using public procurement to ensure that a wide and healthy variety of food is served in public spaces (IPCC, 2023, p.106-107). IPCC highlights the importance of the work that is being done in the public space. These two areas are up and coming and can, in the future, be another place that offers healthy food, with sustainability requirements set by the municipalities.

INTEGRATING FOOD AS AN EDUCATIONAL RESOURCE IN SCHOOLS

The themes that surface are pedagogic meals, food waste, and theme days (Table 12). Falun is one of the municipalities that are going in the right direction and think that food should be a part of the learning experiance. They want to teach children and students about healthy and environmentally friendly food habits. Nynäshamn and Vadstena are starting the work to integrate Diet for a Green Planet and Food for Life, respectively. These are tools that can be used to have a more holistic perspective on food. Compared with WWF's recommendations of having some pilot schools having an action plan in order to increase integration of food into the rest of the education by 2026, it can be stated that there is work being done already. Staffanstorp, Trollhättan, and Täby did not say they worked on something in this area already, but they all have plans for meetings or collaboration to make plans for the future. In conclusion, the target for 2026 can almost certainly be met. This area

is very broad, which can be reflected in the answer from the survey, even though the are few.

6.3 Discussion

There is a lot of work being done in the municipalities around food waste. The question that received the most open-ended answers was the one about food waste goals. What work and how it is being done differ, but almost everyone answered that they want to reduce it in some way. But it is a lot more common to measure in preschools and schools rather than in nursing homes. This is an area where a better structure for measuring, and together with intentional work, can likely reduce the food waste quite fast. Some goals the municipalities have are in line with the WWF's recommendations. Other goals have a long way to go. So, the intensive attention on food waste is needed since food waste contributes to emissions of 142 kg of carbon equivalents per person/year (SFA et al., 2018). The Swedish Food Agency has stated that authorities in Sweden are one of the actors that need to accelerate their work (SFA et al., 2018). The focus on food waste is also found in the literature, for example, in Eriksson et al. (2017), where the food waste was quantified in order to understand where the waste is happening. It was found that satellite kitchens produced more food waste than production kitchens. They gathered data from 30 public kitchens, but all of them were located in one municipality (Appendix 1) (Eriksson et al. 2017). This could mean that municipalities should utilise production kitchens to a greater extent compared to satellite kitchens. However, a large case study involving more municipalities would carry more weight in confirming this connection.

Research has found that in order to reduce food waste, collaboration is essential (Liljestrand, 2016). This is an area that should be explored further. Municipalities, as well as other actors in the food system, can collaborate and learn from each other to reduce food waste. Since the amount of food waste varies quite a lot in each public sector, collaboration can be beneficial for everyone involved. This can and should be extended to other areas where collaboration can provide insight to one another.

The food strategy (Ministry of Climate and Enterprise, 2017) aims to increase food production in Sweden and decrease the unit put in the food that is being grown to be more sustainable. Food production can become more sustainable when the input is decreased, but the food that is being produced also needs to be eaten rather than wasted. Another aim of the food strategy is to promote Swedish agriculture (Ministry of Climate and Enterprise, 2017), and the answers in the survey indicate that this receives a lot of attention, especially for meat and cheese.

In this online survey, the respondents were encouraged to answer zero if they did not have an answer to a question. Some of the respondents simply skipped the question because they could not answer. It would have been interesting to receive some information on why they could not provide an answer. Is it a lack of data, not being able to access the data, not being able to translate the data they have to WWF's recommendations that the questions relate to or something else. This could have provided a better understanding of the difficulties that they face. Unfortunately, the encouragement to make responses answers zero when not being able to provide data leads to uncertainty when analysing the responses. For some questions, a low number or zero was the best potential answer in order to align with WWF's recommendations. When the data was processed for every question, the answers that were zero were removed because of the encouragement; this possibly means that some answers with zero were municipalities providing data.

