SUSTAINABILITY ANALYSIS

ANALYSIS OF ONE YEAR'S PURCHASE OF FOOD AND COMPARISON BETWEEN A CONVENTIONAL SCHOOL FOOD MENU AND A MENU ACCORDING TO DIET FOR A GREEN PLANET IN SÖDERTÄLJE MUNICIPALITY.

Interreg Baltic Sea Region

Co-funded by the European Union

CIRCULAR ECONOMY KISMET

Södertälje kommun

MatLust UTVECKLINGSNOD

Analysis – Diet for a Green Planet vs Conventional school menu

Summary

Södertälje municipality has earlier calculated CO2e emissions at an overall level but has now, as the first municipality in Sweden, carried out a detailed analysis of dishes served in the municipality's canteens.

The analysis was done on dishes served in 2023 and was conducted by Consupedia in the spring of 2024. The menus were evaluated based on 14 sustainability parameters, at ingredient level. These parameters were grouped into four areas: Climate, Biodiversity, Fairness and Health. Each meal was assigned a score on a hundred-point scale, where 100 points corresponds to the highest possible sustainability grade. The higher score, the more sustainable choice.

Consupedia's database is developed in collaboration with scientists at KTH Royal Institute of Technology and Dalarna University and it is one of the world's most comprehensive database on the holistic sustainability of food. Consupedia access climate data and other sustainability parameters per food product and/or ingredient. All data is gathered from leading sources such as the UN Food and Agriculture Organization (FAO), the Swedish Food Agency, the European Food Safety Authority, RISE Research Institutes of Sweden, Amfori, the International Labor Organization, and many more.

It is worth noting that KRAV* and organic products can sometimes have a higher climate footprint than conventional foods. Therefore, biodiversity is a key parameter, especially in large purchases of organic products. If only climate impact (CO2e) is considered, benefits such as organic products' contribution to biodiversity and low antibiotic use risk being overlooked. In Consupedia's system, KRAV-labelled products receive a bonus on the parameters Biodiversity, Pesticides, Animal welfare and Eutrophication.

*KRAV is a Swedish label for organic food and stands for food produced without artificial chemical pesticides, good animal welfare, reduced climate impact, more biodiversity and better working conditions. which includes regulation on animal welfare, climate, biodiversity, working conditions, etc.

Comparison of menus

Two weekly menus were analyzed: one a typical menu in Södertälje's schools according to the meal concept Diet for a Green Planet, and the other a more conventional Swedish school meal menu.

Both are based on the Nordic Nutrition Recommendations (NNR), which among its guidelines advocates for a decreased consumption of meat. An important thing to consider is therefore that also the conventional menu contains many vegetarian dishes, which means that the differences between the menus are not very big in terms of health. If the analysis had instead included a menu with more animal dishes, the differences would probably have been significantly greater.

Diet for a Green Planet focuses on the impact of food on both the environment and society. Its basic principles are that food should be tasty, healthy, preferably organically and regeneratively produced, contain less animal products and more vegetables, legumes and whole grains, as well as be locally produced in season and reduce food waste. Diet for a Gren Planet menu only includes organic and locally sourced ingredients. This give bonus points on the parameters of biodiversity, fairness and climate compare to the conventional menu.

Södertälje municipality had already implemented changes according to Diet for a Green Planet before the analysis, such as replacing chicken with hen and rice with Swedish grain. After the analysis, further measures have been taken, such as changing the pollock to bream. Pollock has low carbon dioxide emissions, but the working conditions for those who handle the fish are often poor. Minced bream, on the other hand, does not provide a better climate value but has significantly higher scores for biodiversity, transport and social sustainability.

Continued development
After completion of the analysis, Consupedia's database has become even more detailed, including the addition of more country-specific data, leading to some adjustments to the results for health, justice and biodiversity. In future analyses, this more detailed data can contribute to even sharper insights.

