

Mapping the school food system

DELIVERABLE 2.2

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September 2022



Project acronym	SF4C
Project number	101036763
Version	Final
WP	WP2
Deliverable	D2.2 Joint report of mapping
Due date	30 September 2022
Dissemination level	
Deliverable lead	Stockholm Environment Institute
Authors	Evelin Piirsalu, Ingrid Varov, Kaidi Kaaret, Kertu Uiboleht, Piret Kuldna
Abstract	
Keywords	

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LIST OF ACRONYMS

CR – The Czech Republic

EU – European Union

FAO – Food and Agriculture Organisation

GHG – Greenhouse gases

GPP – Green Public Procurement

SF4C – SchoolFood4Change

SDG – Sustainable Development Goals

SME – Small and medium-sized enterprise

WSFA – Whole School Food Approach

EXECUTIVE SUMMARY

The report at hand is developed as part of The SchoolFood4Change project, supported by the Horizon 2020 programme. The report presents the results of the project's mapping study, which was carried out in 12 countries and 18 municipalities, and explored the existing school food systems, school food provision and procurement of food and catering services. For data collection purposes, two surveys were conducted among the partners. The first survey was sent to National Lead Partners, Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Slovakia, Spain and Sweden. The second survey was sent to regional authorities in Vienna, Ghent, Leuven, Copenhagen, Tallinn, Viimsi, Budapest, Dordogne, Lyon, Essen, Nuremberg, Milan, Nuoro, Valencia, Malmö and Umeå.

The participating countries and regions are incredibly varied across all metrics, from the land area and population to the governance structure and procurements method practised. Differences are evident both when comparing different municipalities but also when comparing schools within the municipalities.

The situation in terms of the political framework regarding food, sustainability and public food procurement is quite fragmented. Half of the studied countries have a food policy in place either on the national or regional levels (in Belgium and Germany). Dietary guidelines are adopted in the majority of the countries, except for the Czech Republic and Hungary, and sustainability requirements in food procurements are practised in slightly over half of the participating countries. However, the specifics of these are rather varied. In some countries, the requirements concern the share of organic food, while others seek specific quality labels.

Most schools in the studied municipalities provide at least lunch every day. In six out of eighteen municipalities, breakfast is also served in some schools. Often, that is for an extra charge and is not part of a regular school meal cost. In seven municipalities, some snacks are also served during the day. Also, in seven of eighteen regions analysed, three meals are offered in kindergartens, whereas in the rest only lunch or lunch and a snack are provided.

In terms of the school meal cost, there are two ways to structure the cost in the municipalities: the meal cost consists of only food ingredients, excluding other expenses or food ingredients along with other costs. The first option is commonly used when the school has an in-house

kitchen and the labour costs are covered from the school or municipal budget. The second option is frequently used when the service is outsourced to a private catering company. This option, where the meal cost includes other costs, such as transportation, electricity, and equipment, is predominantly used in the municipalities analysed in the mapping study. School food prices vary significantly from around 1 euro to eight euros. In most cases, school food cost is subsidised either fully for all or at least for the most vulnerable groups.

Regarding operational structure, contract catering provided by a private or a publicly owned company is the most common operational model used. In some regions, mixed operational models exist, meaning that some schools have in-house catering while others use contract catering. The food is prepared and served either on site or prepared in central kitchens owned by the municipality (nine of 14) and delivered to schools either in a ready-to-serve state or chilled down to be re-heated in schools. Both options are practised fairly evenly in the municipalities analysed.

Over half of the studied municipalities have centralised their food and catering services procurement and carry out the procurements for schools and kindergartens. Just 28% of municipalities have a decentralised system in which each institution individually procures its food and catering service. Often the centralised procurements tend to be larger, exceeding the national or EU financial thresholds. Procurements are becoming increasingly digitalised. Half of the municipalities have digitalised their entire procurement process, while 22% have partly digital procurement.

Most of the studied municipalities practice sustainability criteria in food procurements. In the Czech Republic and Slovakian municipalities, sustainability criteria have so far not been applied in tender processes, while in some regions, there is a high number of different requirements used. The criteria vary from the requirement of organic food and plant-based options to requiring various labels and low carbon emissions transportation. It is less common to demand solutions that minimise food waste or use energy-efficient equipment.

While most municipalities have attempted to procure more sustainable food and catering services, assessing the environmental and social impact of their food and catering service procurements is much less common. For example, only half of the studied municipalities have evaluated the environmental impact and 72% have not assessed the social impact of their procurement practices in these areas.

In the SF4C project, food and catering service procurement focus more on innovative food procurement models; however, these concepts are currently not well known amongst the municipalities analysed. Nevertheless, all studied municipalities are interested in trying the models. For example, Dynamic Purchasing Systems, framework agreements and SDG-aligned food tendering are the most relevant concepts to the municipalities participating in the mapping study.

As part of the mapping study, the regions also identified barriers they are facing when implementing sustainable and healthy school meals. From the answers, eight thematic barriers stood out the most. The most widespread barrier is the cost of sustainable alternatives or the fixed cost of a meal which does not allow for many changes. Lack of expertise of procurers regarding the sustainability criteria applicable, and the strict legal framework forbidding it, were also evident in many municipalities.

While the barriers exist in all of the analysed municipalities, many opportunities can also be perceived. The most prevalent opportunity suggested by five municipalities was health benefits, either by directly impacting children's health or influencing healthy dietary guidelines. Also, the opportunity to set local goals related to sustainability and the food system, and achieve those already set, was seen important in some municipalities.

Finally, in terms of the most preferred focus points of the SchoolFood4Change project, the most widespread answers were regarding food education in the school curricula and opening opportunities for local small-scale farmers and SMEs. These focus points could also bring about society-wide positive impacts by fostering children's education and thus improving their health in the longer term, and on the other hand, supporting local enterprises and thus improving local economies.

1 INTRODUCTION

What school-age children and adolescents eat greatly affects their health, wellbeing, and concentration. World Health Organization has estimated that one-third of European school-age children and one-fourth of adolescents are overweight or obese, with rates rising in many countries.¹ Vulnerable children from low-income or disadvantaged households are more likely to eat unhealthy diets that lack nutrition, exacerbating inequalities.

At the same time, food production significantly impacts the environment. Global food production contributes to climate change by emitting 30% of global greenhouse gas emissions². Furthermore, agriculture has a major impact on water use and quality. It uses massive amounts of water (up to 70% of global freshwater withdrawals)³ and lowers water quality due to the runoff of nutrients from agriculture⁴. It requires vast areas of land (around 36% of Earth's land is agricultural) and causes land use change and land degradation. In addition, it is a primary driver of deforestation and biodiversity loss⁵ and impacts the depletion of fisheries.

School food is an integral part of the food system, where both the consumption and production of food meet. Sustainable school food can contribute to achieving the environmental and climate objectives at the EU and national levels. Hence it contributes to fulfilling the goals put forward in the European Green Deal, Farm to Fork Strategy and the EU's Biodiversity Strategy for 2030. Providing proper school meals for all children also helps to support food security. Providing healthy and sustainable food thus contributes to public health and the environment.

¹ WHO 2022, WHO European Regional Obesity Report 2022. Copenhagen: WHO Regional Office for Europe

² IPCC 2014, Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Intergovernmental Panel on Climate Change, Geneva, Switzerland, 2014).

³ Molden 2007, "Comprehensive assessment of water management in agriculture" in Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture, D. Molden, Ed. (Earthscan, International Water Management Institute, London, Colombo, 2007).

⁴ Vitousek et al. 1997, Human alteration of the global nitrogen cycle : Sources and consequences published by : Ecological Society of America Stable URL. *Ecol. Appl.* 7, 737–750 (1997).

⁵ Benton, T. G., Bieg, C., Harwatt, H., Pudasaini, R. and Wellesley, L. 2021, Food system impacts on biodiversity loss. Chatham House, London.

The SchoolFood4Change (SF4C) project, supported by the Horizon 2020 programme, aims to facilitate a broad shift to sustainable, healthy diets by directly impacting more than 3 000 schools and 600 000 pupils in 12 EU countries. The aim is fulfilled through a triple approach: The Whole School Food Approach (WSFA), Green Public Procurement (GPP) and Planetary Health Diets. Before creating a shift towards healthy and sustainable diets and school food systems, it is essential first to explore where the SF4C project countries stand regarding their current school food systems, school food provision and procurement of food and catering services. Thus, a mapping study was carried out in 12 countries and 18 municipalities to gather the state-of-the-art data from the project countries. For data collection purposes, two surveys were conducted: one among the National Lead Partners (NLPs) of the SF4C project and the other among the representatives of cities, municipalities and regions. Based on the analyses and results, suggestions for best practices for improving the sustainability of food systems within the project can be made, as well as building a baseline to map progress in achieving the project's targets.

This report presents the results of the SF4C mapping of procurement and provision of school food, which discloses the national legal framework and innovative approaches, organisational and business structures and operational 'shop floor' performance regarding the delivery of the public meal.

The following section provides a brief description of the methodology. Then, the results from the two surveys, which are divided into two main parts, are outlined. The first part presents a general overview of each participating country and describes the national political and legal framework regarding school food. Furthermore, it also provides an overview of the school food governance, provision and procurement system in each city/region. The second part presents a comparative analysis between countries and cities/regions on the key topics.

2 METHODOLOGY

The data for mapping the legal basis and school food system school provision models and practices, and procurement models were gathered via the questionnaire among the SF4C project partner countries (National Lead Partners) and the municipalities involved in the project.

The data collected in the mapping covered external and organisational contexts. External context included various domains such as knowledge of the relevant political and legal framework (e.g., regulations, strategies, policies, and initiatives) and food system data in the partner countries. The organisational context covered in the mapping involved information about procurement models, organisational models, and cost models related to school food provision. Project partners involved in the mapping also identified barriers and opportunities associated with switching to a more sustainable and healthy school meal procurement and priority categories/areas for each municipality in the project.

Data collection involved 12 countries (Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Slovakia, Spain and Sweden) and 18 municipalities in those countries: Vienna, Ghent, Leuven, Copenhagen, Tallinn, Viimsi, Lyon, Dordogne, Essen, Nuremberg, Budapest, Milan, Nuoro, Valencia, Malmö and Umeå. As the Czech and Slovakian municipalities have joined in the project collectively, no separate cities are covered but rather local level in general.

The data was collected via electronic questionnaire form between May and August 2022. Additional desk research was done to clarify and harmonise the data collected and facilitate analysis. Country general statistics was collected Eurostat and FAO. Population numbers, agricultural area, including organic area, and number of agricultural holdings, including number of small farmers (with land less than 10 ha) is acquired from Eurostat. The statistics about food export and import in value and quantities is obtained from FAO statistics. Other information was collected from the project partners. Where not data is available, it is marked "n/a".

3 SCHOOL FOOD PROVISION AND PROCUREMENT SYSTEM IN SCHOOLFOOD4CHANGE COUNTRIES

This chapter aims to give an overview of the countries' profiles and food systems and the school food provision and procurement system in the selected municipalities in each SchoolFood4Change (SF4C) partner country.

3.1 AUSTRIA

3.1.1 COUNTRY PROFILE

Country profile and general facts about food system		
AUSTRIA	Total land area	83 883 km ²
	Total population	8,93 mil
	Number of regions	9
	Number of municipalities	2093
	Total agricultural area	2 670 000
	Total organic agricultural area	680 000
	Share of organic area of total agricultural area in the country	ca 26%
	Food import quantity and value	23,10 tonnes 248,39 billion euros
	Food export quantity and value	22,69 tonnes 245,40 billion euros
	Total number of agricultural holdings	110 780
	Total number of small agricultural holdings (below 10 ha)	41 340

Sources: see tables 1-3.

3.1.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

At the national level, Austria has a sustainable public procurement action plan (so-called naBe). However, the naBe action plan is only binding for federal public administrations but not for municipalities. The latter have regional programmes or guidelines, such as ÖkoKauf (EcoBuy) in Vienna. More detailed information about ÖkoKauf is in chapter 3.1.3. Procurement

in general is regulated by the Federal Procurement Act (Bundesvergabegesetz) adopted in 2018.

The national legal basis for food safety and control is the Austrian Food Safety and Consumer Protection Act of 2006 which integrates provisions resulting from EU Regulations on food safety, food control and food hygiene. It assigns responsibilities for enacting EU-legislation to national administrative bodies. In Austria, the Federal Ministry of Health has the overall responsibility for food safety and food safety legislation. It coordinates the activities of the nine Federal Provinces' food inspection authorities and laboratories designated for analyses of official samples.

Since 2011, Austria has a National Nutrition Action Plan with the main focus on over- and malnutrition and the goal of reducing overweight and obesity.⁶ The action plan is regularly revised. The Federal Ministry of Health and Women (BMGF) has created so-called school buffet guidelines within the action plan. Furthermore, recommendations have been developed for Austrian kindergartens and schools regarding the minimum requirements for lunches.⁷

In Austria, the SF4C project activities cover the capital of Austria: the city of Vienna. Detailed descriptions of school food provision and procurement of Vienna are presented in section 3.1.3.

⁶ Sozialministerium. *Nationaler Aktionsplan Ernährung*.

[https://www.sozialministerium.at/Themen/Gesundheit/Lebensmittel-Ernaehrung/Ernaehrungsstrategien-und-Gremien/Nationaler-Aktionsplan-Ernaehrung-\(NAP.e\).html](https://www.sozialministerium.at/Themen/Gesundheit/Lebensmittel-Ernaehrung/Ernaehrungsstrategien-und-Gremien/Nationaler-Aktionsplan-Ernaehrung-(NAP.e).html)

⁷ Richtig essen von Anfang an. *Essen im Kindergarten und in der Schule*.

<https://www.richtigessenvonanfangan.at/downloads/fuer-eltern/essen-im-kindergarten-und-in-der-schule/>

3.1.3 CITY OF VIENNA

General facts		
VIENNA	The land area of the municipality	414,6 km ²
	Total population	1 935 000
	Duration of the school year	September – July
	Length of the school year	180 days
	Number of schools	704
	Number of students in schools	247 000
	Number of kindergartens	2 827 childcare facilities (of which 739 kindergartens)
	Number of children in kindergartens	86 000
	Number of municipality schools and students	380 schools with total 112 000 students
	Number of municipality kindergartens and children	350 kindergartens with total 29 800 children

SCHOOL FOOD GOVERNANCE

The city of Vienna has both sustainability (Smart City Strategie and Klimafahrplan) and food policies (Lebensmittelaktionsplan, food action plan Wien isst G.U.T. (Vienna eats well).) in place.

Vienna has a green public procurement programme called ÖkoKauf (EcoBuy), which is mandatory for all municipal institutions. The programme has set, among other product groups, criteria for food procurement.⁸ Mandatory criteria are developed in the working groups where schools and kindergartens are also part. If all agree, the criteria are published and have to be followed in all tenders. ÖkoKauf Wien stipulates, among other things, a 30% organic share, organic or free-range eggs, and many criteria for green public procurement of school food (eggs, cow milk, poultry, as well as cleaning agents, electronic devices, lawn movers etc.). These focus mainly on environmental protection and longevity but not so much on social responsibility.

⁸ <https://www.wien.gv.at/umweltschutz/oekokauf/lebensmittel-beschaffung.html>

Dietary guidelines are usually provided by the Austrian nutrition society (ÖGE)⁹ (e.g., they say children have to eat fish, even though some would prefer to not offer fish, especially from the sea).

The Federal Ministry of Education develops the school curricula and the municipalities cannot influence the process much. The municipality can only offer extracurricular activities. In Austria, food literacy and healthy nutrition are part of two main education principles (health education and consumer education principles). One possibility might be pushing for a change of the curricula, but this has to be done with the other counties.

SCHOOL FOOD PROVISION

In Vienna, the municipal schools provide one hot meal during the day (lunch), whereas in municipal kindergartens, the kids can have three meals. School food is provided by private companies via a catering service contract. The food is prepared in the centralised kitchens, where the food is cooked, chilled down and delivered to schools where it is heated up and served as a hot meal.

The school meal cost is not fixed at the municipality level (the same for all schools). In some schools, the meals are free for all children but in some schools, parents pay 4,13 euros per day. In kindergartens, the cost of meals is 68,23 euros per month. However, both in schools and kindergartens, the meals are subsidised based on the parents' income.

The procurement of school food catering services is centralised within the municipality. Procurement is usually carried out in open procedure and the tenders are quite large and above the EU threshold. The tenders are done through an open procedure and are fully digitalised. Sustainability considerations are generally set in the technical specification or qualification criteria, these can be requiring organic food, vegetarian & plant-based options, seasonal food and ecolabels (Marine Stewardship Council's, MSC label, EU ecolabel organic),

⁹ <https://www.oege.at/uncategorised/the-austrian-nutrition-society/>

solutions that minimise food waste and practices that minimise waste in general. The award is based on a price- to quality ratio analysis and a standard renewable contract is drafted with the successful bidder.

The municipality of Vienna does not see barriers related to more sustainable food procurement, rather, opportunities are seen in children’s health, saving money on hospitals, less external costs related to food production practices etc.

Preferred focus points for Vienna in the SF4C project:

- Increasing the rate of organic ingredients in school meals;
- Reduction of animal-based food/protein shift and animal welfare;
- Shortening the supply chain;
- Integrating food education into the school curricula.

3.2 BELGIUM

3.2.1 COUNTRY PROFILE

Country profile and general facts about food system		
BELGIUM	Total land area	30 528 m ²
	Total population	11,55 mil
	Number of regions	3
	Number of municipalities	581
	Total agricultural area	1 367 385 ha
	Total organic agricultural area	99 075 ha
	Share of organic	7,4%
	Food import values and tonnes	97,95 million tonnes 595,01 billion euros
	Food export values and tonnes	76,23 million tonnes 651,96 billion euros
	Total number of agricultural holdings	36 000
	Total number of small agricultural holdings (below 10 ha)	8 850

Sources: see tables 1-3.

3.2.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

Belgium has a decentralised governance structure, consisting of the Federal authority and three regions: Flanders, Wallonia, Brussels. The Federal level has jurisdiction over matters regarding aspects of public health, nutrition, and food safety. Food health issues and consumer policies are generally handled at the federal level. Belgium follows the guidelines from FAVV, the Federal Agency for Food Chain Security regarding food safety. Further, the Federal Agency for Public Service Health, Food Chain Safety and Environment was set up in 2001. The FASFC is a federal executive agency with authority over the whole Belgian territory. It lays down the operational standards applicable to businesses and integrates an official control and inspection services for the food chain. Due to the government structure, there is no national strategy regarding food. On the national level there is a National Nutrition and Health Plan developed, which gives general nutrition guidelines for healthy diets. However, a strategic food policy along with refined dietary guidelines are competencies on the regional level (Communities).

The three regions have jurisdiction over territorial matters, such as regional food strategy, public transport, agriculture etc. On the regional level, food procurements must follow the national health dietary guidelines and recommendations and the law on public procurement.