It seems like a lot of the progress that is being made in municipalities is driven by passionate individuals or small groups. The changes that these passionate individuals advocate for are important and contribute to impactful changes. However, relying on passionate individuals to drive changes makes the progress uneven and unreliable. Another problem is that in order to make changes, one needs a mandate, or is able to affect others who have a mandate. This survey indicates that the areas that receive more focus are areas that have national guidelines. More national guidelines or policies that drive change can improve sustainable shifts and equal outcomes throughout Sweden. Creating policies to promote change on a national level can be a tool that prioritises changes deemed most urgent. Policies can be very effective in lowering GHG emissions, such as policies made around public health to improve nutrition by using public procurement to ensure that a wide and healthy variety of food is served in public spaces (IPCC, 2023, p.106-107). Which enforces the value of policy making that is suggested by the author herself. Although constructing polices takes a long time and is expensive. Therefore, progress driven from inside is still of substantial value.

7. Conclusions and Reflection

The municipality set goals for purchases of organic food, for cheese, for meat, and for seafood. Besides that, there are also goals related to climate impact, integrating food as an educational resource, what food is being served in the municipality's own events, and what actors who work in the municipality's building are selling. The latter are not as common as the other areas, together with goals surrounding cheese. The area where it is most common for municipalities to have goals is about food waste. Those goals are also more specific in some municipalities, where specific grams for each waste type are presented, and sometimes the numbers differ between different sectors. Integrating food as an educational resource was another goal that was focused on. Some municipalities wanted that calculate the climate impact in maths class, some had theme days, pedagogical meals, teaching children the impact that food has on health. Some mentioned that they are just starting this work.

Activities on sustainable food

Few respondents are close to the target level for 2026 for organic food, and only one is far ahead and purchased 66% organic, which is above the target level for 2030. For meat with a green light, few are close to the target for 2026. The numbers are better for grazing-based meat, where about half of the respondents are above the target for 2026 and 2030 already. Regarding cheese, only four responses are close to the target. The answer about cheese does not display a trend, and the answers are spread out. It is not likely that the majority of the respondents are going to reach the target level of 100% by 2026.

The responses given about climate impact for purchased food were positive since half of the respondents were already at the target level today, are several others are close. A majority of the answers about the climate impact of an average meal are already at the target level or slightly above.

Regardless of the public sector, the least amount of answers related to food waste were always about how much kitchen waste is being produced. The answers provided about kitchen waste are generally quite low, but it would be interesting to understand why kitchen waste is not being measured and what that amount is. Not measuring and tracking all three waste types can provide an inaccurate picture of how well schools, preschools or nursing homes are reducing their food waste. There

is significant focus in this area, but the difference between municipalities is also great. Some have not started tracking food waste, and others are aligning with the target level. Generally, about half of the answers align with the target. Kitchen waste was the waste type where most of the responses aligned with the target level, but it was also the waste type where the least amount of answers were provided.

Specifying requirements at the municipality's own events can still be seen as uncommon. A limited number of responses with some specifications on what is demanded. The evaluation is very similar for sustainability requirements for actors operating in buildings owned by the municipality. Few responses with a variety of ways to set demands, but whether these really compare with the target level is difficult to state. A mention of setting requirements with a meal policy is recurring, but those need to be revived in detail to provide a proper evaluation of whether they align with the target level or not. The target for integrating food into education is to have some pilot schools by 2026. Several municipalities are already working in this area with different initiatives, like talking about food waste and using meal pedagogy.

Goals on sustainable food

Reviewing the goals for organic purchases and if every municipality reaches the goals they have set out, 22 out of 41 will reach either the target level for 2026 or 2030. Besides, there are two that have a goal for 60% organic, which is the target level for 2030, but they have not specified a goal year. This leaves a little more than half of the municipalities aligning with the target level for 2026 or 2030.

The goals for meat follow one strong theme of prioritising Swedish meat, and some even mentioned local (for one municipality, the meaning is from their own municipality). Compared to the target level or meat with a red light, a majority of the municipalities with reach this goal by 2026. Municipalities have a strong focus on ASC- and MSC-certification, some also specify that they focus on seafood that has a green light, while others purchase seafood with either a green or yellow light. A careful evaluation suggests that it is likely that most municipalities will reach the target of 30% seafood with a green light by 2026.

The target level for cheese by 2026 is 100% Swedish, KRAV or EU-organic. While the number of answers was few, almost every goal will align with the target level. 15 out of 30 municipalities have a climate impact for purchased food goal for 2026 that perfectly aligns with the WWF's recommendations. Another six municipalities are aligning with the goals with the target level for 2030 and 2040.