Results

The analysis of Södertälje municipality's menu and purchases shows that the concept Diet for a Green Planet performs better than the conventional menu on all sustainability parameters Climate, Biodiversity , Fairness and Health. See the results per meal and parameter below.

Climate – CO2e footprint (the lower the better)
Diet for a Green Planet: 0.46 kg CO2e
Conventional menu: 0.76 kg CO2e

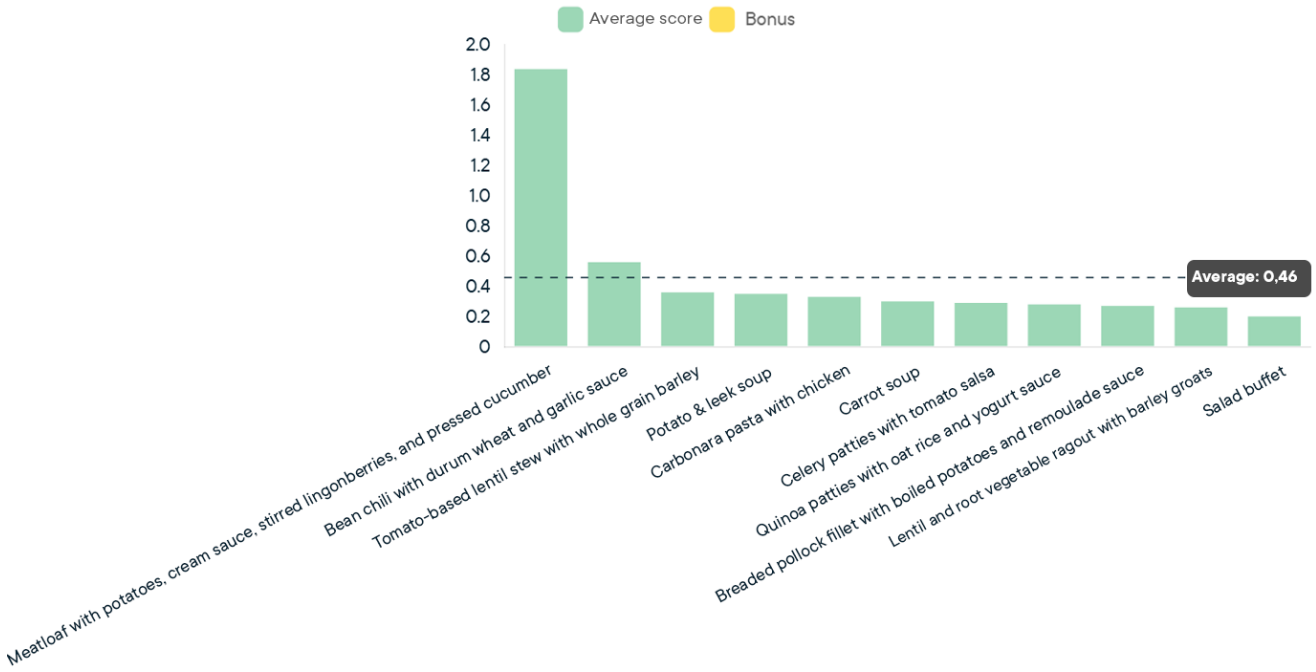
On the parameter Climate, the menu according to Diet for a Green Planet has a lower CO2e footprint compared to the conventional menu. Although the difference seems small at first glance, the impact becomes significant when several million meals are served annually, with a reduction from 0.76 kg to 0.48 kg CO2e per meal.

The meals in Diet for a Green Planet contain many organic products, which sometimes have a higher climate footprint than conventionally grown goods. Despite this, Södertälje municipality manages to keep the climate footprint low with careful planning and conscious purchases. This shows that knowledge and strategy in menu planning are crucial to reducing the impact on the climate. The menu Diet foot a Green Planet is in accordance with WWF's One Planet Plate* of 0.5 kg CO2e. Eating according to the One Planet Plate is one of several important ways to contribute to a better climate and more biodiversity.