Further, three communities have jurisdiction related to people, such as education, youth, and welfare. These are Flemish Community, French Community and German Community. The German Community is part of the Walloon region and shares the Walloon Food Strategy, while they have established their own regulations for education and health. The Brussels area is officially bilingual, and it has Flemish schools belonging to the Flemish community, and French schools belonging to the French community. The communities are responsible for all education, yet there are no binding laws on food literacy or a WSFA.

The Brussels region developed a 'Good Food Strategy' in 2015, which was set up as a guideline for the coming years to increase local sustainable production, support a transition to a sustainable food supply and reduce food waste. Some of the initiatives under the strategy included the Vegetable Garden project, which was implemented in schools to set up 10 new school vegetable gardens each year. As part of the strategy, a 'Good Food Cantine Label' has been developed to support caterers in their effort to become more sustainable.

3.2.3 CITY OF GHENT

General facts		
GHENT	Land area of the municipality	157,74 km ²
	Total population	264 666
	Duration of school year	September – June
	Length of school year	175 days
	Number of schools	48 primary schools Number of state and private schools: n/a
	Number of students in schools	5 666 in primary schools 2 201 in state schools 9 825 in private schools
	Number of kindergartens	42 municipality kindergartens
	Number of children in kindergartens	1 299

SCHOOL FOOD GOVERNANCE

The local case study areas, Ghent and Leuven's cities, are in Flanders. In Flanders, the institute of Healthy Living makes non-binding guidelines for school meals. There are different types of schools in Flanders. State schools are under the Flemish Government and the jurisdiction of the Flemish Community, public schools are organised by provinces and municipalities and subsidised free schools, in which about 70% of the students go to, are organised by the Catholic Church and by Catholic Education Flanders. Further, there are 'method schools' which are using a specific method in their curricula, such as the Steiner, Freinet or Montessori education method.

The main responsible body for school curricula is the Flemish Government and the Flemish Community. The Government cooperates in thematic fields such as: community education, subsidised official education and subsidised free education.

The city of Ghent has established both food and sustainability policy in their region.

SCHOOL FOOD PROVISION

A hot meal is served at lunch time in city schools, and kindergartens get snacks in addition to the hot meal. The lunch contains soup with bread, a hot meal and a dessert.

School food is organised through one contract with one catering company, which prepares the food in a centralised kitchen and delivers the hot meals to schools and kindergartens. The kitchen staff in the educational institution is responsible for heating and serving the food.

The average cost in kindergartens is 3,05 euros and a diet menu is 6,45 euros. In primary and secondary schools, the average meal cost is 4,2 euros, and a diet menu is 7 euros. The food cost includes both food ingredients, transportation, staff pay etc. There is no subsidy offered, and parents cover the full cost of the meals.

SCHOOL FOOD PROCUREMENT

The food procurements are centralised within the municipality and done through an open procedure. The procurements are digitalised. The city cooperates with market actors through dialogue events with stakeholders, desk research, 1:1 meetings with suppliers, site visits, and informal chats.

Sustainability considerations are generally stated in technical specifications and award criteria. These include organic food is requested, vegetarian & plant-based options required, seasonal food required, labels required, solutions that minimise food waste and practices that minimise waste in general. Additionally, short supply chain can be a requirement for the award, which also helps with understanding the sustainability of the supply chain. The award is based on a price- to quality ratio analysis and a non-renewable standard contract is signed with the successful bidder. A new tender is formed every four years.

The city of Ghent is part of the Cool Food Pledge committing to a GHG reduction by 2030. This has also impacted tender requirements and resulted in a decreased share of animal products in school meals since 2021. As part of the pledge, the GHG emissions associated with the food served in the municipality are calculated annually.

The region sees the main barriers to opting for a more sustainable food procurement as the higher costs related to a higher share of organic produce and the lack of suppliers on the market big enough and mature enough to deliver sustainable meals. The environmental-

Preferred focus points for Ghent in the SF4C project:

- Opening up opportunities for local small-scale farmers and SMEs;
- Integrating food education into the school curricula.

and social impact of the procurements in the municipality is assessed regularly through peer reviews and an environmental calculator.

3.2.1 CITY OF LEUVEN

General facts	
Land area of the municipality	56,63 km ²
Total population	102 133
Duration of school year	September – June
Length of school year	36 weeks, 182 days
Number of schools	65 schools in total: 16 state schools 40 catholic schools 2 private schools
Number of students in schools	14 025 in secondary schools 7249 in primary schools
Number of kindergartens	12 primary schools with kindergartens 4 separate kindergartens 25 catholic kindergartens
Number of children in kindergartens	3916 in all kindergartens

SCHOOL FOOD GOVERNANCE

The city of Leuven has established both a food policy and a sustainability policy. The Leuven food strategy 'Voeding Verbindt' (Food Connects), focuses on promoting healthy and sustainable food, bringing consumer and producer closer together, giving space for sustainable food production, focuses on sustainable agriculture, preventing food loss and re-use of surpluses and stimulating innovation.

The main body responsible for establishing curricula is the Flemish government, while the city has the leeway to influence it through intercity panels and school councils.

SCHOOL FOOD PROVISION

In Leuven, each school is responsible for deciding whether and how they organise the food provision in school. They can choose whether they offer warm meals at school. If they do not, students bring lunchboxes. If they do, lunch is organised through catering services, and the

school manages the procurement. Very few schools still have a kitchen, and even fewer are using the kitchen with staff or volunteers.

Most schools do not offer warm meals, especially after the effects of the COVID-19 virus. Breakfast is not served in schools nor kindergartens.

In cooperation with Rikolto, the municipality conducted a pilot project in 6 primary schools, which applied for a subsidy for providing healthy and sustainable food. The schools that were granted the subsidy decided how to serve the food in schools. As an example, one school chose to provide breakfast carts, from which pupils could grab something to eat when they arrived at school in the morning. A few other schools decided to offer free soup for students. It was also important to receive the soup ingredients from local farmers. One school decided to provide a piece of fruit from local farmers for the pupils, a different one every day of the week.

There is ongoing work in establishing another pilot project about offering warm meals.

SCHOOL FOOD PROCUREMENT

The municipality does not have an overview of the procurement process nor requirements used in tenders as each school procures their own food and catering through tenders. Also, the procurement process is not digitalised.

Preferred focus points for Leuven in the SF4C project:

- Opening opportunities for local small-scale farmers and SMEs;
- Reduction of animal-based food/protein shift;
- Tackling social issues (e.g., fighting unemployment);
- Shortening the supply chain;
- Integrating food education into the school curricula.

3.3 THE CZECH REPUBLIC

3.3.1 COUNTRY PROFILE

Country profile and general facts about food system		
THE CZECH REPUBLIC	Total land area	78 871 km ²
	Total population	10,70 mil
	Number of regions	14
	Number of municipalities	150
	Total agricultural area	3 493 609 ha
	Total organic agricultural area	575 152,5 ha
	Share of organic area	16,5%
	Food import quantity and value	15,87 million tonnes 226,09 billion euros
	Food export quantity and value	34,41 million tonnes 239,39 billion euros
	Total number of agricultural holdings	28 910
	Total number of small agricultural holdings (below 10 ha)	11 220

Sources: see tables 1-3.

3.3.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

The survey revealed that the nutritional requirements for school meals in the Czech Republic (CR) stem from Decree No. 107/2005 Coll. on school meals and its Appendix 1 so-called “consumption basket”, i.e., the average monthly consumption of selected types of food per dinner and day in grams. The average food consumption is calculated from the basic range of foods and child age to ensure that the relevant nutritional standards are met. The consumption basket contains ten essential commodities from meat, fish, dairy products, sugar, and fat to fruit and vegetables. While nutritional requirements are provided, dietary guidelines do not exist nationally.

The Ministry of Education, Youth and Sports stipulate detailed conditions for school catering, the operation of school catering facilities and the scope of services provided. Though the nutritional guidelines come from the consumption basket, the Ministry of Health also offers supplementary methodology via Nutritional Recommendations to calculate nutritional

standards through the consumption basket. It was reported that no social or environmental considerations regarding school meal provision had been set up.

There are no public procurement guidelines for school food; only a legally binding price ceiling for meals (lunch in primary and secondary schools) or daily catering (morning snack, lunch, afternoon snack in kindergartens) has been set. Thus, kitchens must abide by the monthly budget for ingredients based on the prices charged for meals. This means that the only criterion for procurement is the cost of the meal.

The Czech Republic has 8 728 school kitchens, each responsible for its procurement. About 75% of schools run their kitchens; the remaining schools have food delivered by external caterers, mostly from other school cafeterias. Some school kitchens are managed by small local private caterers or multi-national companies like Scolarest. Each kindergarten has a kitchen or food preparatory facility for warming up food delivered from a nearby school cafeteria or private caterer. As indicated above, there is no public procurement by the municipalities. According to the informant, the central government only marginally addresses food procurement, and currently, there is no legal framework of the policy governing the sustainability of food procurement. The Ministry of Education, Youth and Sports provides non-binding recommendations for school food providers and advises using fresh, seasonal and regionally sourced ingredients when possible.

About 400 schools in the CR are part of an international programme called “Eco-School”, which is *“the largest global sustainable schools programme”*¹⁰. Nationwide, the only sustainable school food project is the Skutečně zdravá škola programme (SZS, translation: “Really healthy schools”). According to Jones et al. (2022, p. 547), the programme was initiated *“to improve the state of the school food and food culture through using more sustainably produced foods from local farms and experiential food education”*¹¹.

¹⁰ <https://www.ecoschools.global/>

¹¹ Mat Jones, Dorte Ruge & Verity Jones (2022) How educational staff in European schools reform school food systems through ‘everyday practices’, *Environmental Education Research*, 28:4, 545-559, DOI: 10.1080/13504622.2022.2032608

3.3.3 LOCAL LEVEL

General facts		
THE CZECH REPUBLIC	Duration of school year	September – June
	Length of school year	10 months (2 months of summer vacation)
	Number of primary schools	4 238 (85% public; 6,4% private schools) (age 7-15)
	Number of students in primary schools	964 571
	Number of kindergartens	5 349 (4 782 public; 425 private; 50 church schools)
	Number of children in kindergartens	360 490

SCHOOL FOOD GOVERNANCE

The Czech government has no legal framework of the policy governing public/school food procurement sustainability. The school food procurement lies entirely on the head of the school canteen, who has the authority to procure products for cooking from whomever they choose. The only limitation is the price, as the monthly budget has a legal ceiling.

SCHOOL FOOD PROVISION

About 80% of all schools have on-site kitchens run by the school cooks employed by the school. The remaining 20% of schools get their food from on-site kitchens of other schools or have private companies catering in several schools. However, there are a few centralised kitchens run by some municipalities, but that is considered very rare. Schools that cater meals from other schools always get hot meals delivered. Some canteens which serve delivered food also have heating facilities for reheating or keeping food hot.

In primary schools, only lunch is provided. In kindergartens, morning snacks, lunch and afternoon snack is provided to children.

The lunch provided at primary schools consists of soup, a main dish, salad, dessert, and a drink. The average cost per meal is around 1,20 euros, which covers only food ingredients and is paid by parents. The local municipality and the state budget partly cover the school kitchens' operating costs.

Some municipalities/schools are part of the Ministry of Education, Youth and Sports “Free lunch” programme where children, after approval, are served free lunch based on their low socioeconomic status. There are also private foundations supporting this scheme.

SCHOOL FOOD PROCUREMENT

School food procurement is decentralised; each school procures its food/catering. Procurement remains below the national threshold and is not digitalised. Most school kitchens in the CR use digital inventory management systems but not purchasing systems. Typically, a direct contracting procurement procedure is applied. However, it was stated that canteens do not sign contracts but use purchase orders. The informant admitted that market dialogues are not used thus far as no tenders are currently carried out in the CR. In addition, the survey results revealed that no assessment of the environmental or social impact of procurement is presently done but indicated that food waste reduction would be a valuable indicator to assess impacts.

One of the main barriers to school food procurement in the CR stems from the legal framework because a legally binding price ceiling does not always allow for sustainable food choices. The absence of sustainability standards in the school food framework, as well as the absence of expertise at the purchasing level, specifically in school canteen leadership, is also considered an essential hindrance. However, the implementation of healthy and sustainable school meal procurement can bring a change to the national system of school food in the CR.

Preferred focus points for the CR in the SF4C project:

- Shortening the supply chain;
- Increasing the rate of organic ingredients in school meals;
- Opening up opportunities for local small-scale farmers and SMEs;
- Following seasonality;
- Measuring the environmental impact of food procurement (e.g., CO2 calculation);
- Integrating food education into the school curricula;
- Improving the price-quality ratio.

3.4 DENMARK

3.4.1 COUNTRY PROFILE

DENMARK	Country profile and general facts about food system	
	Total land area	43 000 km ²
	Total population	5,84 million
	Number of regions	5
	Number of municipalities	98
	Total agricultural area	2 619 987 ha
	Total organic agricultural area	310 210 ha
	Share of organic	11,8%
	Food import value and quantity	16,49 million tonnes 156,02 billion euros
	Food export value and quantity	17,86 million tonnes 193,91 billion euros
	Total number of agricultural holdings	37 090
	Total number of small agricultural holdings (below 10 ha)	12 830

Sources: see tables 1-3.

3.4.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

The EU procurement rules are implemented into the Danish procurement law. The Danish National Plan for GPP is published with national adjustments to GPP. In Denmark, there is a National Procurement officer Network, where ideas are shared on how to enhance GPP. In Copenhagen, the procurements go beyond the conventional GPP criteria.

In Denmark, the National board of Health has drawn up 7 dietary guidelines, also known as climate dietary recommendations. These recommendations are both aimed at the meals in private homes and served by the public. In Denmark, 0-6-year-old kids attend kindergarten, and 6-16-year-olds attend school.

In the kindergartens, the parents must vote whether the municipality supplies the food or parental paid lunch is served in the kindergarten. In Copenhagen, 89% of the kindergartens

voted for the municipality-supplied lunch. Most of the institutions in Copenhagen have their own kitchen and the kitchen personnel are hired by the municipality. In kindergartens, the food is mainly produced on-site, only a few kindergartens do not have a kitchen and therefore have the food delivered from a catering company.

In ages 6 – 16, children attend school in Denmark. On the national level, there is no regulation on school food, rather, the decision is made by each municipality whether they want to offer school food or not. In Copenhagen, there are 16 schools where school food is produced on the site with the help from students. In 45 schools, the meal is preprepared at a central kitchen and then delivered to the schools at night. In those schools, pupils help kitchen staff to finish preparing the meal before serving it for lunch.

The Danish Health Authority has drawn up recommendations for diet in day-care centres and schools based on official dietary advice and Nordic Nutrient Recommendations. Advice and suggestions are also prepared for packed lunches. There is a focus on organic and sustainable meals.

3.4.3 CITY OF COPENHAGEN

General facts		
COPENHAGEN	Land area of the municipality	179,8 km ²
	Total population	632 300
	Duration of school year	August – June
	Length of school year	40 weeks, 200 days
	Number of schools	71 public schools 56 private schools
	Number of students in schools	41 419 in state schools 10 355 in private schools
	Number of kindergartens	408 municipality kindergartens 367 state kindergartens 41 private kindergartens
	Number of children in kindergartens	32 806 in municipality kindergartens 31 233 in state kindergartens 1 573 in private kindergartens

SCHOOL FOOD GOVERNANCE

The municipality of Copenhagen has established food and sustainability policies in its region.

The Ministry of Education is the main body responsible for setting school curricula. The Municipality has the possibility to influence this process by giving feedback to the Ministry at the stage of developing the legislature. The Municipality follows the National Procurement Law, which builds upon EU procurement regulation. A political food strategy and various other environmental strategies are also formed in the Municipality region and incorporated into the food procurements. The Copenhagen Food Strategy has established goals for climate change reduction, organic food, less food waste and healthy meals for all citizens. A political decision was also made to prioritise school and kindergarten meals.

The Organic Food label is a state-controlled labelling scheme. It comes in three versions: Bronze: 30-60% organic food, Silver: 60-90% organic and Gold: 90-100% organic. Copenhagen Municipality has a goal that all public catering must include a minimum of 90% organic food. The municipality of Copenhagen is also actively working to reduce food waste in all public dining areas.

SCHOOL FOOD PROVISION

In Copenhagen, there are two different models for school meals: "Food schools" and "Eat school meals."

In the 'Food schools' model, the food is prepared in a large on-site production kitchen. In these schools, food, its formation and health are a central and integrated part of everyday life. It is also connected with the school's pedagogy and organisation. The school kitchen is designed to accommodate students' participation, and the staff is trained to educate pupils on the topic of food.

The 'Eat school meals' model has a different concept. In this case, the food is produced in a large central kitchen. The food is delivered to the schools daily, then heated or cooked in a smaller kitchen and delivered to the children. In addition, it's also possible for children to bring packed lunches from home. "Eat school meals" have the Gold organic food label, meaning 90-100% organic, and the food follows the seasons. Furthermore, the food must reflect the diversity of the children. In this way, the municipality of Copenhagen tries to create the right

balance between development and food formation on the one hand and security and well-known dishes on the other. The food must appear authentic, respect traditions, be contemporary, and have high culinary quality. This model is designed as a climate-friendly lunch offer with a significant focus on food waste. The Copenhagen municipality's Food and Meals strategy is considered a starting point in their work.

In both models, the children join the kitchen to prepare and serve the food.

Most kindergartens have their own kitchen and kitchen staff, while just 12 get their food delivered from a private catering company. Controversially, just 16 schools have their own kitchen and staff, while 45 schools get the food from the municipal central kitchen. Additionally, ten schools have no system in place yet.

The lunch meals are ordered and paid by the parents. The average meal cost at schools is 3 euros, and at day-care institutions, 4 euros per day. The price includes both food and labour costs. In kindergartens, the parents pay for lunch, while the municipality pays for additional meals, such as breakfast and snacks during the day. In schools, the parents pay about 50% of the total cost, while low-income parents get the meals of their children subsidised. In this case, the parents can pay either half a quarter or none of the cost of the food.

SCHOOL FOOD PROCUREMENT

Food procurement in Copenhagen is centralised within the municipality, and the process is completely digitalised. Usually, one large tender is targeted to a wholesaler that can deliver everything needed for smaller kitchen units. Smaller, below-the-EU threshold tenders are made for two big central kitchens, targeting SMEs. This system is built upon a market analysis where it was identified, which producers would like to offer their bids and which goods in the kitchen are needed.

Sustainability requirements are most often described in the technical specifications through mandatory environmental/social criteria. These requirements include organic food, vegetarian and plant-based options, free-range animal products, seasonal food, and low-carbon emission transportation. The award is based on price-quality ratio analysis, and a framework agreement is signed with the successful bidder. The procurers use specific methods to assess the impact of procurement, such as an environmental calculator, along with peer reviews and assessments.