Food waste goals are the most common ones, several municipalities have simply stated that they want to reduce food waste, and since this is unspecified, it can not be comparete ot the target levels in WWF's recommendations. Vaxholm, Nyköping, and Nykvarn are three examples of municipalities that have ambitious goals. Since it was found in the activities on sustainable food that it is less common to measure food waste in nursing homes, it would have been good to see more goals with mentions that food waste in nursing homes is going to be measured forward.

About a handful of municipalities answered the questions for goals related to setting sustainability requirements at the municipality's own events and setting sustainability requirements. These few answers indicated that there are mostly smaller demands being set, like Gävle, which demands organic coffee and milk as the only tap water. Södertälje has decided to follow the Diet for a Green Planet, which is a more comprehensive commitment. While these two municipalities have taken different routes, they have started setting demands and hopefully can help inspire other municipalities to set requirements in the future. Since the target for sustainability requirements for actors operating in municipal buildings is pilot testing for 2026, it can be stated that this target level can likely be reached.

The last target of integrating food into education also has a target level of pilot test by 2026. Initiatives differ from using meals as a resource in the learning experiance, like Falun or implementing Diet for a Green Planet, like Nynäshamn. The target level will be reached by 2026.

In summary, the ambitions vary greatly from municipality to municipality. Since this thesis has reviewed answers based on questions asked in a survey rather than reviewing every single municipality's answer from start to finish, it can not be specified which municipalities are overall ambitious and forward-facing. While some targets will be reached, others will not. Municipalities can be agents of change in the food system; their work has a long-term impact on health and society as a whole. Since many of the public meals are served to children, there is a potential to set an example for what a healthy and sustainable diet is early in life. With regards to WWF's recommendations, the work on sustainable food would need to accelerate to reach their recommended targets. Some municipalities have progressed further, and hopefully, these can set the direction. This survey indicates that policies or goals encourage the municipalities to work in the area that is being targeted. Therefore, constructing policies within the areas that are progressing the slowest might be beneficial to overall work within sustainability in the food system.

7.1 Reflection

A risk with online surveys is that they can be answered by someone other than the one they were intended for (Bryman et al. 2025, p.272). This aspect is something that has been considered, since one of the two mandatory questions asks for the title of the respondent. But it has been mentioned before that there is no specific title for one that is reasonable for sustainable food within the municipality. The responsibility can be divided as well, which might make it even more difficult to process.

The number that municipalities added in the question around food waste was the most complicated of them all to summarise. The municipalities worked in so many different ways, some counted the different types of food waste separately, like the survey did. But some of them summarised the numbers for two waste types, some counted all types of waste but added them together, and then guessed how they were divided. The last ones were removed because this project wanted to minimise the impact of guesses. Therefore, only numbers were tracked and saved.

Areas to explore in future research are what work is being done around a shift to a more plant-based diet. This thesis primarily focuses on animal-based products and the activities and goals connected. Besides that, creating an understanding of what challenges and opportunities municipalities face when changing their purchasing habits to more sustainable food needs to be explored. This can create a better understanding of what kind of support can further their work even more. Therefore, further research into public procurement and the prospects and challenges of purchasing more sustainable food is needed. This can help construct effective policies in the area.

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Popular science summary

Feeding the future: Municipalities work in Sustainable Food

What food are Swedish municipalities buying, and what demands do they set around food?

In Sweden, municipalities are responsible for meals in preschools, primary schools, secondary schools and at nursing homes. Did you know that some schools calculate the climate impact of meals in maths class? And you might ask why? This is one of many tools that integrate food into education. But why would one do that? Schools are a place for learning a broad variety of subjects, but the focus on learning about food has been limited to home and consumer knowledge. A class where older students are taught about the basics of cooking, food safety and doing laundry. Learning about what healthy and sustainable food can start much earlier and be done in many innovative ways, like growing herbs together or talking about food waste. In this online survey, two areas showed a trend for what the municipalities are focused on when purchasing food. This trend was to prioritise purchasing Swedish meat and cheese. Food waste is another area where municipalities are working a lot. Many are collecting data on different types of food waste, and some are in the process of starting to measure food waste. It is not as common to measure food waste in nursing homes, and the reasons can be things like serving food many times a day and never being closed. While preschools and schools have breaks, and primarily serve lunch. The focus on food waste also appears when reviewing the goals that municipalities have. The level of ambition differs from municipality to municipality. Some have goals that state specific grams of waste per portion while others want ot reduce this year's food waste in comparison to last year. An area that is quite new is where municipalities are setting sustainability demands on the actors they are working with. This can be done in many ways, but a few municipalities are setting sustainability demands at the events that municipalities are responsible for. It could be demanding that some food products be purchased organic, and not bottled water. The other area where progress is happening is demands on actors that operate spaces in buildings that the municipality owns, like sports centres, and those demands can be limiting single-use products, having seasonal menus, and a healthy assortment.