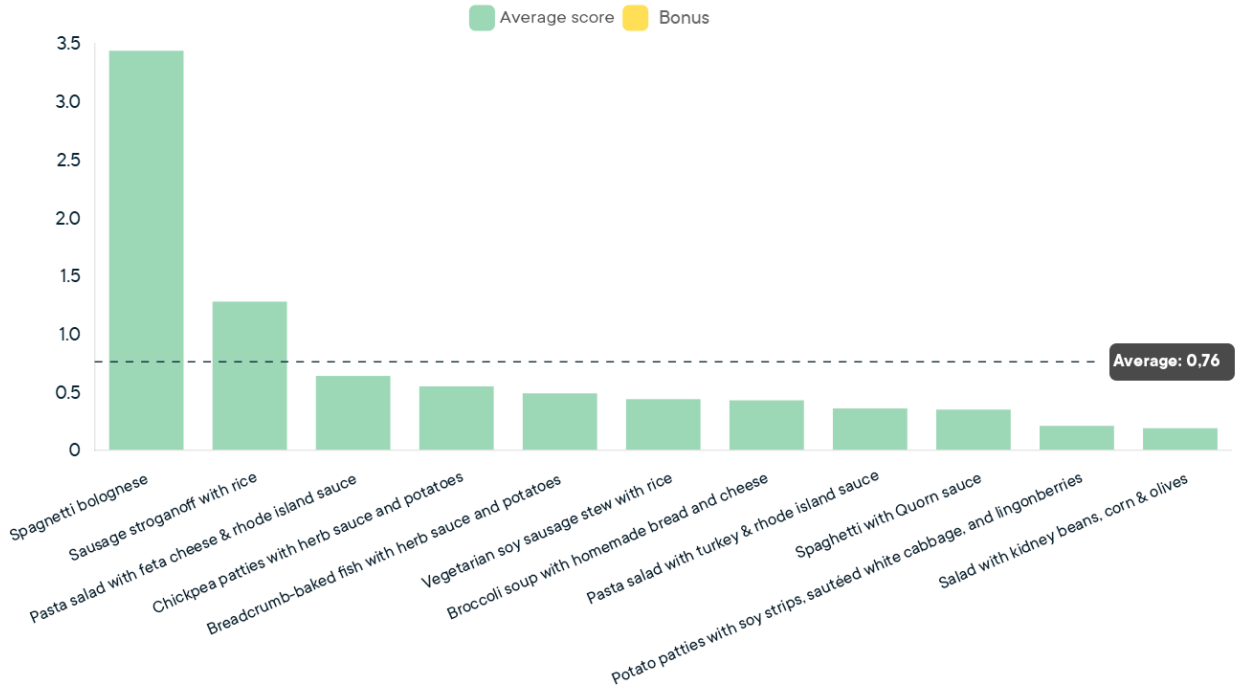
One meal that pulls up the average for Diet for a Green Planet is the meatloaf, as beef is one of the ingredients with the highest carbon footprint per kilogram. At the same time, the conventional menu includes several vegetarian dishes, contributing to an average of 0.76 kg CO2e, despite some individual dishes reaching as much as 3.5 kg CO2e.

*Together with scientists and influential thinkers in Sweden, WWF Sweden has developed criteria for meals that stay within planetary boundaries with regard to two aspects of sustainability: climate and biodiversity.