In Copenhagen municipality, it is believed that implementing sustainable and healthy school meal procurement provides an opportunity to implement political goals and follow the effect of the contract clauses when implemented fully.

The primary sustainability indicator to prioritise to assess the impact of procurements in schools would be GHG emissions.

The main barriers identified are the lack of sustainability expertise, the lack of offers on the market and high costs versus low budgets.

Preferred focus points for Copenhagen in the SF4C project:

- Opening up opportunities for local small-scale farmers and SMEs
- Reduction of animal-based food/protein shift;
- Integrating food education into the school curricula.

3.5 ESTONIA

3.5.1 COUNTRY PROFILE

Country profile and general facts about food system		
ESTONIA	Total land area	45 339 km ²
	Total population	1 331 796
	Number of regions	15
	Number of municipalities	79
	Total agricultural area	986 672 ha (2021)
	Total organic agricultural area	226 605 ha (2021)
	Share of organic	23,0%
	Food import quantity and value	2,26 million tonnes 25,43 billion euros
	Food export quantity and value	4,44 million tonnes 23,47 billion euros
	Total number of agricultural holdings	11 370
	Total number of small agricultural holdings (below 10 ha)	3 850

Sources: see tables 1-3.

3.5.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

The Estonian Ministry of Rural Affairs released a programme "Estonian food 2022–2025", of which one of the main goals is that the local consumer makes informed food choices. The plan is to achieve this by raising public awareness about reducing food waste and informing people about food quality schemes like geographical indications and organic labels. There is also an emphasis on the education and involvement of children and young people with educational programs related to local food.

The "Estonian food 2022–2025" programme includes sustainability aspects in the context of contributing to the EU goal of sustainable food systems. It also mentions the importance of reducing the climate impact related to the production and transportation of raw materials and food, though no measures on how to achieve this are included.

The Estonian Public Health Act aims to protect and promote human health and prevent diseases. One implementing act of the Public Health Act has established health protection requirements for catering in preschools and schools. The requirements include the menu, energy and nutrient content of a school lunch.

The purpose of the Estonian Food Act is to provide the grounds for public handling of food and raw material to ensure food safety and compliance with other requirements for food.

Responsible public institutions for food policy and procurement:

1. Ministry of Rural Affairs – policymaking for food and food quality, including organic food
2. Ministry of Social Affairs – policymaking for public health
3. Health Board – enforces Public Health Act
4. Ministry of Finance – procurement policy
5. Agriculture and Food Board – enforces Food Act and organic food-related regulations, supervision of food handling chain and food safety
6. Association of Estonian Cities and Municipalities – policymaking, a representative organisation of local authorities to represent and protect the common interests of Estonian cities and municipalities

7. Estonian Regional and Local Development Agencies – a competence centre and national-level development agency for local governments: provides procurement, policy development and service design.

Estonian national nutritional recommendations endorse eating more vegetables, whole grain products, berries and fruits, and fewer dairy products, food from group fish-eggs-poultry and added dietary fats, nuts, and seeds.

To ensure food safety, the Ministry of Rural Affairs develops requirements and legislation and organises domestic food chain control and supervision.

Estonia is implementing the EU Farm to Fork strategy to contribute to climate neutrality by 2050 and make the current EU food system more sustainable.

3.5.3 CITY OF TALLINN

General facts		
TALLINN	Land area of the municipality	159,3 km ²
	Total population	450 850
	Duration of school year	September – June
	Length of school year	40 weeks, 175 days
	Number of schools	89
	Number of students in schools	53 657
	Number of kindergartens	142
	Number of children in kindergartens	22 447

SCHOOL FOOD GOVERNANCE

The food policy of the city of Tallinn is under development. Indirectly sustainable food policy is included in the Tallinn City Strategy as one of the goals of green transformation.

Tallinn participated in the Baltic Sea Region Programme project “StratKIT – Innovative Strategies for Public Catering: Sustainability Toolkit across the Baltic Sea Region”, which promoted more sustainable school food and public procurement of catering services. Many schools participate in the global Eco-Schools programme, in which food is one of the 12 focus topics.

While the school principals are responsible for developing their schools` curricula based on the national curriculum, the Tallinn Education Department provides guidance and feedback to the Tallinn municipal schools in the annual evaluation process.

SCHOOL FOOD PROVISION

Most generally, the catering services are procured from private companies (contract catering model). For cooking meals, both on-site and centralised kitchens, from which the catering service provider distributes meals to multiple schools, are in use.

Schools provide lunch and, on certain occasions also, after-school meals. For example, an after-school meal is provided for only primary school children who stay in school after the lessons. After-school meal, however, is provided only for an additional charge paid by parents. Kindergartens offer breakfast, lunch and afternoon snacks. The school lunch, kindergarten breakfast and lunch are hot meals (type of meal delivery: cook and serve). Also, cold food (e.g., sandwiches, snacks) is available at schools and kindergartens.

Since 1.09.2022, Tallinn's school lunch (hot meal) cost has been fixed for all schools at 1,56 euros per child/day (previously, the price was 1,34 euros). The school lunch is fully subsidised, whereas the national government covers 1 euro, and Tallinn municipality 0,56 euros per day. Thus, the school lunch is free of charge for all pupils. The meal cost includes both food ingredients and kitchen labour costs. The catering service provider must use at least 70% of the subsidy to buy food and up to 30% to organise catering.

The city also partly subsidises meals in kindergarten: 2 euros/day for children 3-7 years of age and 1,80 euros/day for children 0-3 years of age. Parents pay for the missing part if the actual meal cost is higher.

SCHOOL FOOD PROCUREMENT

Schools can procure the food catering themselves, but most prefer that the municipality lead the process and delegate the procurement task to the school owner. Thus, in Tallinn, the Education Department organises most of the procurements centrally for multiple schools at a time. The school food procurement is above the EU procurement thresholds, is an open procedure, and is fully digitalised. Sustainability issues have been leveraged the most in market analysis/market dialogue of school food procurements. The city of Tallinn feels that

they have information on the sustainability of the suppliers' supply chain in terms of environmental and social responsibility. However, the advantages and disadvantages of different procurement models need to be analysed.

Health and sustainability issues have been fostered in the tender documents in the school food procurement through mandatory (national/regional) environmental/social criteria and required food education activities (for pupils and kitchen staff). The contract with the catering service provider is renewable.

The environmental and social impact of the city's procurements has not been evaluated. To assess the impact of procurement in schools, Tallinn would prioritise food waste reduction indicators.

Procurement barriers faced by Tallinn when implementing sustainable and healthy school meals are the following: lack of procurement and sustainability expertise, fixed school meal price, and legal framework. Tallinn sees national health guidelines as an opportunity when implementing sustainable and healthy school meal procurement.

Preferred focus points for Tallinn in the SF4C project:

- Increasing the rate of organic ingredients in school meals;
- Following seasonality;
- Measuring the environmental impact of food procurement (e.g. CO₂ calculation);
- Integrating food education into the school curricula.

3.5.1 MUNICIPALITY OF VIIMSI

General facts		
VIIMSI	Land area of the municipality	47 km ²
	Total population	22 226
	Duration of school year	September – June
	Length of school year	40 weeks, 175 days
	Number of schools	6
	Number of students in schools	3 117
	Number of kindergartens	9
	Number of children in kindergartens	1 590

SCHOOL FOOD GOVERNANCE

Food or sustainability policy has not been developed on the local level. Food education is integrated into the state curriculum, developed by the Ministry of Education and Research. Schools can undertake additional activities, e.g., through participation in the Eco-Schools programme. For example, in all schools, there are posters on healthy food and exercise prepared by the National Institute for Health Development, and they conduct special lessons about healthy food and food preparation.

School development plans are confirmed by the school owner – municipality. Based on the state regulations, Viimsi Municipality has developed regulation requirements for procurements at the local level.

SCHOOL FOOD PROVISION

School food catering is outsourced to private companies (catering service contract). The meals are prepared in a central kitchen for all municipal schools. School lunch is a hot meal (Cook and serve), also cold food (e.g., sandwiches, snacks) is available.

The catering contractor operates from one central kitchen located in one of the schools.

Food is provided three times a day at school. A warm meal for lunch is free for pupils, paid by the state and Viimsi municipality but breakfast and extra lunch (after-school meal) are for an additional cost (paid by parents). The state provides 1 euro per day/child, and the municipality adds 0,65 euros per day/child for school lunch. The meal cost includes both food ingredients and kitchen labour costs. Two times a week there is soup for lunch, on the rest of the days schools offer steak (meat, fish), veggies and fresh salad.

The cost of the food in kindergarten per day is 2,10 euros, which contains three meals: breakfast, lunch, and afternoon snacks. Parents and the municipality share the cost of food in kindergarten equally.

SCHOOL FOOD PROCUREMENT

Food for municipal schools and kindergartens is centrally procured by Viimsi municipality. Public procurement for school catering is an open procedure, direct contracting (negotiated procedure without prior publication), below the EU thresholds, and completely digitalised.

In the procurement process, sustainability issues are included in the qualification criteria (selection and exclusion criteria), technical specification and contract clauses. The tender documents include mandatory (national) nutritional criteria. Award is based on a price-quality ratio analysis (price and other factors). As additional sustainability criteria, the contractors are required to offer vegetarian & plant-based options / free range animal products, eco-friendly cleaning products (e.g., Ecolabel), and solutions that minimise food waste (e.g., redistribution).

For market dialogue, questionnaires/surveys and requests for information are mostly used. However, more details of the suppliers' supply chain sustainability would be needed, both in terms of environmental and social responsibility. The environmental and social impact of municipal procurements has not been evaluated. To assess the impact of procurement in schools, Viimsi would prioritise the indicators on healthy, fresh (seasonal) and tasty food as well as food waste reduction.

Currently, a four-year contract (not renewable) has been agreed upon between Viimsi municipality and a catering service company. For monitoring the catering procurements, a working group has been formed by Viimsi municipality in cooperation with the National Institute for Health Development, consisting of lawyers, representatives of the education department, schools, kindergartens, parents and pupils. The working group estimates the menus, their ingredients, the taste and appearance of meals, and the price of the tenders.

Procurement barriers faced by Viimsi when implementing sustainable and healthy school meals: Due to inflation and the economic situation, the contractor doesn't want to fix prices for a more extended period.

Viimsi sees the following opportunities when implementing sustainable and healthy school meal procurement: request of local (state/regional) food that would help local providers and farmers; local food is also environment friendly. Organic and seasonal food requests also support children's health.

Preferred focus points for Viimsi in the SF4C project:

- Increasing the rate of organic ingredients in school meals;
- Following seasonality;
- Integrating food education into the school curricula;
- Improving the price-quality ratio.

3.6 FRANCE

3.6.1 COUNTRY PROFILE

Country profile and general facts about food system		
FRANCE	Total land area	672 051 km ² (543 908 km ² for Metropolitan France)
	Total population	67,66 mil
	Number of regions	18
	Number of municipalities	35 038
	Total agricultural area	26,9 million ha
	Total organic agricultural area	2,7 million ha
	Share of organic	10,3% 49% in metropolitan France
	Food import quantity and value	81,53 million tonnes 874,62 billion euros
	Food export quantity and value	141,27 million tonnes 828,85 billion euros
	Total number of agricultural holdings	393 030
	Total number of small agricultural holdings (below 10 ha)	107 000

Sources: see tables 1-3.

3.6.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

The policies on national agriculture, food and maritime fishing in France are presented in an exhaustive legal document, **the French Rural and Maritime Fisheries Code**.¹² In particular, the policy on food, described in Article L1 (section I), gives environmental protection, climate change mitigation and adaption efforts a high priority to secure the availability of “safe, healthy

¹² The Republic of France. (September 30, 2022). *Rural and Maritime Fishing Code*. [National law]. https://www.legifrance.gouv.fr/codes/section_lc/LEGITEXT000006071367/LEGISCTA000029575571/#LEGISCTA000029579994

and varied foods of good quality and in sufficient quantity produced under conditions that are economically and socially acceptable for all”¹³. To amplify the latter, various national tools such as the **National Food Programme** (PNA) and the **National Nutrition and Health Programme** (PNNS) have been put forward by the government for the period 2019-2023. While PNNS determines “*targets, guidelines and focuses for policy on nutrition*”, the crosscutting themes of PNA are broader, tackling the issues of social justice, food waste and the enhancement of food education.¹⁴ With the focus on upholding national ambitions, PNA also supports initiatives known as the **Regional Food Projects** that target social, economic, environmental or health-related issues on a local level in pursuit of taking into consideration local needs.¹⁵ Regional Food projects seek to support ongoing projects and encourage the emergence of new ones, some of which are about integrating actions in school canteens.

Furthermore, France is making greater efforts to accelerate change and leverage ecological transition in procurement practices from the top down. Particularly relevant for the SF4C project are PNA’s flagship measures on *institutional catering*, regulated by the EGAlim law, to advance dietary change, some of which concern the uptake of more organic products, promotion of plant-based proteins and new nutritional recommendations for school canteens.¹⁶ In addition, the country has been developing a national action plan to promote sustainable public procurement since the 2000s. The current roadmap (3rd edition), “**National Plan for Sustainable Procurement 2022-2025**” (PNAD 2022-2025), carries an ambition to support the deployment of the advances of the law of August 22, 2021 (law no. 2021-1104) on the fight against climate change and strengthening resilience to its effects in terms of public procurement, namely the integration of an environmental and social dimension into all public procurement contracts, within five years¹⁷.

¹³ The French Ministry of Agriculture and Food. (2019). *France’s National Food Programme: The Regions in Action 2019-2023*. Page 5. European Commission. https://food.ec.europa.eu/system/files/2021-04/fw_lib_fwp-strat_nfp-strt_fra_2019.pdf

¹⁴ Ibid. (p.5)

¹⁵ Ibid. (p. 31)

¹⁶ Ibid. (p. 27)

¹⁷ The French Government. (n.d.). National Plan for Sustainable Procurement. <https://www.ecologie.gouv.fr/sites/default/files/PNAD-PAGEAPAGE-SCREEN%283%29.pdf>

Among the above-mentioned national initiatives, the French government has also set up a plan called “**France Relance**” which runs from 2021 until 2023. The plan was launched in response to the economic effects of COVID-19 and is designed to enhance sustainable economic growth and resilience. One of its aims is to target school canteens in small municipalities specifically¹⁸. The plan provides support investments with up to 50 million euros (e.g., purchasing equipment for the preparation/storage/cooking of fresh produce; intangible assets such as software, prevention of food waste, training; intellectual assets such as assistance, technical consultancy etc.). The French government has also implemented the **rural solidarity budget scheme**, the so-called “1-euro meal”, which is allocated to inter-municipal schools (of which at least ⅔ of students come from municipalities eligible for the rural solidarity budget) and schools in certain municipalities that are in accord with the criteria. In this scheme, the government's support is increased to 3 euros for every meal that is not charged more than one euro.

In the SF4C project, two regions are covered: Auvergne-Rhône-Alpes and Nouvelle Aquitaine, namely the city of Lyon and the Department of Dordogne, respectively. Detailed descriptions and local school food systems of both regions will be presented in the following sections (3.6.3 and 3.6.4).

3.6.3 CITY OF LYON

General facts		
LYON	Land area of city	48 km ²
	Total population	520 000
	Duration of school year	September – July
	Length of school year	Around 140 days
	Number of schools	208
	Number of students in schools	35 500 (public primary schools)
	Number of kindergartens	50
	Number of children in kindergartens	n/a

¹⁸ The French Ministry for Europe and Foreign Affairs. (n.d.). *France Relance recovery plan: building the France of 2030*. <https://www.diplomatie.gouv.fr/en/french-foreign-policy/economic-diplomacy-foreign-trade/promoting-france-s-attractiveness/france-relance-recovery-plan-building-the-france-of-2030/>

SCHOOL FOOD GOVERNANCE

Overall, the school curricula are managed on a state level. While municipalities such as the city of Lyon do not have any leeway to influence it, teachers could initiate extra-curricular activities outside the programme. The city currently has a sustainability policy administered in the metropolitan area, including Lyon and fifty-eight neighbouring municipalities. Though Lyon has some food-related activities, they are not coordinated in a policy. For instance, many schools throughout the city organise various educational actions connected to sustainable food and involve children in school menu planning.

SCHOOL FOOD PROVISION

Different operational catering structures are in place, depending on whether a school or a kindergarten. While in-house and on-site catering for kindergarten is possible, in primary schools, municipality-owned centralised kitchens are used and managed by a private caterer (a company named Elior). The caterer cooks and delivers meals to schools. As reported by the city, the caterers provide around 26 500 meals in 127 canteens per day.

Lunches are provided both in schools and kindergartens. While kindergarten lunch is offered five days a week, in schools, it is four days a week, all working days except Wednesdays. The study also showed that two vegetarian meals are served each week out of four, and an entirely vegetarian option is offered daily in schools. Meals are typically pre-cooked and served later as a hot meal.

The municipality partially subsidises school meals in Lyon. The city pays the most significant share of costs, while the parents must pay for a part of the meal (varies between 80 cents and 7,30 euros), depending on their income. The meal cost includes the cost of food ingredients, kitchen labour costs, food delivery to schools and the staff costs of educators working with children during mealtime.

SCHOOL FOOD PROCUREMENT

In Lyon, school food procurement is centralised for schools and kindergartens. Procurement is an open procedure and above the EU threshold. The sustainability aspects of the procurement procedure are levered during market analysis, technical specification, contract negotiation and contract execution. During market dialogue activities, discussion events with stakeholders, surveys, one-on-one meetings with suppliers, requests for information and on-

site visits are carried out. In tender documents, health and sustainability aspects are fostered through mandatory national and regional environmental and social criteria while considering the price-quality ratio analysis.

Further attention is paid to the use of labels of quality and origin, and therefore labels such as organic farming or the Red Label (*Label rouge*) are required. In addition, the tender documents contain information about using plant-based options, free-range animal products, eco-friendly cleaning products, low carbon emissions transportation activities and solutions to food waste from the contractors. Usually, standard renewable contracts are signed with the supplier. The city collaborates with the supplier to increase the share of local products and shorten the supply chain. The city brings together the caterer and the agricultural branch, following the guidelines of the Agricultural Commission. The city has an excellent ambition to increase its share of organic products to 75% and local supply to 50% by 2026.

The utmost procurement hurdle that the city faces in implementing sustainable and healthy school meals is related to the requirement of local supply in all tenders. Though directly managed by the caterer, the city reported that the quantity of supply needed for school catering could present barriers. As for kindergartens, the main issue lies in logistics, namely being able to deliver to all fifty kindergartens, some of which only cater for twenty children. Currently, there is no assessment of procurement's environmental or social impact. The survey revealed that a general social and ethical procurement had been developed and is now being implemented, but ecological and social impacts should be assessed.