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Appendix 1

Appendix 1. *Displays the findings from the scope review with the name of the article, authors, purpose or aim, methodology and key findings.*

Name of article	Authors	Purpose	Methodology	Key findings
Policy for sustainable consumption - an assessment of Swedish municipalities	Dawkins et al. 2023	Nationwide survey, two-year investigation into two municipalities, and policy document analysis	Nationwide survey, policy document analysis, and case studies	Municipalities have several policies related to sustainable food consumption and work on tackling food waste and other issues. The municipalities face challenges in terms of a lack of resources and support from politics. They want to see more regulations on a national level that promote the work around sustainable food.
Making food waste illegal in Sweden- Potential gains from enforcing best practice in the public catering sector	Eriksson et al. 2023	Assess if food waste reduction can be done with an Environmental Code	Measuring food waste in the kitchens of schools, eg, alongside observations	Understand what practices lead to less food waste in care homes, preschools, and schools. Explores enforcing potential thresholds that need to be adapted to, and keeping food waste below the benchmark
Guest attendance data from 34 Swedish pre-schools and primary schools	Eriksson et al. 2021	Be able to predict the number of guests in order to prepare the correct number of meals	Collecting data from preschools and schools on the number of plates that were collected to estimate how many guests ate lunch.	Can help schools and preschools predict the number of guests being served in advance
The tree structure - A general framework for food waste quantification in food services	Eriksson et al. 2018	Creating a methodological framework that can be used in food services to quantify food waste	Data collection from schools, hotels, and elderly care homes.	Creation of a food waste framework that can be used to quantify waste over time in different catering units
Quantification of food waste in public catering services - A case study from a Swedish municipality	Eriksson et al. 2017	Quantify food waste in preschools, schools, and elderly care facilities	Collecting data from preschools, schools, and elderly care facilities from 30 public kitchens in one municipality	The average food waste was 75 g/portion, but varied quite a bit between preschools, schools, and elderly care. Satellite kitchens generally had more food waste than production kitchens.

Appendix 2

1. Enkät för svenska kommuner
Enkäten består av två delar. I första delen kommer det frågor om hur er kommun gör idagmen inköp av livsmedel. I andra delen kommer det frågor om vilka mål er kommun harkring livsmedelsinköp.