Menu according to Diet for a Green Planet



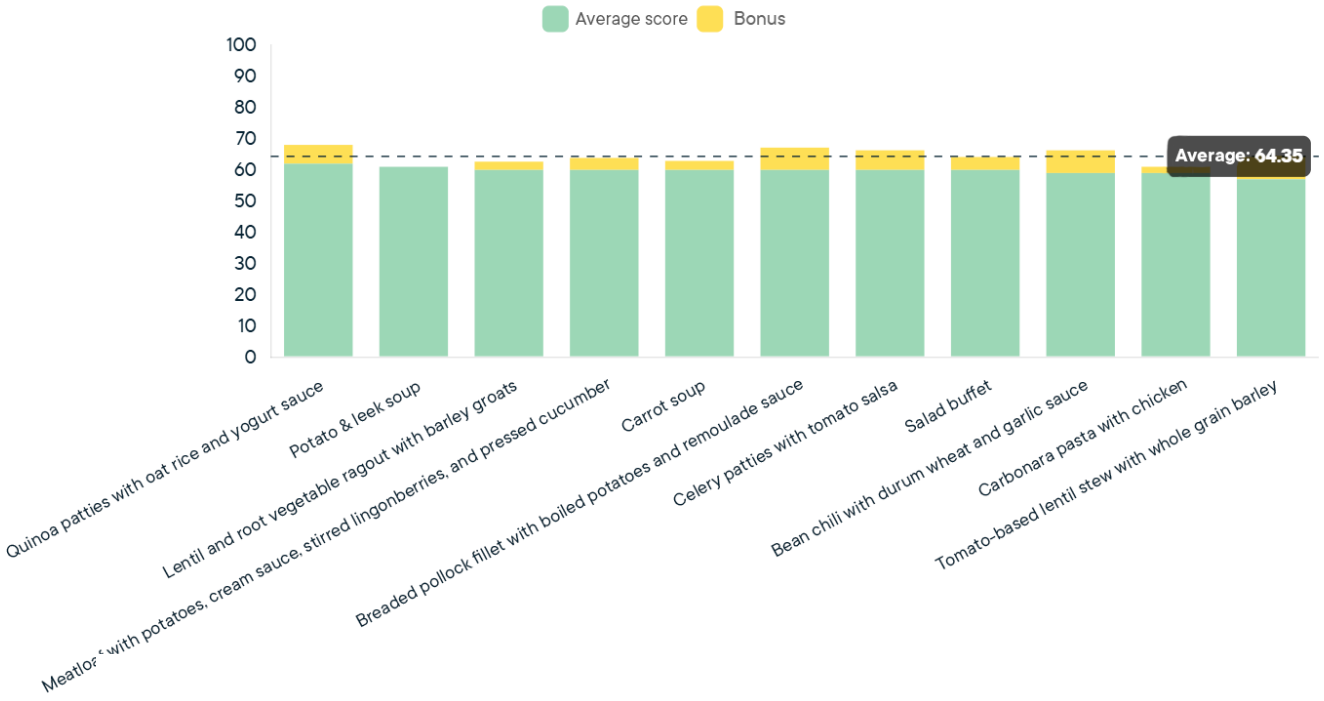
Conventional menu



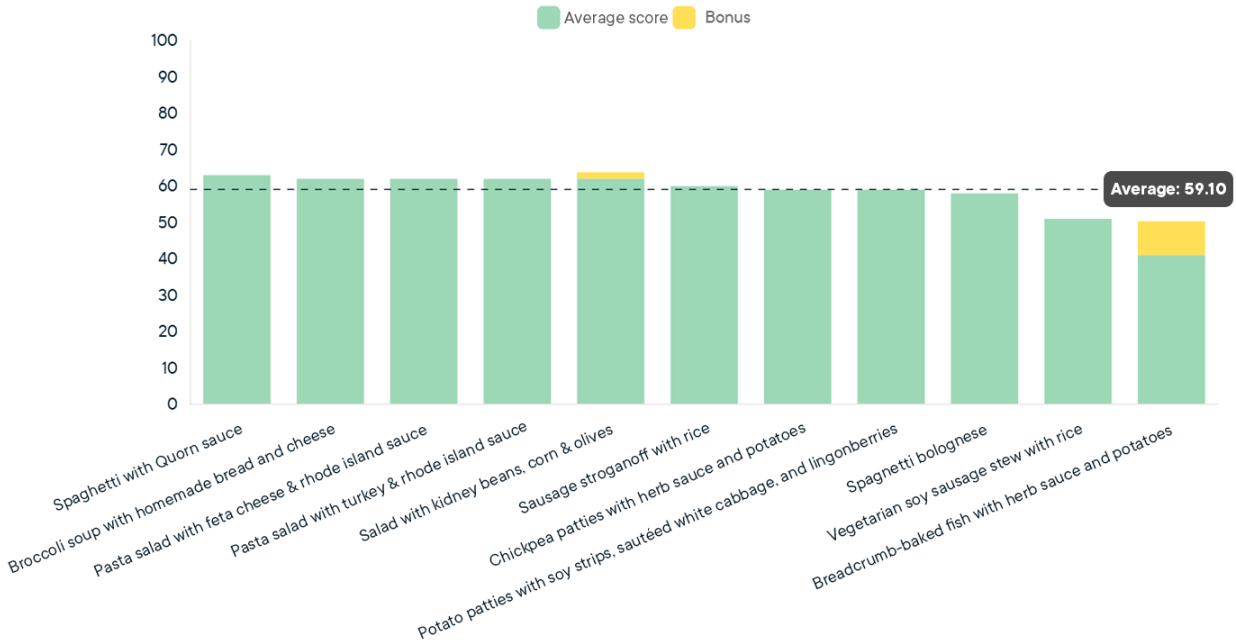
Biodiversity (the higher the better)
Diet for a Green Planet: 64 points
Conventional menu: 59 points

The difference in biodiversity points between the menus is marginal. This is because that the conventional menu also contains a high proportion of vegetables and some organic products. Organic products receive bonus points and are marked in yellow in the bar charts.