The city reported that sustainable and healthy meal procurement offers a significant opportunity to reduce the environmental footprint by increasing meal quality and supporting local farmers in buying their products.

Preferred focus points for Lyon in the SF4C project:

- Increasing the rate of organic ingredients in school meals;
- Opening up opportunities for local small-scale farmers and SMEs;
- Following seasonality;
- Reduction of animal-based food/protein shift;
- Shorting the supply chain;
- Integrating food education into the school curricula.

3.6.1 DEPARTMENT OF DORDOGNE

General facts		
DORDOGNE	Land area of the municipality	9 060 km ²
	Total population	416 000
	Duration of school year	September – June
	Length of school year	36 weeks
	Number of middle schools	35
	Number of students in schools	14 500
	Number of kindergartens	n/a*
	Number of children in kindergartens	n/a*

**The Department of Dordogne is not responsible for catering in kindergartens.*

SCHOOL FOOD GOVERNANCE

As presented previously, the school curricula in France are under the responsibility of the central government, and thus the Department of Dordogne does not have any leeway to shape them. The Dordogne department is responsible for catering for thirty-five middle schools. The Department has both food and sustainability policies in place. It has succeeded in making school canteens a pedagogical moment and an example to follow. That not only for having launched an ambitious programme of reorganising school canteens but for having created around them value for the territory; a commercial outlet for small local producers who are now main actors and no longer spectators in the food system of the region.

The Department has a local policy aiming at entirely organic, local, homemade meals. To date, eight schools out of thirty-five are run under this policy, but all schools are expected to follow the path by 2026. These schools have been certified by ECOCERT and are the first schools in France to obtain this label and the level of 100% organic and local products. Dordogne has adopted a systemic approach that has made it possible to connect the real "nutritional" needs of school canteens with local food production, re-centring activities on the enhancement of the skills of each actor in the supply chain and all stakeholders, putting human labour back at the centre of the local food system.

SCHOOL FOOD PROVISION

The Department of Dordogne is only responsible for catering for middle school canteens. It has chosen to keep a kitchen in each establishment and have its agents prepare all meals in-house, with the support of a trainer and nutritionist. Each school has its canteen where meals are cooked freshly every day. The Department is not responsible for catering for kindergartens. However, they have some agreements with other cities to cook in the middle school canteens managed by the Department and transfer the hot meals to the respective kindergartens and schools.

Most middle schools in the Department of Dordogne provide only lunch. However, six boarding schools are given meals throughout the day (i.e., breakfast, lunch, snacks and dinner), and in one school, lunch and snacks are provided for sports students who play football, around 50 children. Lunch is served four or five times a week (twenty-two high schools are on five lunches and thirteen on four lunches per week).

The local food policy states that five components should be included per meal: starter, main course, side dish, dairy product, and dessert, typically fruit or pastry. The meal composition follows national nutrition guidelines and the local food policy. The Department reported that all meals are cooked homemade from raw products, respecting the seasonality of products. Substantial attention is paid to the nutritional side of the meals, reducing the amount of salt and sugar in meals and using more spices instead.

The junior high school meals are partially subsidised. The gross price for a meal, which includes food ingredients and labour costs, is 8 euros. The final cost for children after subsidies is 2,8 euros per meal.

SCHOOL FOOD PROCUREMENT

School food procurement in Dordogne is decentralised, meaning that each middle school manages its procurement under the guidelines set by the Department. Dordogne department services guide school managers and drive local production towards collective catering procurement. The procurement procedure is open, wholly digitalised and below the national threshold.

As far as possible, procurement focuses on local and organic based on local ecosystems and specific procurement requirements. The sustainability factor is leveraged the most in the inter-organisational procurement planning, qualification criteria and technical specification stages. Request for information has been the only market dialogue activity applied in the Department thus far.

The tender documents foster health and sustainability criteria in various ways, such as through mandatory (national/regional) environmental and social criteria and price-quality ratio analysis. Furthermore, the provision of organic food, vegetarian and plant-based options, free-range animal products and the seasonality of food is considered. Dordogne also reported a strong emphasis on using labels but did not highlight any specific ones. Other requirements concern the support of small-scale farmers and SMEs, using eco-friendly cleaning products, low carbon emissions transportation activities and practices that minimise waste, mainly plastic waste from the contractors.

The survey revealed that the Department is mainly conversant with framework agreements. The same type of contracts, including standard renewable contracts, are signed with school food caterers. The informant stated that the sustainability of the supplier's supply chain is not a requirement in the tender documents, but some suppliers offer it, nevertheless.

Concerning procurement models, the Department reported that framework agreements are most relevant for their municipality. Legal framework, lack of knowledge from buyers about local product diversity and costs were indicated as the main hurdles to implementing sustainable and healthy school meals in the procurement process. On the other hand, in doing so, the Department sees improvement in health, and relocalisation of procurement for the local farmers and SMEs. While the social impact of procurement is being assessed on an ad-hoc basis, the informant could not state if the environmental impact is being evaluated or not. Social impact is assessed using informal tools such as observations and on-site meetings. In the respondent's view, organic food could be a helpful sustainability

Preferred focus points for Dordogne in the SF4C project:

- Opening up opportunities for local small-scale farmers and SMEs;
- Measuring the environmental impact of food procurement (e.g., CO2 calculation).

indicator to determine the impact of procurement in schools.

3.7 GERMANY

3.7.1 COUNTRY PROFILE

Country profile and general facts about food system		
GERMANY	Total land area	357 588 km ²
	Total population	83,16 mil
	Number of regions	n/a
	Number of municipalities	10 796
	Total agricultural area	16,7 million ha
	Total organic agricultural area	1,8 million ha
	Share of organic area	10,8%
	Food import quantity and value	164,12 million tonnes 1671,71 billion euros
	Food export quantity and value	134,06 million tonnes 1802,03 billion euros
	Total number of agricultural holdings	262 560
	Total number of small agricultural holdings (below 10 ha)	62 320

Sources: see tables 1-3.

3.7.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

Currently, there are no food policies or strategies on a national level, but there is an ongoing discussion about a national food strategy. Instead, federal states can have food policies/strategies on their own.

The key responsible public institutions are **the National Quality Centre for Nutrition in Day-Care Centres and Schools (NQZ)**, which coordinates and develops measures and initiatives around the topic of good food in day-care centres and schools¹⁹, **Networking Centres for**

¹⁹ <https://nqz.de/>

School Catering²⁰, the Competence Center for Sustainable Procurement²¹, the German Society of Nutrition²². Standards on nutrition and food; labelling and consumer information, hygiene and food safety are followed by a combination of regulations on the EU and national levels. The local framework for procurement has been determined by multiple national laws.

Many federal states have state-specific procurement laws or administrative regulations on public procurement. However, the local authorities have also administrative regulations/guidelines for public procurement. The regulations of the federal states and municipalities supplement or clarify the procurement regulations of the EU and the federal government. This is possible for tenders below the EU thresholds. However, with a few exceptions, the procurement regulations of the federal states do not contain any specific regulations for the procurement of organic food or catering services.

Since the last major reform of public procurement law, explicitly environmental and social criteria may also be considered in the procurement process (§ 97 Abs. 3 GWB /§ 2 Abs. 3 UVgO). For example, the Berlin Tendering and Award Act (BerlAVG) states that public contracting authorities must consider the total life-cycle costs of a product or service (§7, par.2). Furthermore, the administrative regulation of procurement and the environment (VwVBU) declares that at least 15% of food comes from organic farming.

Subject to public procurement law are, for example, public school authorities and municipal kindergartens and not subject to public procurement law are Church (independent) kindergartens and schools.

As a national health dietary guideline, the DGE Quality Standard defines requirements for a balanced and sustainable menu planning and preparation of meals. It serves as a guideline for anchoring health-promoting and sustainable catering into the school environment. Only in the following federal states, the DGE quality standard for catering in schools is mandatory: Berlin, Bremen, Hamburg, Saarland and Thuringia.

²⁰ <https://nqz.de/vernetzungsstellen/vernetzungsstellen-schulverpflegung/>

²¹ https://www.nachhaltige-beschaffung.info/DE/Home/home_node.html

²² <https://www.dge.de/>

There are numerous noteworthy sustainable school food initiatives in Germany, some of which are:

- *Sarah Wiener Stiftung*: offers practical education on food and healthy nutrition and cooking classes (“*ich kann kochen*”) for pre-school and primary school children.²³
- *GemüseAckerdemie*, is primarily an educational programme for 3rd to 6th graders, where children learn where the food on our plates comes from on the school's own farmland. More than 860 schools in Germany, Austria and Switzerland are already working on the project.²⁴
- *Kantine Zukunft Berlin* (Canteen “Future” Berlin) is an initiative dedicated to a sustainable transformation of Berlin’s public catering. Through active and long-term consultation, with in-house trainings, seminars, and workshops as well as networking events (Canteen Meetups), teams from Berlin’s canteen kitchens learn to change the urban canteen landscape towards more quality, sustainability, and appreciation.²⁵
- “Anyone Can Do Organic” is the name of the nationwide information campaign for more organic products and sustainable nutrition in out-of-home catering for children and young people. The action programme aims to raise awareness of the value of healthy and child-friendly nutrition among those responsible for the administration and canteens of schools and day-care centres, as well as educators, teachers, and parents.
- *BioBitte* - Initiative for more organic food in public kitchens is the nationwide initiative that wants to contribute to the use of more organic products in out-of-home catering. *BioBitte* is aimed at political decision-makers, contracting authorities, specialist departments and those responsible for community catering. Among other things, the initiative presents background information, aids to action and examples of good practice and invites people to events.²⁶

²³ <https://ichkannkochen.de/english/>

²⁴ <https://www.acker.co/gemueseackerdemie>

²⁵ <https://kantine-zukunft.de/>

²⁶ <https://www.bmel.de/DE/themen/landwirtschaft/oekologischer-landbau/bio-bitte.html>

The SF4C project covers two cities: Essen and Nuremberg. Detailed descriptions and local school food systems of both regions will be presented in the following sections (3.7.3 and 3.7.4).

3.7.3 CITY OF ESSEN

General facts		
ESSEN	Land area of municipality	210,34 km ²
	Total population	589 507
	Duration of school year	August – July
	Length of school year	40 weeks, 200 days
	Number of schools	158 (147 municipality and 12 private schools)
	Number of students in schools	n/a
	Number of kindergartens	58 (50 municipality and 8 private kindergartens)
	Number of children in kindergartens	Approx. 4 673

SCHOOL FOOD GOVERNANCE

The Framework Curriculum combines input from multiple actors, for instance, the Standing Conference of the Ministers of Education and Cultural Affairs, Ministry for Children, Family, Refugees and Integration of the State of North Rhine-Westphalia, Ministry for School, and Education of the State of North Rhine-Westphalia. The implementation of specific learning objectives is set by a school board, at local headmasters' conference, and schoolteachers. Day-care centres for children funded by local authorities or non-public bodies are subject to public supervision by the responsible bodies for the public child and youth welfare services at the Land level. This is generally exercised by the Länder (Landesjugendämter) youth welfare offices, who are responsible for the framework, but specific learning objectives remain at teachers' responsibility.

Presently, the city of Essen only has an advisory function and only subsidises meals for children in vulnerable groups, both in day-care centres and schools. To shape learning objectives, the city holds dialogues with teachers and other parties involved in educating and/or catering for young children. The discussions held concern the possibilities and ways of positive effects of healthy and sustainable diets on climate and society.

The city of Essen has a sustainability policy and has taken upon various sustainable school food-related initiatives. Many are about developing urban and permaculture gardening and growing their food. “*Ackerhelden*” is an example of the latter, an initiative engaging for more raised garden beds and urban gardening in schools and kindergartens. Noteworthy are grassroots initiatives between individuals and schools or kindergartens which, for example, have led to the establishment of a local food council, environmental association, and food-dedicated volunteers. Essen also stands out with an initiative called “*Zukunftsküche*” (translation: “Kitchen of the Future”), launched by the Green Capital Agency, which is part of the city's administration of Essen, and the local food council. It takes place in a roundtable with locally engaged food-dedicated people working in different catering services, local kitchens, and community catering. The main aim of the roundtable is to discuss common challenges in a solution-oriented way, looking for possibilities for tackling problems such as lack of sustainability, organic food consumption and so forth. Other mentioned initiatives were “School Food for Change” and the EU school fruit, vegetables, and milk scheme.

There are various framework regulations in place that present operating instructions for tenders in Essen such as **the Sub-Threshold Procurement Regulations (UVgO)**, **the Associated Service Instructions (DA UVgO)**, **the Procurement Regulations (VgV)** and **Part 4 of the Act Against Restraints of Competition (GWB)**. The award principles for municipalities are described in § 26 KomHVO. In general, the desideratum is to design award processes as uniformly as possible across municipalities (or nationwide), i.e., the procedures are likely to differ between municipalities rather than in detail, especially since the legal situation prescribes the procedure relatively clearly. The basic principles here are, on the one hand, the principles of economic efficiency and economy of administrative action and, on the other hand, transparency, equality, and non-discrimination vis-à-vis bidders, with the aim of using municipal financial resources (i.e., ultimately taxpayers' money) economically and at the same time acting in compliance. Public contracts are usually (or, above a certain value limit, obligatory) put out to tender via a central award platform, which virtually bundles all public contracting authorities. In principle, our procurement procedure works in such a way that the demand side approaches us with a request, we then prepare and carry out the corresponding tendering process and subsequently give the demand side an award recommendation from the perspective of procurement law. The award itself, however, is made by the demanding agency and it is also responsible for compliance with all other regulations. In most cases, the audit office is also involved as an external control body.

From December 2021, the procurement for twenty fully bound all-day schools is organised centrally by the municipality. The schools get their meals from a local catering service. Municipal procurement and legal experts (administrative employees) are responsible for the procurement procedures. The decisive criteria have been the price-quality ratio analysis so far. Sustainability, organic food, and local or seasonal food were not considered, at least not as decisive criteria. As of December 2021, twenty-four open and partially bounded all-day schools (with compulsory participation in school meals) organise and decide individually on their school meals and procurement. The approaches may vary a lot depending on the number of school meal participants.

SCHOOL FOOD PROVISION

School food is prepared in the centralised kitchen within the municipality. The kitchen has in-house catering (subsidiary company) with cooks employed by the city. Food is delivered hot to the schools and there is no necessity to reheat it unless the temperature is <68 degrees (food law allows a maximum standing time of three hours from production to serving). In addition, cold dishes are included in this system. The permitted temperature here is maximum of 7 degrees at delivery.

Schools and kindergartens in Essen offer hot lunches, which always include vegetables and are followed by a dessert. A vegetarian alternative is also available. While raw fruit is always available during the day in schools, in kindergartens, it is available twice a week at snack time in the afternoon. Cold meals, such as sandwiches, are available if requested for excursions.

According to the Education and Participation Act, the state subsidises school food for vulnerable groups with low income such as unemployed people or welfare recipients. Depending on the low income, school food can be subsidised up to 100%. A school meal is 4 euros, meal in kindergarten is 2,70 euros. In both cases, the final cost includes food ingredients and kitchen labour costs.

SCHOOL FOOD PROCUREMENT

School food procurement in Essen is mixed. All-day supervision and care for children aged between six and ten is provided through intramural offers as well as in after-school centres (e.g., Horte) run by the public child and youth welfare services. All Länder are currently expanding their provision of education and care for children outside lesson time. A growing

number of primary schools have introduced fixed opening hours (approximately 7.30 am to 1.00/2.00 pm, depending on local conditions) so that parents can be sure their children are cared for even outside compulsory lessons. This involves amended school and teaching concepts and offering activities that complement lessons and are run by non-school bodies. Participation in the additional activities is usually voluntary. This includes a voluntary participation in school meals. There are three different forms of all-day schools in Germany: fully bound, i.e., all students are obliged to make use of the all-day offer), partially bound (part of the students (e.g., individual class units or grades) commit to making use of the all-day offer) and open form (the all-day offer is made available to the students on a voluntary basis; registration is usually binding for half a school year). For the fully bound form there is a contract closed between the city of Essen and one catering service. Schools in the partially bound and open form close contracts individually on their own.

The city reported that some procurements are above, and others are below the EU threshold. Procurement procedures can be both open and restricted and are fully digitalised. Restricted procedure for procurement tends to be below the EU threshold. The city further stated that the average ratio is indefinable as it changes from year to year, depending on the fluctuating number of participants/children eating at school.

Market dialogues are not common in Essen. Mainly desk research activities have been carried out.

In tender documents, price-quality analysis, availability of vegetarian and plant-based options and free-range animal products are considered necessary requirements. The city has used dynamics purchasing systems and framework agreements as food procurement models. The use of models varies, depending on the product to be procured. Typically, standard renewable contracts are signed with the supplier.

The city of Essen carries out the environmental impact of procurement regularly but does not evaluate social impact. The respondent, however, was not sure of the methods of assessment being used. The city of Essen would prioritise greenhouse gas emissions indicator to assess the impact of procurement in schools and the most relevant procurement models could be SDGs-aligned food tendering.

The central procurement barriers to implementing healthy and sustainable school meals stem from the legal framework, lack of sustainability/procurement expertise as well as market's offer, high costs and having too many participants involved within the municipality. In addition, it was noted that the high diversity/individuality of schools in food procurement approaches and partly small numbers of pupils taking part in school meals can present obstacles. However, if the barriers are overcome, it could increase sustainability/procurement expertise and achieve a joint coordinator approach to food procurement. Overall, it would have a positive impact on the legal framework.

Preferred focus points for Essen in the SF4C project:

- Opening up opportunities for local small-scale farmers and SMEs;
- Following seasonality;
- Measuring the environmental impact of food procurement (e.g., CO2 calculation);
- Integrating food education into the school curricula.

3.7.1 CITY OF NUREMBERG

General facts		
NUREMBERG	Land area of the municipality	21 800 km ²
	Total population	530 222
	Duration of school year	August – July
	Length of school year	36 weeks, 190 days
	Number of schools	189
	Number of students in schools	39 081
	Number of kindergartens	394
	Number of children in kindergartens	20 700

SCHOOL FOOD GOVERNANCE

The Bavarian Ministry of Education and Cultural Affairs is responsible for school curricula that also applies to Nuremberg schools. The city reported that there is a food policy for meals in kindergartens, but it remained unclear whether there is a policy that applies to schools. It was also noted that sustainable food initiatives in Nuremberg schools are not common.

While there is no local public procurement for schools, kindergartens in Nuremberg follow a guideline for caterers which lists principles for organic and sustainable meals. The municipality gives recommendations to schools for their inviting tenders but, as a rule,

schools or public-private partnership companies that run some schools have the mandate to sign contracts with the catering companies. As of today, the city of Nuremberg does not have any influence on the final agreements because, according to Bavarian law, school meals do not belong to the municipality's duties.