Vilken kommun arbetar du i?
Ale, Alingsås, Alvesta, Aneby, Arboga, Arjeplog, Arvidsjaur, Arvika, Askersund, Avesta, Bengtsfors, Berg, Bjurholm, Bjuv, Boden, Bollebygd, Bollnäs, Borgholm, Borlänge, Borås, Botkyrka, Boxholm, Bromölla, Bräcke, Burlöv, Båstad, Dals-Ed, Danderyd, Degerfors, Dorotea, Eda, Ekerö, Eksjö, Emmaboda, Enköping, Eskilstuna, Eslöv, Essunga, Fagersta, Falkenberg, Falköping, Falun, Filipstad, Finspång, Flen, Forshaga, Färgelanda, Gagnef, Gislaved, Gnesta, Gnosjö, Gotland, Grums, Grästorp, Gullspång, Gällivare, Gävle, Göteborg, Götene, Habo, Hagfors, Hallsberg, Hallstahammar, Halmstad, Hammarö, Haninge, Haparanda, Heby, Hedemora, Helsingborg, Herrljunga, Hjo, Hofors, Huddinge, Hudiksvall, Hultsfred, Hylte, Håbo, Hällefors, Härjedalen, Härnösand, Härryda, Hässleholm, Höganäs, Högsby, Hörby, Höör, Jokkmokk, Järfälla, Jönköping, Kalix, Kalmar, Karlsborg, Karlshamn, Karlskoga, Karlskrona, Karlstad, Katrineholm, Kil, Kinda, Kiruna, Klippan, Knivsta, Kramfors, Kristianstad, Kristinehamn, Krokom, Kumla, Kungsbacka, Kungsör, Kungälv, Kävlinge, Köping, Laholm, Landskrona, Laxå, Lekeberg, Leksand, Lerum, Lessebo, Lidingö, Lidköping, Lilla Edet, Lindesberg, Linköping, Ljungby, Ljusdal, Ljusnarsberg, Lomma, Ludvika, Luleå, Lund, Lycksele, Lysekil, Malmö, Malung-Sälen, Malå, Mariestad, Mark, Markaryd, Mellerud, Mjölby, Mora, Motala, Mullsjö, Munkedal, Munkfors, Mölndal, Mönsterås, Mörbylånga, Nacka, Nora, Norberg, Nordanstig, Nordmaling, Norrköping, Norrtälje, Norsjö, Nybro, Nykvarn, Nyköping, Nynäshamn, Nässjö, Ockelbo, Olofström, Orsa, Orust, Osby, Oskarshamn, Ovanåker, Oxelösund, Pajala, Partille, Perstorp, Piteå, Ragunda, Robertsfors, Ronneby, Rättvik, Sala, Salem, Sandviken, Sigtuna, Simrishamn, Sjöbo, Skara, Skellefteå, Skinnskatteberg, Skurup, Skövde, Smedjebacken, Sollefteå, Sollentuna, Solna, Sorsele, Sotenäs, Staffanstorp, Stenungsund, Stockholm, Storfors, Storuman, Strängnäs, Strömstad, Strömsund, Sundbyberg, Sundsvall, Sunne, Surahammar, Svalöv, Svedala, Svenljunga, Säffle, Säter, Sävsjö, Söderhamn, Söderköping, Södertälje, Sölvesborg, Tanum, Tibro, Tidaholm, Tierp, Timrå, Tingsryd, Tjörn, Tomelilla, Torsby, Torsås, Tranemo, Tranås, Trelleborg, Trollhättan, Trosa, Tyresö, Täby, Töreboda, Uddevalla, Ulricehamn, Umeå, Upplands-Bro, Upplands Väsby, Uppsala, Uppvidinge, Vadstena, Vaggeryd, Valdemarsvik, Vallentuna, Vansbro, Vara, Varberg, Vaxholm, Vellinge, Vetlanda, Vilhelmina, Vimmerby, Vindeln, Vingåker, Vårgårda, Vänersborg, Vännäs, Värmdö, Värnamo, Västervik, Västerås, Växjö, Ydre, Ystad, Åmål, Ånge, Åre, Årjäng, Åsele, Åstorp, Åtvidaberg, Älmhult, Älvdalen, Älvkarleby, Älvsbyn, Ängelholm, Öckerö, Ödeshög, Örebro, Örkelljunga, Örnsköldsvik, Östersund, Österåker, Östhammar, Östra Göinge, Överkalix & Övertorneå.

Vad är din titel?
Kostchef/Måltidschef/Kostekonom/Måltidsplanerare/Dietist/Måltidsstrateg etc.
Miljösamordnare/Hållbarhetssamordnare/Miljökoordinator/Miljöstrateg etc.
Annat:

I enkäten kommer ett antal frågor relaterade till matinköp, matsvinn, klimatavtryck och lite mer. Svara på frågorna med den senaste statistiken som din kommun har tillgång till, svara gärna per helår eller genomsnitt av livsmedelsinköp för ett helår i verksamheten.

2. Ekologiskt & Kött
*Om er kommun inte mäter eller har data för frågorna nedan - vänligen ange **0** i svaret.*

Om ni mäter era inköp av ekologiskt och kött för de offentliga måltiderna, vilka verksamheter innefattas?
Markera alla verksamheter ni mäter