Menu according to Diet for a Green Planet



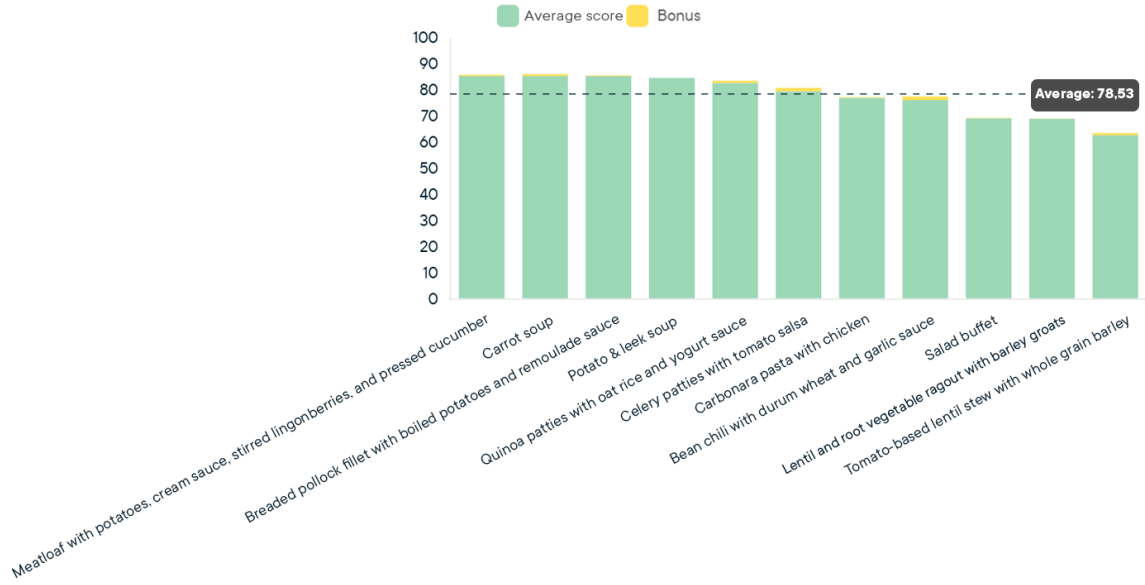
Conventional menu



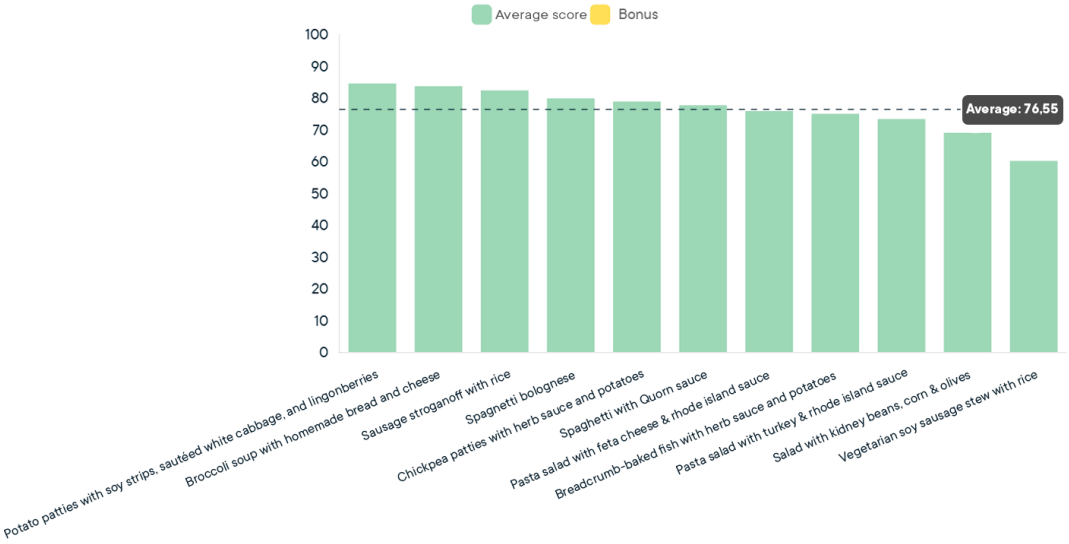
Fairness (the higher the better)
Diet for a Green Planet: 78,5 points
Conventional menu: 76,5 points

The fairness parameter includes aspects such as social justice, child labor, equality, working conditions, impact on local populations and animal welfare. It was precisely this category that led to Södertälje municipality choosing to replace the saithe fillet in its menus, as the working conditions in China, where much of the saithe is handled, do not meet acceptable standards. Focusing solely on climate footprint gives a distorted picture if you strive for a holistic approach to sustainability.