SCHOOL FOOD PROVISION

The city stated that parts of or the whole process of preparing the public meal had been outsourced to private companies thus catering service contracts are signed. In some schools catering companies work in on-site kitchens and cook fresh meals but mostly the hot meal is delivered to schools. However, the informant admitted that there are still a few schools that heat frozen meals, but the number is going down.

Schools and kindergartens in Nuremberg usually offer lunch and snacks. Those whose lunches are subsidised are only given a hot lunch. As reported by the city, school meals, specifically lunches, are only subsidised for children from vulnerable groups. Others are required to cover the whole cost which covers lunch and snacks. The cost for a meal is 4,80 euros and this includes food ingredients and kitchen labour costs.

SCHOOL FOOD PROCUREMENT

Each school procures its catering in Nuremberg. Procurement is decentralised and organised by the school or the public-private partnership company that runs the school. The contracts between schools and caterers are usually standard and renewable. Procurement is reported to be below the EU thresholds and direct contracting is used, meaning that the terms are negotiated without prior publication. The city stated that procurement processes are not digitalised.

The sustainability aspect has been advantaged the most in qualification criteria, contract negotiations and contract clauses but the municipality can only make recommendations for the tendering and procurement process as well as on health and sustainability issues. The informant stated that they have not done any market dialogues thus far and are not familiar with any of the listed food procurement models. For the presented reasons, the city lacks information about the school food suppliers' supply chain. The city highlighted that framework agreements could be relevant for the municipality.

The survey revealed that the city’s primary barrier in implementing healthy and sustainable school meals in the existing procurement system is the legal framework, lack of sustainability or procurement expertise and high costs. The city expressed that public procurement could lead to a comparable offer of school meals and enhance regional, seasonal, and ecological food at all schools and kindergartens. The city also sees it as a great potential to reduce costs, integrate local farmers and producers and improve logistics.

According to the informant, there is no assessment of procurement’s environmental or social impacts. However, if it were done, the GHG emission indicator would be relevant to assess the impact of procurement in schools.

Preferred focus points for Nuremberg in the SF4C project:

- Increasing the rate of organic ingredients in school meals;
- Opening up opportunities for local small-scale farmers and SMEs;
- Following seasonality;
- Reduction of animal-based food/protein shift;
- Tackling social issues (e.g. fighting unemployment);
- Measuring the environmental impact of food procurement (e.g., CO2 calculation);
- Shortening the supply chain.

3.8 HUNGARY

3.8.1 COUNTRY PROFILE

Country profile and general facts about food system		
HUNGARY	Total land area	93 025 km ²
	Total population	9,7 million
	Number of regions	8
	Number of municipalities	3 155
	Total agricultural area	5 049 000
	Total organic agricultural area	303 200
	Share of organic	5,7%
	Food import quantity and value	11,65 million tonnes 149,91 billion euros
	Food export quantity and value	33,64 million tonnes 171,59 billion euros
	Total number of agricultural holdings	232 060
	Total number of small agricultural holdings (below 10 ha)	159 740

Sources: see tables 1-3.

3.8.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

Hungary has a Public Procurement Act in place since 2015, which defines the national rules on public procurement procedures and implements the applicable EU Directives. This act is valid in all parts of the country.

In Hungary, there is no explicit food policy established on the national level, yet there are regulations which require the nutrition/food and the hygiene and the food safety standards, such as the Government Decree 676/2020 which deals with the regulations regarding public food contracts. Furthermore, The Child Protection Act (Act XXXI of 1997) regulates school meals for children. The law states that the state and municipalities must run the child protection system. Regarding food safety, Government Decree 4/1998 sets food safety and hygiene regulations. The National Food Chain Safety Office provides the catering industry with guidelines for good hygiene practices in the catering and food service.

In 2016, a nation-wide programme was established which aims to reduce the amount of food wasted in Hungary, led by the National Food Chain Safety Office. As part of the Wasteless programme, several workshops were conducted in primary schools on food waste prevention, and during summertime, the Wasteless team educated children about food waste In summer camps.

3.8.3 CITY OF BUDAPEST

General facts		
BUDAPEST	Land area of the municipality	525 km ²
	Total population	1 723 836
	Duration of school year	September – June
	Length of school year	180 days
	Number of schools	384 state schools 215 private schools
	Number of students in schools	141 675 in state schools 50 072 in private schools
	Number of kindergartens	389 municipality kindergartens 32 state kindergartens 193 private kindergartens
	Number of children in kindergartens	39 213 in municipality kindergartens 941 in state kindergartens 8 248 in private kindergartens

SCHOOL FOOD GOVERNANCE

The city of Budapest has established a sustainability policy in the city. Food policy for the municipality is currently under development as part of the FOODCLIC project.

The Ministry of Interior is responsible for public education and for the school curricula throughout the country and the municipalities have no opportunity to influence this process.

In its procurements, the municipality of Budapest follows the national Public Procurement Act, and has set its own public procurement rules, however, these are not focused on food related issues.

The municipality participates in the DIVINFOOD project, aiming to popularise forgotten plant varieties and, through this, develop plant-based food chains that are better adapted to environmental challenges. Additionally, the municipality also participates in the FOODCLIC project, which aims to develop an urban food strategy and raise awareness on food sustainability in schools. The nationwide Wasteless project also operates in Budapest schools, aiming to reduce food waste and raise awareness of it.

SCHOOL FOOD PROVISION

Usually, two meals are served in educational institutions – one main meal for lunch, and a snack in the morning or the afternoon. There is breakfast, lunch and two snacks offered in schools in Budapest. The average cost of school lunch is 1 euro + 27% taxes, altogether 1,27 euros, which includes a soup and main dish for lunch, and the breakfast and snacks are about 50% of this sum. The meal cost includes only food ingredients.

SCHOOL FOOD PROCUREMENT

The municipality of Budapest maintains a catering service provider, which is responsible for catering service in the educational institutions in Budapest. This service is partly funded by the municipality, and partly by the parents. The catering service provider acts as a contracting authority and is obliged to procure food and related services as well. The food procurements are done centrally within the municipality.

The catering service provider is in contact with suppliers of produce, and food is prepared in a central kitchen. All the procurements are completely digitalised and done through an open procedure. Generally, sustainability requirements in the tenders are described in technical specifications and seasonal food is required from bidders. A standard renewable contract is signed with the successful bidders.

The main barriers in the municipality are related to the transparency of the catering service provider's activities and its suppliers. Furthermore, the outdated legislation on public catering limits the ability to prepare more sustainable food, as it is mandatory by law to serve animal protein every day.

Preferred focus points for Budapest in the SF4C project:

- Opportunities for local small-scale farmers and SMEs;
- Reduction of animal-based food;
- Measuring the environmental impact of food procurement;
- Shortening the supply chain;
- Improving the price-quality ratio.

3.9 ITALY

3.9.1 COUNTRY PROFILE

Country profile and general facts about food system		
ITALY	Total land area	301 230 km ²
	Total population	59,24 million
	Number of regions	21
	Number of municipalities	7 904
	Total agricultural area	12,8 million ha
	Total organic agricultural area	2 million ha
	Share of organic	15,5%
	Food import quantity and value	88,30 million tonnes 641,49 billion euros
	Food export quantity and value	57,69 million tonnes 763,70 billion euros
	Total number of agricultural holdings	1 130 530
	Total number of small agricultural holdings (below 10 ha)	873 280

Sources: see tables 1-3.

3.9.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

In Italy, no national food policy or strategy has been developed yet. However, there are food-based guidelines in place. In 2016, a food guideline was released called “Mediterranean diet UNESCO intangible cultural heritage of humanity – guidelines for promoting a lifestyle and cultural approach for sustainable development”. The document identifies the key elements for the promotion of a culture favourable to sustainable development through the lifestyles, the wealth of knowledge and the traditions of the territory associated with the practices and representations of the Mediterranean Diet.²⁷

²⁷ https://www.obesityday.org/usr_files/biblioteca/UNESCO_dieta-mediterranea-lineeguida.pdf.

There are also dietary guidelines that are updated every few years, the most recent one “Dietary Guidelines for Healthy Eating” was published in 2019.²⁸ The Italian Society of Human Nutrition's (SINU) “Daily Recommended Values of Nutrients and Energy for the Italian Population” (LARN), which are used in dietary planning, form the foundation for nutrition recommendations.²⁹

In addition to different health and nutritional guidelines for school food, Italy has also developed many environmental criteria for school food. The Ministry of Ecological Transition released the “National mandatory environmental and social criteria for public procurement of food services and food”. It includes mandatory requirements for several aspects of school food catering, for example the minimum quota of organic food (varies per food type), measures for reducing food waste and the use of high energy efficiency appliances.

3.9.1 MUNICIPALITY OF MILAN

General facts		
MILAN	Land area of the municipality	181,8 km ²
	Total population	1 371 498
	Duration of school year	September – June
	Length of school year	33 weeks, 200 days
	Number of schools	435 state schools 226 private schools
	Number of students in schools	93 660 in state schools 27 991 in private schools
	Number of kindergartens	27 state kindergartens 170 municipality kindergartens
	Number of children in kindergartens	2 007 in state kindergartens 7 338 in municipality kindergartens

²⁸ <https://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/italy/en/>

²⁹ <https://eng.sinu.it/larn/>

SCHOOL FOOD GOVERNANCE

Milan has both a food policy and a sustainability policy in place. The food education curricula in schools are determined by the city's Education Department and its Food Policy area. There is medium/high leeway for the municipality to influence the school curricula on food education.

SCHOOL FOOD PROVISION

In Milan, school meals are provided by Milano Ristorazione, a municipality-owned catering company (municipal agency for school canteens). Milano Ristorazione is responsible for procuring the food.

In Milan, some schools have an on-site kitchen, and a centralised kitchen serves others within the municipality. The contracted service provider has 24 external kitchen centres, and 81 kindergartens have an on-site kitchen.

The school meal includes a hot or cold lunch and an afternoon snack. There is also a program for offering mid-morning fruits that the schools can implement voluntarily. There is no breakfast offered at the schools or kindergartens. In kindergartens the provided meals are a hot lunch and an afternoon snack.

The actual cost of a school meal is 4,23 euros. The cost includes food ingredients, kitchen labour costs and food transport from the kitchen centre to the school. The financing model for school meals is partially subsidised – families pay according to their income. There are 6 levels, and the meals are free for the families with the lowest income. The lowest category is identified according to national standards of income indicators.

SCHOOL FOOD PROCUREMENT

School food procurement requirements are involved in the Italian Public Contracts Code. It obliges public procurers to meet the minimum environmental criteria set by the Ministry of Ecological Transition. The code also forbids using the lowest price as a criterion for awarding contracts.

A long-term service contract for school food in Milan was awarded to Milano Ristorazione (an in-house company). Food is prepared in 24 external kitchen centres and in 81 day-care centres with an internal kitchen.

The city owns 99% of the company's property. The menus are fixed by the provider and the control unit from the city of Milan and shared with the parent commissioners and experts and health authorities at a local level. The Milan food policy strategy is at the core of this service and the Food Policy area is responsible for the control unit of this service. The city and Milano Ristorazione work together on communication and education activities. The menus are regularly reviewed by coordinating with stakeholders to make the food more sustainable and healthier.

The procurement is centralised as Milano Ristorazione purchases all food. It's above the EU thresholds for sub central authorities. Usually, open procurement procedure is used. Sustainability aspects have been leveraged most to qualification criteria (selection and exclusion criteria), award criteria and contract clauses. Regarding market dialogue, there have been events with stakeholders and requests for information.

Health and sustainability issues have been fostered in the tender documents in the school food procurement through mandatory (national/regional) environmental/social criteria. There are requirements for organic food, seasonal food, labels and use of energy efficient equipment and eco-friendly cleaning products. Small scale farmers are supported. Low carbon emissions transportation activities are required from the contractors. Also, food education activities for pupils or kitchen staff are required.

Milan's main procurement barrier when implementing sustainable and healthy school meals is the cost of goods. The opportunities for Milan to implement a sustainable and healthy school meal procurement are healthier children, a better environment, and an increased food culture.

Milan assesses the environmental impact of procurement on an ad-hoc basis. They do not evaluate the social impact of procurement. To assess the impact of procurement they use an

Preferred focus points for Milan in the SF4C project:

- Increasing the rate of organic ingredients in school meals;
- Opening opportunities for local small-scale farmers and SMEs.

environmental calculator. The sustainability indicators Milan would prioritise to assess the impact of procurement in schools is GHG emissions.

3.9.1 MUNICIPALITY OF NUORO

General facts		
NUORO	Land area of the municipality	192,3 km ²
	Total population	34 227
	Duration of school year	September – June
	Length of school year	36 weeks
	Number of schools	7
	Number of students in schools	1 288
	Number of kindergartens	13
	Number of children in kindergartens	751

SCHOOL FOOD GOVERNANCE

At the moment, there is no food or sustainability policy document in the municipality of Nuoro. However, it is their intention to draft both policies and apply them to all the future actions in managing the food system. The school managers of each school mainly influence food education curricula. Though the municipality has little leeway in influencing the educational planning in schools, Nuoro has its own Food Education Plan, updated annually and proposed to schools and stakeholders (e.g., parents, trade and producer associations), that can be involved in it. The Food Education Plan aims to promote food culture and disseminate the importance of a healthy diet and the prevention of obesity in childhood. The plan aims to raise the awareness of all service users (students, teachers, and parents) through events and educational meetings on topics and issues of particular interest.

There are regional school food guidelines from 2016 called “Regional Guidelines for School Catering of the Autonomous Region of Sardinia”. There is also a regional regulation from 2010 promoting the quality of Sardinian products.

SCHOOL FOOD PROVISION

In Nuoro, the school meal organisational model is a catering service contract (parts of, or the whole process of preparing the public meal have been outsourced to private companies).

Meals are all prepared in kindergarten kitchens and then transported to the primary schools in thermal containers with a maximum travel time of ten minutes.

There is one on-site kitchen in each kindergarten (thus 10 kitchens). The kindergarten kitchens also manage the preparation of meals for the primary schools. Therefore, the kitchens in the kindergartens also cook for the primary schools that are part of the same school complex.

The schools serve only one hot meal (lunch) but no breakfast. Kindergartens provide only lunch and snacks but no breakfast.

The average actual cost of a main school meal is 4,94 euros and it includes: main course, second course, side dish, bread, and fruit. The meal cost includes both food ingredients and kitchen labour costs. The financing model is mixed subsidies. The service is financed by budget funds and parent contributions. Parents contribute with diversified rates according to the ISEE (incomes and economic situation indicator in Italy) bands approved by the authority. Families in determined economic or social vulnerability are exempt.

SCHOOL FOOD PROCUREMENT

The tender specifications provided for the procurement of the school canteen service are: short supply chain products, Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) products. For each product purchased, supply chain certification must be guaranteed.

The municipality and the ASL (public local health authority) are public institutions involved in the school food service. The procurement process is mainly managed by the contracting company, in full compliance with the requirements of the tender documents, the technical proposal and the contract.

In the executive phase of the contract, the municipality systematically verifies compliance with the standards and commitments made by the company. Verifications are carried out through checks on supplies, product certifications, the traceability of each product. Periodic on-site inspections are carried out to check the food quality and customer satisfaction (students, teachers and school staff).

In Nuoro, the school food procurement is centralised within the municipality. Procurement is carried out by the contracting company in charge of the school canteens service of the public schools on behalf of the municipality. The tenders are usually above the EU thresholds for sub central authorities. Only open procurement procedures are used in a fully digitalised process. Sustainability aspects have been leveraged most to market analysis/market dialogue, qualification criteria (selection and exclusion criteria), technical specification, award criteria, contract clauses and contract execution (follow-up). Regarding market dialogue, there have been 1:1 meetings with suppliers and requests for information.

Health and sustainability issues have been fostered in the tender documents in the school food procurement through mandatory (national/regional) environmental/social criteria. Award is based on a price-quality ratio analysis (price and other factors). Food requirements in tenders include organic food, vegetarian and plant-based options/free-range animal products, seasonal food, labels. Requirements for contractors include using energy-efficient equipment and eco-friendly cleaning products (e.g., Ecolabel), solutions that minimise food waste (e.g. redistribution). Typical products (quality schemes, such as Protected Designation of Origin – PDO) are supported. Also, food education activities (for pupils or kitchen staff) are required. An additional requirement is the use of tap water and avoiding plastic bottles. Usually, a non-renewable contract is signed with the awarded service provider.

The municipality of Nuoro has some information on the environmental sustainability of the school food suppliers' supply chain, and they ensure the exclusion of genetically modified products from sourcing.

The relevant procurement models in the Nuoro municipality are Dynamic Purchasing Systems and SDGs-aligned food tendering.

The main procurement barriers Nuoro faces when implementing sustainable and healthy school meals are a limited supply of local products, high costs, and inadequate logistics due to the insularity and lack of efficient transport infrastructures. The opportunities for Nuoro when implementing a sustainable and healthy school meal procurement are improving the

price-quality ratio in procurement, acquiring more expertise in sustainability and improving logistics and communication skills in interacting with all the stakeholders involved in the service.

Nuoro does not assess the environmental or social impact of procurement in their municipality. The sustainability indicators Nuoro would prioritise to assess the impact of procurement in schools is protection of human rights along the food supply chain.

Preferred focus points for Nuoro in the SF4C project:

- Tackling social issues (e.g. fighting unemployment);
- Measuring the environmental impact of food procurement (e.g. CO2 calculation);
- Shortening the supply chain;
- Integrating food education into the school curricula;
- Improving the price-quality ratio.

3.10 SLOVAKIA

3.10.1 COUNTRY PROFILE

Country profile and general facts about food system		
SLOVAKIA	Total land area	49 035 km ²
	Total population	5,46 million
	Number of regions	8
	Number of municipalities	2891
	Total agricultural area	1 862 650
	Total organic agricultural area	222 896
	Share of organic	11,7%
	Food import quantity and value	8,87 million tonnes 113,37 billion euros
	Food export quantity and value	11,06 million tonnes 105,33 billion euros
	Total number of agricultural holdings	19 630
	Total number of small agricultural holdings (below 10 ha)	9 830

Sources: see tables 1-3.

3.10.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

There is no food policy in place in Slovakia. The Public Procurement Office is responsible for procurement legislation. The Public Health Authority enforces hygiene and food safety requirements. The Ministry of Health is responsible for nutrition and food, but no national guidelines on food or nutrition standards are issued in Slovakia.

However, there are food standards for school food. The Ministry of Education, Science, Research and Sport of the Slovak Republic has issued Act no. 245/2008 Coll. on education and training and its § 140 sets material and consumption standards and recipes for school meals – the regulation is a guideline for school canteens on how and what to cook in schools. The regulation aims to ensure children and students access to nutritionally balanced meals and education on healthy eating.