- ○ Förskola
- ○ Grundskola
- ○ Gymnasieskola
- ○ Äldreomsorg

Hur många procent av inköpta livsmedel (mätt i kg) är ekologiskt (KRAV och EU-ekologiskt)?
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av inköpta livsmedel (mätt i SEK) är ekologiska (KRAV eller EU-ekologiskt)?
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av inköpt kött har grönt ljus* i WWF Köttguiden?
***Grönt ljus innebär:**
-KRAV- Svenskt Sigill Naturbeteskött
-Svenskt vilt som inte stödutfodras
-EU-ekologisk gris och lamm från Sverige
-Svenska värphöns (dvs. från äggproduktionen)
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av allt inköpt kött (mätt i kg) (dvs. räkna även med fågel och gris i totalsiffran) är betesbaserat kött från Sverige*?
***Med betesbaserat kött från Sverige menas Svenskt Sigill Naturbeteskött, KRAV, Svenskt Sigillnötkött och lammkött liksom annat nöt och lamm från Sverige som får beta)**
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av inköpt kött (mätt i kg) är icke-certifierat med ursprung utanför Sverige?
Dvs. rött ljus i WWF Köttguiden
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av inköpt sjömat (mätt i kg) har grönt ljus* i WWF Fiskguiden?
***Observera att MSC, ASC och KRAV sedan maj 2022 inte per automatik får grönt ljus i WWF Fiskguiden**
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av inköpt sjömat (mätt i kg) har gult ljus i WWF Fiskguiden och är dessutomceritfierat enligt KRAV, ASC eller MSC?
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av inköpt sjömat i kg har rött ljus i WWF Fiskguiden?
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Hur många procent av inköpt ost i kg är svensk, KRAV eller EU-ekologisk?
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

4. Klimatavtryck
Om er kommun inte mäter eller har data för frågorna nedan - vänligen ange **0** i svaret.

Om ni mäter klimatavtryck för de offentliga måltider, vilka verksamheter innefattas? Markera alla verksamheter ni mäter i.

- Förskola
- Grundskola
- Gymnasieskola
- Äldreomsorg

Hur många kg CO2e/kg inköpta livsmedel i kommunen har ni?
0.00, 0.05, 0.10, 0.15, 0.20, 0.25, [...], 2.85, 2.90, 2.95, 3.00, Över 3.00

Hur många kg CO2e/snittmåltid har ni?
0.00, 0.05, 0.10, 0.15, 0.20, 0.25, [...], 2.85, 2.90, 2.95, 3.00, Över 3.00

5. Matsvinn Förskola

Om er kommun inte mäter eller har data för frågorna nedan - vänligen ange **0** i svaret.

Tallrikssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Serveringssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Kökssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Mäter ni på matsvinn på ett annat sätt? Skriv gärna hur, vad som ingår och vikt. Har ni någonannan kommentar att ge, dela gärna!
Fritext svar

6. Matsvinn Grundskola
Om er kommun inte mäter eller har data för frågorna nedan - vänligen ange **0** i svaret.

Tallrikssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Serveringssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Kökssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Mäter ni på matsvinn på ett annat sätt? Skriv gärna hur, vad som ingår och vikt. Har ni någonannan kommentar att ge, dela gärna!
Fritext svar

7. Matsvinn Gymnasieskola
Om er kommun inte mäter eller har data för frågorna nedan - vänligen ange **0** i svaret.

Tallrikssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Serveringssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Kökssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Mäter ni på matsvinn på ett annat sätt? Skriv gärna hur, vad som ingår och vikt. Har ni någonannan kommentar att ge, dela gärna!
Fritext svar

7. Matsvinn Äldreboende
Om er kommun inte mäter eller har data för frågorna nedan - vänligen ange **0** i svaret.

Tallrikssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Serveringssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Kökssvinn g/portion
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Mäter ni på matsvinn på ett annat sätt? Skriv gärna hur, vad som ingår och vikt. Har ni någonannan kommentar att ge, dela gärna!

Fritext svar

9. Kommunens representation, övriga arenor och pedagogiska arbete med mat
Nedan nämns begreppet "Hållbarhetskrav".Detta kan exempelvis vara att upphandla aktörer som följer One Planet Plates krav ellerandra direkta krav för att gynna klimat och biologisk mångfald.

Ställer ni hållbarhetskrav för måltider/livsmedel som serveras på kommunen egna möten, konferenser och aktiviteter eller evenemang som arrangeras i staden, exempelvis festivaler?

- Nej
- Ja - Hur ser kraven ut? Fritext svar

Ställer ni hållbarhetskrav i avtal med aktörer som driver servering/försäljning av livsmedel ifastigheter eller mark som kommunen äger (exempelvis idrottshallar)?