The Slovak Republic monitors the level of application of green public procurement in the context of the National Action Plan for Green Public Procurement for 2011-2015. This action plan obliges ministers and chairpersons of central government bodies to apply the principles of green public procurement within their competence and recommends the chairpersons of self-governing regions and the chairperson of the Association of Towns and Municipalities of Slovakia to apply the GPP in practice within their competence. At the moment, GPP is not implemented in the school food system and there are no mandatory environmental or social criteria in the procurements.

3.10.3 LOCAL LEVEL

General facts		
SLOVAKIA	Duration of school year	September - June
	Length of school year	36 weeks, 252 days
	Number of schools	2 347 state schools 201 private schools 188 Christian schools
	Number of students in schools	589 716 + 32 234 + 44 033
	Number of kindergartens	2781 public kindergartens 109 Christian kindergartens
	Number of children in kindergartens	157 862 + 6152

SCHOOL FOOD GOVERNANCE

Slovakia does not have a food nor sustainability policy in place. The Ministry of Education, Science, Research and Sport of the Slovak Republic decides the food education curricula in schools. There is leeway for the schools to influence what they include in the curriculum. The ministry provides the syllabus but how the curriculum can be completed are up to the schools.

SCHOOL FOOD PROVISION

There are two operational structures in place in Slovakian schools – depending on the municipality there is either in-house catering or a catering service contract. If the student is on special diet, then the parents can provide their food.

The school meal is delivered in a cook-and-serve type. It is always a hot meal and includes soup, main dish, milk, or tea. A regular meat meal is served twice per week, one day with reduced meat meal, one day with a vegetable meal and one day with a flour-based meal (mostly sweet). The meals are the same in kindergartens and schools. Breakfast is not offered.

The average cost of a school lunch in Slovakia is 1,20 euros. The meal cost includes only food ingredients. The financing model for school meals is partially subsidised – the state covers a part and parents pay the rest. It is always a hot meal - soup, main course, milk or tea.

SCHOOL FOOD PROCUREMENT

Most of the schools in Slovakia procure the food as the low value order, within the 215 000 euros limit. Most of the primary schools do the procurement themselves, most of the kindergartens are under the municipality and they handle the kindergarten food procurement.

The following description is about the school food system on national level for public schools. Every school has a kitchen and canteen, some schools cook their own meals and some procure it from private caterers. If they cook themselves, they must follow regulations and guidelines from the Ministry of Education and cook according to the material consumption standards and recipes. The Ministry of Education also employs methodical workers that cooperate and educate the kitchen staff. The Office of Public Health visits to control school kitchens' hygiene and food standards.

Private schools can procure a catering company that does not have to cook based on the regulations and the recipes of the Ministry of Education, but they must follow basic hygiene and food standards and also recommended nutritional doses.

In Slovakia, the school food procurement type is mixed. Either the school does their own procurement, or the municipality does it for them – this is mainly for kindergartens as they are small. The procurement is below the EU thresholds. The procurement procedure is direct contracting (negotiated procedure without prior publication). The procurement is partially digitalised – it is ensured if the municipalities are involved in the procurement process. In March 2022, a new platform was launched to have a fully digitalised procurement. However, it is not yet working as it should. Kitchens have problems finding small-scale farmers as they are not signed-up in the portal.

Slovakia reported that Innovation Procurement (PPI) is the procurement model that is most relevant for them.

The barriers in Slovakia when implementing sustainable and healthy school meal procurement are the high cost of food, lack of market offers for good quality products, lack of local products, procurement education and expertise and flexibility.

The opportunities for sustainable and healthy school meal procurement in Slovakia are support for small farmers through a simpler and flexible procurement model and by providing samples of legal paperwork (contract, requirements on products).

In Slovakia, there is no environmental or social impact assessment of procurement in place for school food. The sustainability indicator Slovakia would prioritise to assess the impact of procurement in schools is food waste reduction.

Preferred focus points for Slovakia in the SF4C project:

- Opening up opportunities for local small-scale farmers and SMEs;
- Tackling social issues (e.g. fighting unemployment);
- Shortening the supply chain;
- Integrating food education into the school curricula;
- Improving the price-quality ratio;
- Cost-effective assessment such as Life-Cycle Costing;
- Education of the school staff.

3.11 SPAIN

3.11.1 COUNTRY PROFILE

Country profile and general facts about food system		
SPAIN	Total land area	505 935 m ²
	Total population	47,40 mil
	Number of regions	17
	Number of municipalities	8131
	Total agricultural area	23 000 000 ha
	Total organic agricultural area	2 354 915 ha
	Share of organic	10%
	Food import quantity and value	83,65 million tonnes 494,07 billion euros
	Food export quantity and value	75,97 million tonnes 596,70 billion euros
	Total number of agricultural holdings	914 870
	Total number of small agricultural holdings (below 10 ha)	595 570

Sources: see tables 1-3.

3.11.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

The main responsible authority for national food strategy is the Ministry of Health and Consumer Affairs. It developed the Strategy for Nutrition, Physical Activity and Prevention of Obesity (NAOS) in 2005 in coordination with the Spanish Food Safety Agency, the General Directorate of Public Health and a wide range of experts and researchers. The fundamental goal of the strategy is to promote a healthy diet and foster physical activity to invert the growing trend of obesity, thus reducing morbidity and mortality attributable to chronic diseases substantially. Spanish dietary guidelines for children and adolescents were developed as part of the NAOS Strategy. Current dietary guidelines date from 2018.

At school, the strategy aims to teach children about healthy eating habits and promote regular physical activity and sport. Actions at schools are proposed to be developed jointly by the Ministry of Health and Consumer Affairs and the Ministry of Education and Science through the General Secretary of Education.

Public authorities in Spain follow Law 9/2017 on Public Sector Contracts, which transposes various EU Directives and provides the requirement of incorporating environmental and social considerations in any of the phases of the public contracting process. The Law transposes the compulsory introduction of a special execution condition related to innovation, of an environmental or social nature.

The Spanish Ecological Public Procurement Plan for 2018 to 2025 also includes food and catering services as part of the priority product groups.

Regarding food procurements, Law 17/2011, articles 40 and 41 set requirements for schools to include food requirements in their tenders so that the food supplied is varied, balanced and nutritious. Recently a public consultation has been launched to establish minimum nutritional quality and sustainability criteria that guide the contracting, acquisition and supply of food and beverages in school canteens.

There are various school food-related initiatives ongoing in Spain. The Canarian Eco-dining rooms program aims to link organic production with the consumption of organic products in schools and other public canteens. The current programme includes 43 public centres, three private schools, one nursery school and three agricultural training schools. This makes altogether 10 607 guests and 101 producers. The communication between consumers and producers is organised in a web application.

Since the 2016/17 academic year, the Network of Municipal Nursery Schools of Madrid, which includes 68 nursery schools for ages 0-3, has been committed to improving the nutrition in their school communities. Their work focuses on incorporating various environmental considerations in the contractual obligations and evaluable criteria in the tenders and providing training and templates.

3.11.3 REGION OF VALENCIA

General facts	
Land area of the municipality	23 255 km ²
Total population	5 057 353
Duration of school year	September – June
Length of school year	181 days
Number of schools	5 municipality schools 1002 state schools 335 state-subsidised schools 33 private schools
Number of students in schools	1750 in municipality schools 300 253 in state schools 183 825 in state-subsidised schools 20 971 in private schools
Number of kindergartens	254 municipality kindergartens 62 regional kindergartens 567 private kindergartens
Number of children in kindergartens	13 996 in municipality kindergartens 7913 in regional kindergartens 23 611 in private kindergartens

VALENCIA

SCHOOL FOOD GOVERNANCE

The Region of Valencia has established both a food policy and a sustainability policy at the regional level.

The Regional Ministry of Agriculture, Rural Development, Climate Emergency and Ecological Transition is responsible for promoting and encouraging healthy and available food in schools.

The Regional Ministry of Education, Culture and Sport is responsible for the organisation and execution of school canteens, including promoting and developing sustainability criteria in food services. The regulations governing the planning and preparation of menus in public schools are created following the dietary standards drawn up jointly with the Regional Ministry of Universal Health and Public Health.

The respective Territorial Directorates of the Regional Ministry of Education, Culture and Sport are responsible for signing the contract for the school canteen service and monitors for public schools.

SCHOOL FOOD PROVISION

The Regional Ministry of Education, Culture and Sport and the Regional Ministry of Universal Health and Public Health have developed a Guide to school Canteen Menus, which includes at least 20 different menus which are reviewed periodically. In these menus, special attention is paid to preventing and controlling overweight and obesity in children and adolescents. Evaluation forms are also developed to ensure that the school menus correspond to the requirements set. Further, all school canteens must have a special or alternative menu to cater to pupils who cannot eat certain foods for health, religious or cultural reasons.

The average price of a menu is 3,68 euros, which includes two courses, a dessert, bread, salad, and water. The meal cost includes both food ingredients and kitchen labour costs.

The food is partially subsidised depending on the sociological circumstances and income of the applicants. The share of financing can be up to 100%.

SCHOOL FOOD PROCUREMENT

Each school procures their food and catering and sets the clauses in the tenders while considering the national and regional requirements. Accordingly, the food must contain at least 40% of fresh seasonal fruit and vegetables, organic products in a percentage of at least 3% of the total purchases, adapted menus for specific intolerances etc. Each school is responsible for its contracts with the catering services, and a standard, non-renewable contract is signed. The schools have an online application for the management of contracting of the canteen service and other functional administrative aspects related to it. Currently, the region doesn't evaluate the environmental impacts of procurements.

Preferred focus points for Valencia in the SF4C project:

- Increasing the rate of organic ingredients;
- Opening up opportunities for SMEs;
- Reduction of animal-based foods;
- Measuring the environmental impact of food procurement;
- Shortening the supply chains;
- Integrating food education into the school curricula.

The Valencia region sees the main barrier related to adopting healthy, sustainable school meals as the lack of vision and experience in the framework of the sustainable agri-food chain and the limited supply of local organic products on the market.

3.12 SWEDEN

3.12.1 COUNTRY PROFILE

Country profile and general facts about food system		
SWEDEN	Total land area	447 425
	Total population	10,38 mil
	Number of regions	21
	Number of municipalities	290
	Total agricultural area	3 013 000
	Total organic agricultural area	610 800
	Share of organic	20%
	Food import quantity and value	13,92 million tonnes 213,72 billion euros
	Food export quantity and value	9,35 million tonnes 189,52 billion euros
	Total number of agricultural holdings	58 790
	Total number of small agricultural holdings (below 10 ha)	20 600

Sources: see tables 1-3.

3.12.2 NATIONAL POLITICAL AND LEGAL FRAMEWORK

The Swedish procurement legislation is mainly based on the national Public Procurement Act. Sweden also has established a national procurement strategy in 2016³⁰. There is no mandatory environmental criteria established for food procurement. However, currently in 2022, there is some legislative consultation process ongoing, which would introduce an

³⁰ <https://www.regeringen.se/informationsmaterial/2016/06/nationella-upphandlingsstrategin/>

obligation from 2023 to take climate, the environment, human health, animal care and social and labour law aspects into account in public procurements.

In Sweden, the national Food Strategy³¹ is considered a platform, from which current and future governments shape food policy up to 2030. Regarding food procurement, the Strategy foresees that the public sector raises knowledge about food production, specifically among children. The Strategy further sets an aim for an increased volume of organic food and services to be procured and to complement green public procurement with a life cycle cost perspective.

Municipalities can seek support from the Public Procurement Agency of Sweden, which has established a set of sustainability criteria for public food procurement. The criteria for food is the most downloaded and used criteria of all the category criteria developed in the platform. Further, national guidelines for school meals are published by the Swedish Food Agency. Applying these national guidelines is voluntary for municipalities, yet it offers support of how to serve and provide sustainable school meals. Further, according to Swedish School Law³², school meals must be cost-free for the students and caregivers and nutritious.

The Swedish Food Agency also runs a competence centre (on the assignment of the national government) on public meals. The competence centre consists of people with different expertise within public meals and supports municipalities in developing more sustainable public meals in Sweden³³.

Various food-related initiatives are ongoing in Sweden, both on the national and regional levels. The Swedish Food Agency is currently coordinating a nationwide mission-based approach towards sustainable and healthy school meals: School meals as a recipe to

³¹ <https://www.government.se/articles/2017/04/a-long-term-food-strategy-for-sweden/>

³² https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/skollag-2010800_sfs-2010-800

³³ <https://www.livsmedelsverket.se/matvanor-halsa--miljo/maltider-i-var-d-skola-och-omsorg/nationellt-kompetenscentrum>

transform food systems³⁴. Sweden also has a national, free and digital survey tool that helps schools develop the meal quality from a holistic perspective³⁵.

On the regional level, municipalities have various ongoing initiatives, such as the Södertälje municipality which has developed a testbed for sustainable food products. The testbed aims to bring more sustainable food products to market through collaboration with public chefs and meal developers.

3.12.3 MUNICIPALITY OF MALMÖ

General facts		
MALMÖ	Land area of the municipality	334,45 km ²
	Total population	351 749
	Duration of school year	August – June
	Length of school year	40 weeks, 200 days
	Number of schools	89 municipality schools 50 private schools
	Number of students in schools	40 864 in municipality schools 12 191 in private schools
	Number of kindergartens	199 municipality kindergartens 75 private kindergartens
	Number of children in kindergartens	15 785 in municipality kindergartens 3233 in private kindergartens

SCHOOL FOOD GOVERNANCE

Malmö city belongs to Malmö municipality and Region Skåne in the south of Sweden. Malmö city has established both a policy for food and sustainability.

The Swedish National Agency for Education is the central administrative authority responsible for the curriculums and syllabus for the public school system, publicly organised preschooling,

³⁴ <https://www.livsmedelverket.se/matvanor-halsa--miljo/maltider-i-var-d-skola-och-omsorg/skola/hallbart-skolmaltidssystem>

³⁵ <https://www.skolmatsverige.se/>

school-age childcare and for adult education. Local schools are responsible for local adaptation and interpretations of the curriculum.

The National Agency for Public Procurement, through the Swedish Public Procurement Act, regulates the municipality's work on procurement. Malmö city also adopted a Purchasing Policy in 2018. In addition, guidelines have been developed on how purchasing operations in the city of Malmö are to be conducted. There are several specific guidelines about e.g., sustainable purchases, labour law conditions, Convention on the Rights of the Child, anti-discrimination, climate requirements of transport etc.

The school must also consider the Swedish National Food Agency on nutrition requirements and the local policy for sustainable development and food in its food procurements. The latter has set two goals for the region: all food served in Malmö should be at least 90% organic, and GHG emissions from food procurement should be reduced by 40% by 2020.

Sweden sets a national goal of 60% of public meals to be organic by 2030. The food served in Malmö city reached 89% organic in 2021. The current national level is approximately 40%. During this decade, school lunches have also reduced their carbon footprint by 1,3 kg CO₂ eq.

SCHOOL FOOD PROVISION

In Malmö city, 45,000 hot school lunches are served five days a week in all public primary and secondary schools. The school lunches cover approximately 30% of the pupils' daily recommended food intake.

The school meals are prepared in nearly 90 school restaurants and distributed into 76 primary schools, ten high schools, three preschools, and one staff restaurant. They have an additional meal delivery service to about 40 of the city's 199 preschools that do not have a centralised meal organisation. The school restaurants, which plan, prepare, cook, and serve the school meals, have been actively working to reduce the overall impact of the food on the environment and climate. This is primarily due to various national and local policies aiming to minimise food production footprint in the region and the country. The region has reached its political goals due to the support and cooperation between the School Restaurants and the administrative system. Clear and ambitious long- and short-term goals have provided consistency and enabled perseverance. The most significant impact has been done by changing how food is served and what is served. The region has decided to change their

menus completely to have a more plant-based menu in accordance with the nutritional recommendations of the Swedish Food Agency which has required careful menu planning and monitoring. As a result, meat and fish are on the menu once or twice a week, and vegetarian meals at least twice a week.

The operational structure of school catering is a combined version of in-house catering, where meals are prepared and catered in schools and centralised catering, where meals are cooked in a centralised kitchen within the municipality. Most schools have kitchens where food is prepared, yet they all share a centralised school menu. Some schools do not have professional kitchen facilities and deliver their food from other schools. The ambition is to reach 100% of schools to have their own kitchen.

Breakfast, lunch and afternoon snacks in both schools and kindergartens

The average cost of a school lunch is 10,46 SEK (approximately 0,96 EUR), excluding overhead costs. The cost covers a choice between two hot meals, a salad buffet which is made up of at least five varieties, carbohydrate component such as pasta or potatoes and extra protein sources like egg halves and seeds. The municipality fully subsidises food cost for all preschool, primary and secondary school children.

SCHOOL FOOD PROCUREMENT

The food procurement processes in Malmö municipality are done by the procurement unit under the City Office. In the office, there is one designated person for food procurements solely. Under the Internal Service Department, the administration of School Restaurants further oversees the purchases made. These two agencies cooperate for new procurements and receive further support from the cross-administrative reference group.

All the food procurements are digital and centralised within the municipality. In the tenders, there are various mandatory environmental and social criteria included. For example, the requirements for food include organic food, vegetarian and plant-based options, free-range animal products, seasonal food, and labels such as Fairtrade. In addition, contractors must use eco-friendly cleaning products and low-carbon transport possibilities. Furthermore, the minimisation of food waste and general waste is required.

The environmental impact of the procurement is assessed by using an environmental calculator.

The award is based on price-quality ratio analysis, and a framework agreement is signed with the successful bidder.

Currently, the main barrier seen in the region are a lack of third-party certification including social criteria, a lack of resources in terms of time, competence, and finances to conduct audits in the supply chain and ensure compliance, and logistics for all the 1200 units that get deliveries. Regardless, the city of Malmö finds multiple opportunities when implementing sustainable and healthy school meal procurement, such as decreasing GHG emissions of food and fostering food literacy for the youth.

Preferred focus points for Malmö in the SF4C project:

- Opportunities for local small-scale farmers and SMEs;
- Reduction of animal-based food;
- Measuring the environmental impact of food procurement;
- Shortening the supply chain;
- Integrating food education into the school curricula.

3.12.4 MUNICIPALITY OF UMEÅ

General facts		
UMEÅ	Land area of the municipality	2316,96 km ²
	Total population	130 997
	Duration of school year	August – June
	Length of school year	35,6 weeks, 178 days
	Number of schools	49 municipality schools 9 private schools
	Number of students in schools	12 835 in municipality schools 444 in private schools
	Number of kindergartens	86 municipality kindergartens 19 private kindergartens
	Number of children in kindergartens	5607 in municipality kindergartens 767 in private kindergartens

SCHOOL FOOD GOVERNANCE

Umeå city belongs to Umeå municipality and Region Västerbotten. The city has established both a food policy and a sustainability policy. The Swedish National Agency for Education is the central administrative authority governing the national curricula set in the Education Act.

The curriculum for the school contains aspects such as the school's values and mission, goals and guidelines for education and syllabi that are supplemented with knowledge requirements. The preschool curriculum addresses the children's development and learning, the children's influence in the activities and the relationship with the parents. The principal leads and coordinates the pedagogical work at the preschool or school. While the curricula are developed on the national level, the schools have the freedom to interpret and adopt them in the local context. The aspects of sustainable development and sustainable food systems are included in the preschool curriculum and most of the school's subjects. Umeå city has set a goal to increase the purchase of organic and local food.

SCHOOL FOOD PROVISION

The food is served via a mix of operational models, such as on-site kitchens, centralised kitchen, cook-and serve chilled and cook-and-serve hot. Most schools have kitchens where food is cooked and served to pupils. The municipality procures wholesalers' services, which then, based on specific orders from schools, provide school kitchens with edibles.

In kindergartens, it is compulsory to serve a vegetarian meal and a meal which contains fish (MSC) once a week. Every student is offered at least two meal options in schools, one of which is always vegetarian. Each day per week, all options are vegetarian, and fish (certified with MSC (Marine Stewardship Council) label) is served once a week. The CO₂ impact of the meals is calculated for the entire menu.

The schools in Umeå offer lunch for students, while recreational schools also provide breakfast and snacks. In kindergartens, breakfast, lunch, and snacks are served.

The average cost includes milk, salad, bread, accessory, main component, and side-dish, such as pasta or rice. The meal cost is a maximum of 11,79 SEK (approx. 1,08 EUR) and the meal cost includes only food ingredients. The food in schools and kindergartens is fully subsidised by the municipality.

SCHOOL FOOD PROCUREMENT

Food procurements in Umeå are done centrally through a municipal unit, the Procurement Agency. The department that needs the procurement initiates the procurement process, and the Procurement Agency puts together a procurement group. The procurer acts as a project manager and is responsible for the procurement. The procurer also invites the market and prospective bidders to a dialogue prior to procurement to ensure that the requirements align with what can be delivered. For procurements above the EU thresholds, the tender document must be approved by the Municipal board prior to advertising. Tenders are submitted by the market and evaluation is performed by the procurement group. The Municipal board must then approve the winning tender before the contract can be awarded. The school food is procured through an open procedure and is fully digitalised.

All food procurements for schools and kindergartens must follow the Swedish Food Safety Agency guidelines. Sustainability aspects are covered through mandatory national/regional environmental and social criteria, requesting organic food, vegetarian and plant-based options, labels such as fairtrade, low carbon transport, animal welfare, and seasonal foods. The award is based on the price-quality ratio, and a framework agreement is signed with the successful bidder.

Currently, in Umeå city, the largest barrier is the inability to demand locally-produced food due to existing legislation. Further, since Umeå makes large food procurements, there are few prospective bidders capable of delivering. Other barriers include high costs for organic food and local logistic challenges, as the food needs to be delivered to 160 units.

Preferred focus points for Umeå in the SF4C project:

- Increasing the share of organic ingredients in school meals;
- Opening up opportunities for local SMEs and small-scale farmers;
- Tackling social issues.

4 COMPARATIVE ANALYSIS

4.1 OVERVIEW OF COUNTRIES

The overview of school food systems and public procurement in the SchoolFood4Change countries is based on the mapping questionnaire completed by the twelve partnering countries within the SF4C project: **Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Slovakia, Spain and Sweden**. The general facts about all the studied countries are presented in Table 1.

Table 1. General facts about the countries in the mapping study

Country	Land area (km ²)	Total population (mil)*	Number of regions	Number of municipalities
Austria	83 883	8,93	9	2 093
Belgium	30 528	11,55	3	581
Czech Republic	78 871	10,70	14	150
Denmark	43 000	5,84	5	98
Estonia	45 339	1,33	15	79
France	672 051	67,66	18	35 038
Germany	357 588	83,16	16	10 796
Hungary	93 025	9,73	8	3155
Italy	301 230	59,24	21	7 904
Slovakia	49 035	5,46	8	2 891
Spain	505 935	47,40	17	8 131
Sweden	447 425	10,38	21	290

**Source: Eurostat 2021, National Lead Partners*

The overview of the food systems in the investigated countries is provided in Tables 2 to 4 – namely, the share of agricultural area in the countries, the number of food suppliers and small-scale enterprises, and the share of food exports and imports.

In terms of agricultural area, the share in each country varies significantly. The percentage of the agricultural area as part of the total land is highest in Denmark (61%), Hungary (54%) and France (49%) and lowest in Sweden, accounting for only 7%. In most countries, the share of agricultural land is around 40% of the total land area. Agricultural land per capita is the highest in Estonia (0,74 ha per inhabitant), and the lowest in Italy (0,20 ha). On average, the share of

the organic area of total agricultural land is around 10%. However, in three countries (Sweden, Estonia and Austria), it is much higher (these shares are 20%, 23% and 26%, respectively).

Table 2. Agricultural area, organic area and agricultural holdings in the countries

Country	Total agricultural area (ha)*, share of total land area	Agricultural land per capita (ha)	Total organic area, incl. area in conversion (ha)*, share of total agricultural area	Total number of agricultural holdings, 2020**	Total number of small agricultural holdings (below 10 ha), 2020**
Austria	2 670 000 (32%)	0,299	680 000 (26%)	110 780	41 340
Belgium	1 367 385 (45%)	0,118	99 075 (7,4%)	36 000	8 850
Czech Republic	3 493 609 (44%)	0,393	575 153 (16,5%)	28 910	11 220
Denmark	2 619 987 (61%)	0,449	310 210 (11,8%)	37 090	12 830
Estonia	986 672 (22%)	0,742	226 605 (23%)	11 370	3 850
France	26 900 000 (49%)	0,102	2 700 000 (10,3%)	393 030	107 000
Germany	16 700 000 (47%)	0,201	1 800 000 (10,8%)	262 560	62 320
Hungary	5 049 000 (54%)	0,519	303 200 (5,7%)	232 060	159 740
Italy	12 800 000 (42%)	0,216	2 000 000 (15,5%)	1 130 530	873 280
Slovakia	1 862 650** (40%)	0,341	222 896** (11,7%)	19 630	9 830
Spain	23 000 000 (45%)	0,485	2 354 915 (10%)	914 870	595 570
Sweden	3 013 000 (7%)	0,290	610 800 (20%)	58 790	20 600

Sources: *National Lead Partners (latest year available), **Eurostat 2020

The shares of food exports and imports in the analysed countries vary extensively. Out of the twelve countries surveyed, seven export more than import, and for the remaining countries, the balance is negative, meaning food imports exceed exports in the country. France has the largest import-export 'imbalance', where food imports exceed exports by over 45 billion euros. In Germany, Italy, and Spain, the situation is the other way around, and exports exceed imports (by over 120 billion euros).

4.1.1 POLITICAL AND LEGAL FRAMEWORK

Regarding the legal framework governing food, sustainability and public food procurement, the landscape for countries participating in the SF4C project is versatile (see Figure 1). In half of the countries, a **food policy** is in place either on the national government level or the federal

(regional) states. The latter is the case in Germany and Belgium. In Belgium, the Brussels region has established a “Good Food Strategy”; in Germany, many state governments have established their own food policies.

Table 3. Food export and import quantities and value

Country	Export quantity (mil tonnes)	Export value (bil euros)	Export per capita	Import quantity (mil tonnes)	Import value (bil euros)	Import per capita	Export-import balance (bil euros)
Austria	22,69	245,40	27	23,10	248,39	28	-3
Belgium	76,23	651,96	56	97,95	595,02	51	57
Czech Republic	34,41	239,39	22	15,87	226,09	21	13
Denmark	17,86	193,91	33	16,49	156,03	27	38
Estonia	4,44	23,47	18	2,26	25,43	19	-2
France	141,27	828,85	12	81,53	874,62	13	-46
Germany	134,06	1802,03	22	164,12	1671,71	20	130
Hungary	33,64	171,59	18	11,65	149,91	15	22
Italy	57,69	763,70	13	88,30	641,49	11	122
Slovakia	11,06	105,33	19	8,87	113,37	21	-8
Spain	75,97	596,70	13	83,65	494,07	10	103
Sweden	9,35	189,52	18	13,92	213,72	21	-24
Total	618,68	5811,86		607,71	5409,84		402

Source: FAOSTAT (2020)

National dietary guidelines are in place in nine of the twelve countries analysed. Among them is France, where dietary guidelines are voluntary to help public food service providers prepare a balanced menu. In contrast to other countries, Belgium has adopted a National Nutrition and Health Plan on the federal level, which gives general nutrition guidelines and promotes healthy balanced diets. However, each region is responsible for a more refined set of dietary guidelines, such as Flanders's reversed food pyramid recommendation. Informants from the Czech Republic (CR) and Hungary reported that there are no national dietary guidelines at the national level but stated that nutritional requirements had been set up for school meals (e.g., “consumption basket”) in the CR and general standards nationwide in Hungary.

	National food policy adopted	Dietary guidelines adopted	Sustainability requirements in food procurements (eco-labels, share of organic)
France	Blue	Blue	Blue
Czech Republic	Red	Red	Red
Spain	Blue	Blue	Blue
Sweden	Blue	Blue	Blue
Belgium	Light blue	Light blue	Blue
Austria	Red	Blue	Blue
Slovakia	Red	Blue	Red
Germany	Light blue	Blue	Blue
Italy	Red	Blue	Blue
Hungary	Red	Red	Red
Estonia	Blue	Blue	Red
Denmark	Red	Blue	Red

Figure 1. Overview of national food policies, dietary guidelines, and sustainability criteria in food procurements. Blue = exists, light blue = exists on regional level, red = does not exist

While some mandatory **sustainability requirements** in food procurement are set up in most participating countries, the specifics of the requirements are rather varied. In Spain, for example, there is a requirement to include a condition related to innovation, environment, or social nature, yet the regulation does not specify the requirement. In Italy and Germany, requirements mainly concern the share of organic food. In Vienna, Austria, there is a requirement to follow the guidelines of ÖkoKauf Wien (EcoBuy Vienna) and the NaBe criteria. In the Brussels and Walloon regions, for instance, a “Good Food” label has existed for canteens since 2015, while in Flanders, there is no mandatory set of criteria. The EGalim law in France combines the share of organic products and products issued under other quality labels and also sets limitations on the use of plastics and prevention of food waste and other environmental requirements. While there are currently no mandatory environmental criteria set up in Sweden, it is a part of an ongoing legislative process. Regardless, the public sector widely uses voluntary sustainability criteria and guidelines for public procurement. The results showed that the Czech Republic, Slovakia, Hungary, Estonia and Denmark do not have any sustainability requirements in food procurement.

4.2 OVERVIEW OF MUNICIPALITIES

In total, eighteen municipalities participated in the survey and in the SF4C project. In the Czech Republic and Slovakia, there is no designated municipality. Instead, as seen in Table 4, the whole area and the country's population are brought out. The study included municipalities of different size both in terms of area and population. The population varies from 22 000 in Viimsi (Estonia) to over five million in the region of Valencia (Spain). Similarly, the land areas span from 47 km² (smallest) to over 9 000 km² (largest).

Regarding the duration of the school year, generally, school starts in September. Yet, in five of the areas it begins in August and ends in June (in Umeå, Malmö and Copenhagen) or July (in Nuremberg and Essen). The number of school days also varies, as the shortest school years are 175 days in Tallinn and Viimsi (Estonia), and the longest (250 days) in Slovakian municipalities (**Error! Reference source not found.**Table 4).

As seen in Table 55, the majority of the case study areas in the project have established a sustainability policy. Generally, the regions with a sustainability policy have also adopted a food policy. There are only three regions, Essen, Lyon, and Budapest, in which there is only a sustainability policy without a food policy. Of the 18 regions, 13 have adopted a sustainability policy, ten a food policy and five have confirmed that neither is in place.

Table 4. Land area, population and school year in the analysed municipalities, province and region

Country	Name of municipality/region	Land area of municipality/region	Population of municipality/region	Duration of school year	Length of school year
Austria	Vienna	414,6 km ²	1 935 000	September - July	180 days
Belgium	Ghent	157,74 km ²	264 666	September - June	182 days
Belgium	Leuven	56,63 km ²	102 133	September - June	36 weeks, 182 days
Czech Republic	All municipalities	78 871 km ^{2*}	10 516 707**	September - June	36 weeks
Denmark	Copenhagen	179,8 km ²	632 300	August - June	40 weeks, 200 days
Estonia	Tallinn	159,3 km ²	450 850	September - June	40 weeks, 175 days
Estonia	Viimsi	47 km ²	22 226	September - June	40 weeks, 175 days
Hungary	Budapest	525 km ²	1 723 836	September - June	180 days
France	Dordogne (province)	9 060 km ²	416 000	September - June	36 weeks
France	Lyon	48 km ²	520 000	September - July	180 days
Germany	Essen	210,34 km ²	589 507	August - July	40 weeks, 200 days
Germany	Nuremberg	186,46 km ²	530 222	August - July	36 weeks, 190 days
Italy	Milan	181,76 km ²	1 300 000	September - June	33 weeks, 200 days
Italy	Nuoro	192,3 km ²	34 277	September - June	36 weeks
Slovakia	All municipalities	49 035 km ^{2*}	5 459 781**	September - June	36 weeks, 252 days
Spain	Valencia (region)	23,255 km ²	5 057 353	September - June	181 days
Sweden	Malmö	334,45 km ²	351 749	August - June	40 weeks, 200 days
Sweden	Umeå	2 316,69 km ²	130 997	August - June	35,6 weeks, 178 days

*Land area of the country, **Population of the country

Table 5. Overview of sustainability and food policies in place in the analysed municipalities, province and region

Country	Municipality/region	Local sustainability policy adopted	Local food policy adopted
Austria	Vienna	✓	✓
Belgium	Ghent	✓	✓
Belgium	Leuven	✓	✓
Czech Republic	All municipalities	—	—
Denmark	Copenhagen	✓	✓
Estonia	Tallinn	—	—
Estonia	Viimsi	—	—
France	Dordogne (province)	✓	✓
France	Lyon	✓	—
Germany	Essen	✓	—
Germany	Nuremberg*	✓	✓
Hungary	Budapest	✓	—
Italy	Milan	✓	✓
Italy	Nuoro	—	—
Slovakia	All municipalities	—	—
Spain	Valencia (region)	✓	✓
Sweden	Malmö	✓	✓
Sweden	Umeå	✓	✓

*There is a sustainability policy for office materials and footballs and a food policy for kindergartens in Nuremberg.

4.3 SCHOOL FOOD PROVISION

4.3.1 MEALS PROVIDED IN SCHOOLS AND KINDERGARTENS

Most schools in the studied municipalities provide at least lunch every day. In some schools of Lyon and Dordogne, lunch is provided four times a week (all weekdays except Wednesdays). In Belgium, pupils often bring their lunch boxes to school. As Leuven does not have city schools, the schools decide by themselves if they want to/can offer lunch and there are very few schools offer a warm meal. In Ghent, the city provides hot meals to the schools it is in charge of, but not for schools that fall under a different authority.

Lunch is usually a hot meal, including meat and vegetables and non-meat options available either every day (in Essen) or some days a week with a few exceptions, where both hot and cold meals are provided (such as in Copenhagen and in Milan).

Six municipalities out of eighteen stated that some schools (e.g., only private schools or some municipality schools) also provide breakfast: Budapest, Copenhagen, Malmö, Tallinn, Viimsi and Department of Dordogne. Often that is for an extra charge, not part of a regular school meal payment or cost.

Seven municipalities mentioned in their responses that one or two snacks are offered during the day. The snacks are usually in the form of fruits and raw vegetables. In some municipalities, fruits and raw vegetables are available all day (Essen), or as part of lunch or afternoon snacks (Budapest, Department of Dordogne, Malmö, Milan, Nuremberg, Umeå). In Estonian municipalities, after-school meal (additional to lunch) is given for primary school children, who stay in school also after the lessons are over. This is usually provided for an additional charge and when ordered by the parents.

Kindergartens in seven of the 18 municipalities/regions analysed offer three meals from Monday to Friday. These are usually breakfast, lunch and afternoon snacks or light meals. The rest provide only lunch (Lyon) or lunch and snack. Lunch in kindergarten is usually like school lunch, mostly hot, but snacks are often served cold (sandwiches, fruits, vegetables, etc.).

4.3.2 COST STRUCTURES

There are two different ways of structuring (and calculating) the costs of school meals in the municipalities analysed (see also Table 5). The first structure is where the cost of school meals (lunch in particular) is calculated based only on the cost of the (food) ingredients and excluding other expenses.

The school lunch (hot meal) cost is calculated based on the food ingredients, mainly when the school has an in-house kitchen, and the school or municipal budget covers the labour costs. Examples are Umeå, Malmö, Budapest, and the Czech and Slovakian municipalities. The cost varies around one euro and entails different meals. For instance, in Malmö and Umeå, the school lunch entails the main component of the meal (meat, fish, vegetarian), a side dish (pasta, rice, potato), milk, salad, and bread.

Table 5. Cost of school meal and cost models in municipalities

	Name of municipality	Cost of school meal	Subsidies
Including only food ingredients	Budapest	1,91 EUR	Partially subsidised
	Czech Republic municipalities	1,2 EUR	No subsidy (parents cover the whole cost)
	Malmö	10,46 SEK (~0,96 EUR)	Fully subsidised (free for pupils)
	Slovakian municipalities	1,2 EUR	Partially subsidised
	Umeå	11,79 SEK (~1,08 EUR)	Fully subsidised (free for pupils)
Including food ingredients and other costs	Copenhagen	3 EUR	Partially subsidised (based on income)
	Dordogne	8 EUR	Partially subsidised, parents cover part of the cost
	Essen	4 EUR	Partially subsidised (based on income)
	Ghent	4,2 (menu for special diets 7 EUR)	No subsidy (parents cover the whole amount)
	Leuven		No subsidy (parents pay all cost)
	Lyon	7,3 EUR	Partially subsidised, parents cover part of the cost
	Milan	4,23 EUR	Partially subsidised (based on income)
	Nuoro	4,94 EUR	Partially subsidised (based on income)
	Nuremberg	4,80 EUR	No subsidy (parents cover the whole cost)
	Tallinn	1,56 EUR	Fully subsidised (free for pupils)
	Valencia	3,68 EUR	Partially subsidised (based on income)
	Vienna	4,13 EUR	Mixed subsidies
Viimsi	1,65 EUR	Fully subsidised (free for pupils)	

The other cost structure means that the cost of school meal includes both food ingredients and all additional expenses, such as the labour costs of the canteen and kitchen staff, and in some cases, costs of transportation, electricity, and equipment. This structure is most used when the catering service is outsourced, predominantly used by the municipalities analysed. However, for example, Dordogne does not have an outsourced school catering service, but

employees of the municipality manage kitchens in every school. The costs per meal in this type vary from 1,56 euros in Tallinn to eight euros in the Dordogne.