- Nej
- Ja - Hur ser kraven ut? Fritext svar

Har skolrestaurangerna och de pedagogiska verksamheterna i er kommun ett aktivt samarbete* kring hållbar mat?

Ett aktivit samarbete kan exempelvis vara att få lära sig om mat integrerat i många ämnen/ämnesövergripande, skapa möjligheter för skolmåltidspersonal och skolpersonal att mötas, lära och byta erfarenheter liksom engagera barn och elever.

- Nej
- Ja - Hur ser kraven ut? Fritext svar

10. Mål: Ekologiskt & Matsvinn
Om ni inte har ett mål - vänligen lämna frågorna obesvarade.

Om er kommun har ett mål för inköp av ekologiska livsmedel, vilket mål-år är det?
Finns inget mål-år, 2025, 2026, 2027, [...], 2048, 2049, 2050

Hur många procent av livsmedelsinköpen ska vara ekologiska?
min, 1, 2, 3, 4, 5, 6, [...], 96, 97, 98, 99, 100

Om er kommun har ett mål för minskning av matsvinn, vilket mål-år är det?
Finns inget mål-år, 2025, 2026, 2027, [...], 2048, 2049, 2050

Hur ser ert matsvinnsmål ut?
Fritext svar

11. Mål: Kött, Sjömat & Ost
Om ni inte har ett mål - vänligen lämna frågorna obesvarade.

Om er kommun har ett mål för inköp av kött, vilket mål-år är det?
Finns inget mål-år, 2025, 2026, 2027, [...], 2048, 2049, 2050

Om er kommun har ett mål för inköp av kött, hur ser målet ut?
Fritext svar

Om er kommun har ett mål för inköp av sjömat, vilket mål-år är det?
Finns inget mål-år, 2025, 2026, 2027, [...], 2048, 2049, 2050

Om er kommun har ett mål för inköp av sjömat, hur ser målet ut?
Fritext svar

Om er kommun har ett mål för inköp av ost, vilket mål-år är det?

Finns inget mål-år, 2025, 2026, 2027, [...], 2048, 2049, 2050

Om er kommun har ett mål för inköp av ost, hur ser målet ut?
Fritext svar

12. Mål: Klimatavtryck
Om ni inte har ett mål - vänligen lämna frågorna obesvarade.

Om er kommun har ett mål för inköp av CO2e/kg livsmedel, vilket mål-år är det?
Finns inget mål-år, 2025, 2026, 2027, [...], 2048, 2049, 2050

Hur många kg CO2e/kg livsmedel är målet?
0.00, 0.05, 0.10, 0.15, [...], 2.90, 2.95, 3.00, över 3.00

Om er kommun har ett mål för inköp av CO2e/snittmåltid, vilket mål-år är det?
Finns inget mål-år, 2025, 2026, 2027, [...], 2048, 2049, 2050

Hur många kg CO2e/snittmåltid är målet?
0.00, 0.05, 0.10, 0.15, [...], 2.90, 2.95, 3.00, över 3.00

13. Mål: Kommunens representation, övriga arenor och pedagogiska arbete med mat

Har ni mål för andel måltider/livsmedel med hållbarhetskrav som serveras på kommunen egnamöten, konferenser och aktiviteter eller evenemang som arrangeras i staden, exempelvisfestivaler?

- ○ Nej
- ○ Ja - Hur ser målen ut? Fritext svar

Har ni mål för andelen avtal som inkluderar hållbarhetskrav med aktörer som driverservering/försäljning av livsmedel i fastigheter eller på mark som kommunen äger (exempelvisidrottshallar)?

- Nej
- Ja - Hur ser målen ut? Fritext svar

Har ni mål för hur skolrestaurangerna och de pedagogiska verksamheterna i er kommun aktivtska samarbeta kring hållbar mat?

- ○ Nej
- ○ Ja - Hur ser målen ut? Fritext svar

14. Avslutningsvis

Om du vill lämna din mailadress för att kunna bli kontaktad med eventuella följdfrågor så kan du skriva in den nedan. Dina kontaktuppgifter kommer inte delas eller publiceras.
Fritext svar

Om du vill lägga till något som du saknade, kan du förmedla det här nedan
Fritext svar

Tack för alla dina svar! Vi uppskattar att du tagit dig tid att besvara våra frågor

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