Subsidising the school meal varies from no subsidies (parents cover the whole cost of school food) to fully subsidised, which means that school food is free for all pupils.

The most vulnerable groups get the meal free of charge in municipalities where parents must otherwise fully pay the cost of school food (Ghent, Nuremberg and in the Czech municipalities) or partially (Copenhagen, Milan, Nuoro, Valencia, Essen). For example, in Nuremberg lunch for vulnerable groups is paid but not the snack during school breaks. In the Czech Republic, some municipalities/schools are part of the Ministry of Education's "free lunch" programme, where children, after approval, are served free lunch based on their low socio-economic status.

In Lyon, Dordogne, and Slovakian municipalities, costs are partly covered by the municipality and/or national government for all children. In Vienna and Ghent, mixed subsidies depend on the type of school – some schools provide free lunch, and some provide subsidies based on income. For example, in Vienna, many schools offer free meals (85 schools), and in 115 schools, lunch costs 4,13 euros.

On the other hand, in Tallinn, Viimsi, Malmö and Umeå, school lunch is free of charge for all children. In Tallinn and Viimsi, the national government covers part of the cost (1 euro per each meal) and the municipality the rest. In Malmö and Umeå, the city covers the meals price for all preschool, primary and secondary school children.

4.3.3 OPERATIONAL AND MANUFACTURING STRUCTURE

The operational structure of the school food provision in the studied municipalities is quite diverse (see Table 6). Contract catering provided by a private or publicly owned company is the most common operational model. Thirteen of eighteen municipalities have contract catering, whereas Milan and Budapest have a catering contract with a publicly owned company. The other eleven municipalities have contracts with private companies selected through public procurement. In contract catering, the procurement covers both food ingredients and catering services.

Some schools have in-house catering where meals are prepared and served by the schools, and procurement covers only food ingredients, not the service. In Malmö, Essen, and Dordogne, the schools run in-house catering.

Copenhagen, Umeå, and the Slovakian and Czech municipalities have mixed operational models. In the Czech Republic, in-house catering at the municipal level is more prevalent as approximately 80% of schools have in-house catering, 15% have contract catering through a publicly owned company and about 5% contract catering through a private company. Manufacturing models vary from the on-site kitchen model, where food is prepared on-site and served immediately after, to the centralised kitchen model, where kitchens are run either by the municipality, region/province, or catering service provider.

In Dordogne and Nuoro, school meals are made only in on-site kitchens. In Leuven, food in kindergartens and schools is prepared in municipality-owned centralised kitchens. In Essen, school meals are manufactured in the central kitchen owned by the province. In Vienna, Viimsi and Ghent, the food is cooked in central kitchens belonging to the catering service provider. The rest of the municipalities (altogether nine) practice mixed manufacturing models, where some schools have on-site kitchens, and some schools get their food from central kitchens. In general, it is more common for the municipalities to own the central kitchens: nine of 14 have central kitchens. More information is presented in Table 6 below.

In on-site kitchens, food is prepared on site and served hot immediately. In centralised kitchens, there are two options: either food is prepared in the central kitchen, delivered hot in thermoses to schools and served to children, or food is cooled down after cooking, delivered to schools, and re-heated before being served to children. Both options are practised in the municipalities with central kitchens quite evenly.

Table 6. Operational and manufacturing models in the municipalities.

Municipality	Kitchen				Operating model			Manufacturing model			
Model (see below)	A	B	C	D	E	F	G	H	I	J	K
Czech Republic municipalities	V		V		V		V	V		V	
Umeå	V		V		n/a	n/a	n/a	V		V	
Nuremberg	n/a	n/a	n/a	n/a	V			n/a	n/a	n/a	n/a
Valencia	V	V			V			n/a	n/a	n/a	n/a
Malmö	V		V				V	V		V	
Slovakian municipalities	n/a	n/a	n/a	n/a	V		V	V			
Vienna		V			V						V
Ghent		V			V				V		V
Essen			V	V			V			V	
Budapest	V	V	V		V	V	V	V			
Nuoro	V				V			V			
Milan	V		V			V				V	
Leuven			V								V
Tallinn	V	V			V			V	V		
Lyon			V		V						V
Dordogne	V						V				
Viimsi			V		V				V	V	
Copenhagen	V		V		V		V	V	V	V	

A – onsite kitchen; B – central kitchen owned by the service catering provider; C – central kitchen owned by municipality; D – central kitchen by the province/region; E – contract catering by private catering company; F – contract catering by publicly owned catering company; G – in-house catering; H – Cook and serve (hot meal cooked on site); I – Cold food (sandwiches, snacks); J – Cook and hold (food is delivered hot); K – Cook and chill (meal cooled down and heated served later as a hot meal).

4.4 SCHOOL FOOD PROCUREMENT SYSTEM

4.4.1 PROCUREMENT MODELS

Over 50% of the studied municipalities have centralised food and catering services procurement for schools and kindergartens. 28% of municipalities have a decentralised system, meaning each institution procures its food and/or catering service on their own. Essen, Tallinn, and the Slovakian municipalities have mixed models. In Tallinn, schools can procure the catering service themselves, but most prefer if the municipality leads the process. Thus, if there are many such schools, these purchases are combined, and the municipality runs the procurement procedures. This is similar in Slovakia. Either schools do their own procurement, or the municipality does it for smaller educational institutions, kindergartens, collectively. In Essen, the procurement depends on whether a school offers education and care for children outside lesson times (for more details, please see section 3.7.1).

The size of the procurements depends quite closely on the procurement model. Centralised procurement procedures often tend to be larger, exceeding the national or EU financial thresholds. The EU threshold for food and catering services is 140,000 euros. In eight out of 18 municipalities, the procurements are large, exceeding the EU threshold. In Nuremberg, Viimsi and Slovakian municipalities, the procurements are below the EU threshold and in Dordogne, even under the national threshold. In Copenhagen and Essen, the procurement size varies, so some exceed the EU or national threshold, and some do not.

Most studied municipalities (over 60%) use an 'open procedure' for food and catering services. In the Czech Republic and Slovakian municipalities and in Nuremberg, direct contracting is practised, which means a 'negotiated procedure without prior publication' is used. In Viimsi, Leuven and Essen, different procedures (open procedure, restricted and direct contracting) are used.

Procurement procedures are increasingly becoming digitalised. Over half of the municipalities taking part in the current study have digitalised their entire procurement processes, and 22% have partly digital procurement.

The most common contract type used is the standard renewable contract – half of the studied municipalities have used standard renewable contracts. In contrast, framework agreements and non-renewable contracts are equally used in the quarter of the municipalities.

Engaging with potential suppliers through a ‘market dialogue/engagement’ process in the pre-procurement stage is an effective way to offer a good occasion for supply side actors (producers, caterers, farmers, etc.) to influence the content of the contract notice at the early planning stage. Also, it ensures that potential suppliers can meet the sustainability and health requirements that are applied. By utilising information from the market, contracting authorities can prepare and publish call for attractive and realistic tenders for many companies to participate in. Market dialogue processes are not widely practised in the municipalities analysed. Six of 18 respondents (from Nuremberg, Valencia, Leuven, Lyon, Slovakian and Czech municipalities) have not performed any market dialogue activities. However, it is possible that some municipalities request information from potential suppliers without giving it a name and thus do not identify as establishing an engagement process. At the same time, the activities that have been conducted are quite simple. Only a few municipalities, such as Umeå, have been applying various market dialogue practices. Most municipalities have only tried one type of activity. For example, the most common has been to request information from the suppliers. Also, dialogue events with stakeholders, 1:1 meetings with suppliers, site visits and informal chats have been practised to involve the market in the procurement process. Desk research and questionnaire/survey among the suppliers is less practised among the studied municipalities.

4.4.2 SUSTAINABILITY ISSUES IN PUBLIC PROCUREMENT

Using sustainability criteria is quite new in some municipalities. For example, sustainability criteria have not been applied in the tender processes in the Czech Republic and Slovakian municipalities. In Budapest, only seasonal food has been required. Only food education activities (for pupils or kitchen staff) have been required in Tallinn. Many municipalities such as Ghent, Milan, Nuoro, Dordogne, Vienna, Umeå, and Malmö have used many (9-10) sustainability criteria. Both Lyon and Copenhagen have also implemented six different criteria. Essen requires one sustainability criteria – vegetarian options. In Nuremberg, the tendering and procurement processes are the schools’ responsibility, so the municipality can not apply sustainability criteria, but only give recommendations.

The most common sustainability criteria used in the procurement of food or catering services are the requirement of organic food, vegetarian and plant-based options or free-range animal products, seasonal food, and low carbon emissions transportation. Requiring different labels, such as Fairtrade, Rainforest Alliance, MSC (Marine Stewardship Council), EU organic label from food products or eco-labels from cleaning products, is also quite common. Demanding solutions that minimise food waste (e.g., redistribution schemes), practices that minimise mixed (mainly plastic) waste, and using energy-efficient equipment from contractors are less common. Also, supporting small and medium-sized enterprises or small farmers with procurement criteria has not been frequently practised.

Not all studied municipalities have specified where sustainability criteria have been applied in the tenders. However, based on 13 municipalities that have collected that data, it can be said that sustainability has been leveraged the most as part of the technical specifications (69% of replied municipalities), qualification criteria, i.e., selection and exclusion criteria (61%) and contract clauses (54%). Sustainability as part of the award criteria has been applied less frequently (38% of replied municipalities). Few have used contract negotiations, market dialogue, following-up the contract execution and inter-organisational procurement planning.

The mapping results show that it differs in the studied municipalities whether and how the sustainability criteria have been included in the food and catering service procurements. However, almost all municipalities have made attempts to procure more sustainable food and catering services. On the other hand, assessing the environmental and social impact of their food and catering service procurements is much less common. For example, only half of the studied municipalities have evaluated the environmental impact, and 72% have not assessed the social impact of their procurement practices in these areas. Only the city of Ghent systematically and regularly assesses the environmental and social impacts of its procurement practices, and Umeå assesses both the environmental and social impacts of its procurement on an ad-hoc basis. Furthermore, Malmö, Copenhagen and Essen are assessing the environmental impacts regularly, and Milan is doing so on an ad-hoc basis. In contrast, Dordogne evaluates the social impact of its procurement on an ad-hoc basis.

A few municipalities (Leuven, Lyon and the Department of Dordogne) lack explicit knowledge about social and environmental impact assessment practices in their municipalities.

The tools that are used for that are an environmental calculator (in Malmö, Copenhagen, Milan and Ghent), peer reviews and assessments (Umeå, Ghent, and Copenhagen), stakeholder surveys (Umeå) or more informal tools, such as observation and meetings on-site (Dordogne).

The most common criteria that are prioritised in the environmental and social impact assessment are greenhouse gas emissions and food waste reduction – both considered necessary by an equal number of municipalities (seven out of 18). Protection of human rights along the food supply chain, etc., and organic share, healthy, fresh (seasonal), tasty food, holistic approach and internship and/or employment requirements for individuals from vulnerable groups have also been mentioned.

Knowing about the suppliers' sustainability helps to understand which kind of sustainability criteria to set and whether these are suitable or acceptable for potential suppliers. Also, it helps to assess the sustainability of the meals provided. An equal number of municipalities answered that they have information on the sustainability of the suppliers and who do not have that information (5 out of 18 in both cases). Four out of 18 answered that they only have partial information. Either because it depends on the school, as some schools know their suppliers better than others, or sometimes suppliers provide such information on their own initiative.

In the SF4C project, more innovative food procurement models such as, Dynamic Purchasing Systems, Innovation Partnerships, SDGs-aligned food tendering with control and reporting structure, use of blockchains as a certification system for the food value chain, Public-Private Partnerships, Innovation procurement, are in the focus of food and catering service procurement. However, these concepts and models are not well known amongst all of the municipalities taking part in the project, as 13 out of 18 have stated that they are not familiar with these concepts. However, Malmö, Umeå, Copenhagen, Essen, Dordogne and Nuoro stand out as some of these models have been applied in these municipalities. In Umeå, Malmö and Essen Dynamic Purchasing Systems are being used. In addition, Nuoro has practised an open tender process with procurement of quality products with a short supply chain, PDO and PGI, with sustainable meat and fish supply. Copenhagen has applied SDGs-aligned food tendering following a control and reporting structure. Malmö, Essen, Dordogne and Copenhagen have put Framework Agreements in place.

Nevertheless, all studied municipalities are interested in trying these models. For example, Dynamic Purchasing Systems, framework agreements and SDG-aligned food tendering are the most relevant concepts to the municipalities participating in the mapping study (mentioned by 3-5 municipalities). Innovation procurement, Innovation partnership, Public-Private Partnership, and use of blockchains as a certification system for the food value chain were considered as less relevant as only one or two municipalities mentioned these. At the same time, one-third of municipalities have not decided yet where they would like to focus. That is either because they are unfamiliar with the mentioned concepts, would like to discuss and analyse the usefulness internally, or would like to learn how other municipalities work with these models.

4.5 OPPORTUNITIES AND BARRIERS

4.5.1 BARRIERS

Regarding barriers identified by the 18 participants, eight thematic barriers stood out the most (see Figure 2). The two regions did not specify any obstacles. The most widespread (in 13 of the 18 municipalities/regions) barrier to implementing sustainable and healthy school meals is the cost of sustainable alternatives or the fixed cost of a meal that does not allow for many changes. Lack of expertise of procurers regarding the sustainability criteria applicable, and the strict legal framework forbidding it, were also evident. The former is seen as a major barrier in nine municipalities and the latter in seven. The strict legal framework as a local barrier has differing implications in the municipalities analysed. For example, in Budapest, it is mandatory by law to serve animal protein every day. However, its substitution with plant-based food on some days could bring about significant savings in emissions.

Another barrier arising (in six municipalities), is the lack of local food supply on the market and the difficulties of including local criteria. Additionally, some municipalities brought out, that since the procurements are very large and include a multitude of different actors, only large prospective bidders tend to take part of it. Similarly, a related barrier is the logistics of the catering itself, which is often difficult due to the high number of schools and kindergartens in the municipalities.

Further, two municipalities indicated the issue with a lack of certifications and supply chain transparency as a prohibiting factor, and another two, the lack of local political commitment and sustainability standards in schools.



Figure 2. Wordcloud of the aspects mentioned as barriers by the municipalities.

4.5.2 OPPORTUNITIES

The analysed municipalities highlighted multiple opportunities related to switching to a more sustainable and healthy school meal procurement (see Figure 3). In total, 15 out of 18 municipalities answered the question in the survey and suggested six thematic fields of opportunities. The most prevalent opportunity was health benefits, which arose in five municipalities. Health benefits were regarded as directly impacting children’s health or influencing healthy dietary guidelines.

Setting up local goals related to sustainability and the food system, or achieving the ones already set in the municipality, was seen as a further opportunity. Additionally, a few municipalities indicated that it could be possible to build up local expertise through collaboration with other countries and cities. Sustainable and healthy food procurement is also seen to benefit the environment and economic development as three municipalities indicated that it could bring about emissions reductions, and another three could help them support local small-scale enterprises. As part of the support for small-scale enterprises, it was suggested to create ready-to-use and flexible samples of legal paperwork to make the process smoother. Further, in some municipalities it is believed that procurement efforts and improving food literacy might also have a positive long-term impact on the legal frameworks. In contrast, another municipality thought that without the support of the state, no fundamental changes can be made.



Figure 3. Wordcloud of the aspects mentioned as opportunities by the municipalities.

4.5.3 POTENTIAL OF THE SCHOOLFOOD4CHANGE PROJECT IN THE MUNICIPALITIES

As part of the survey, the partners in the SchoolFood4Change were asked to point out the most beneficial focus points of the project, meaning what would be the best focus for them, considering individual contexts, including legal and political frameworks.

The most widespread answers across the 18 regions were regarding food education in the school curricula and opening opportunities for local small-scale farmers and SMEs, which

received 13 and 12 votes, respectively (Figure 4). These focus points are also specifically the ones which would bring about society-wide positive impacts. On the one hand, it would foster children's education and thus improve their health in the longer term, and on the other hand, it would support local enterprises and thus improve local economies.

The potential for reducing the environmental impact of food procurement and shortening the supply chain received ten votes, and menu-related specifics followed, such as increasing the share of organic food, reducing the amount of animal-based foods in menus/meals, and following seasonality.

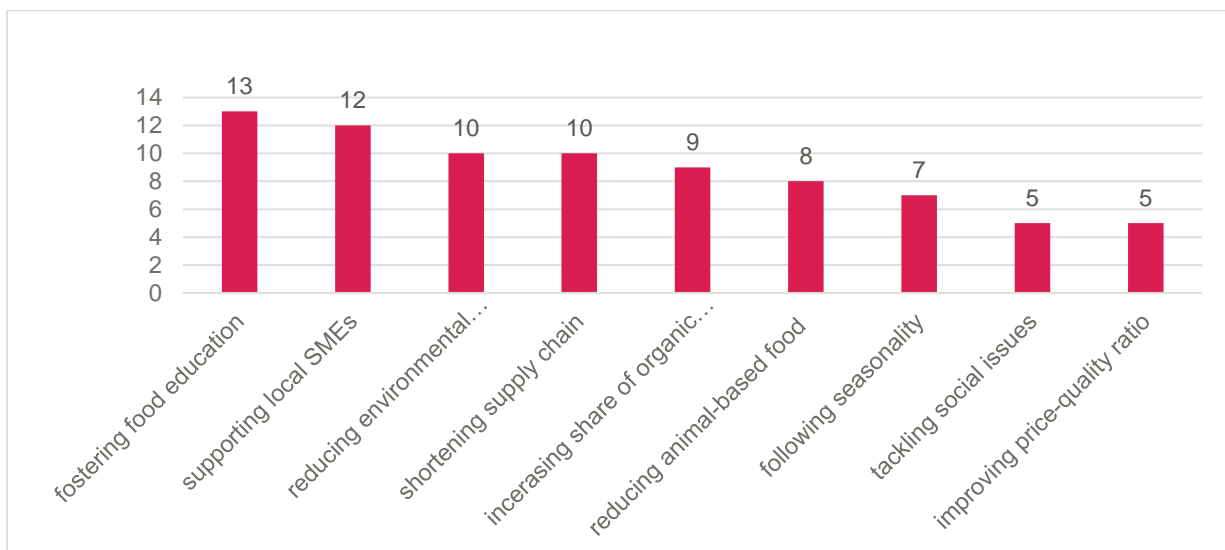


Figure 4. Answers to question 36: Where do the partners think the SF4C project should focus the most in their municipalities?

**THANKS FOR
THE FOOD!**



**It's time for
a new menu**

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This project has received
funding from the European
Union's Horizon 2020 research
and innovation programme
under grant agreement
No 101036763.



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