Menu according to Diet for a Green Planet



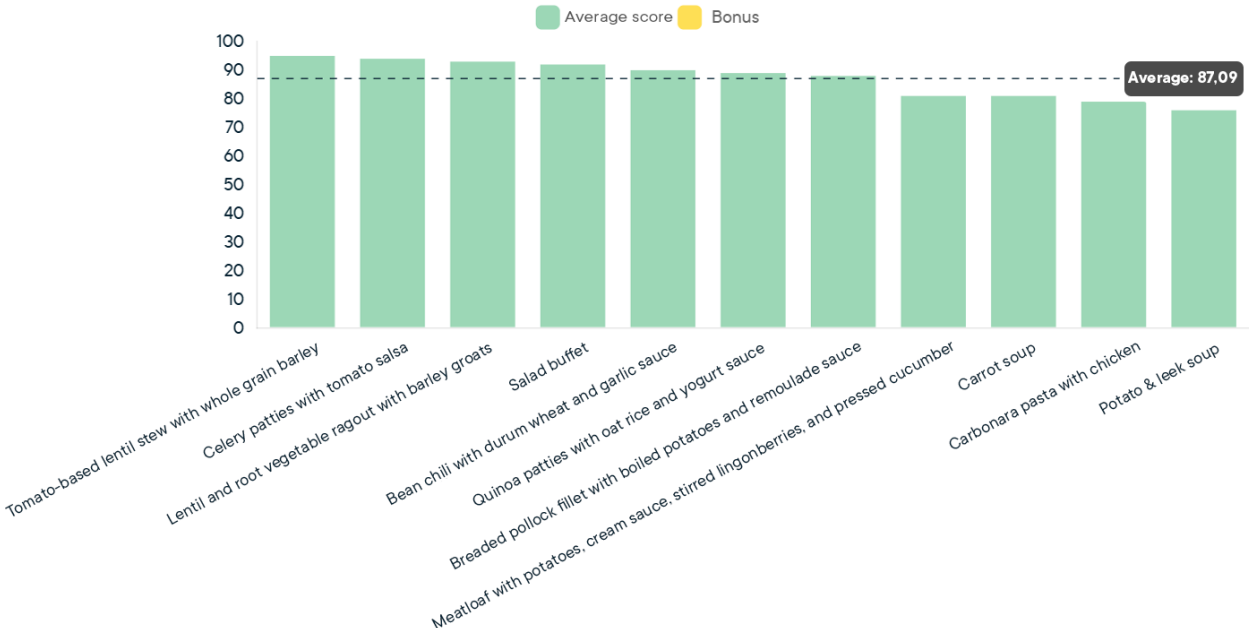
Conventional menu



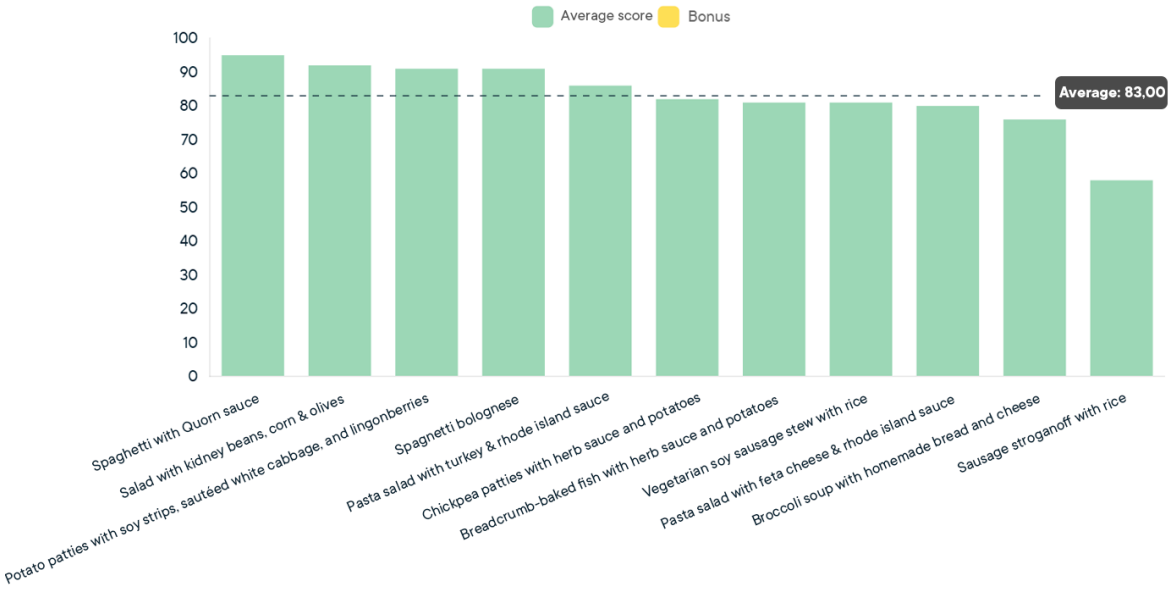
Health (the higher the better)
Diet for a Green Planet: 87 points
Conventional menu: 83 points

The difference for the two menus regarding health is not so big, which is not surprising since both menus follows the NNR adapted for the target group.

Menu according to Diet for a Green Planet



Conventional menu

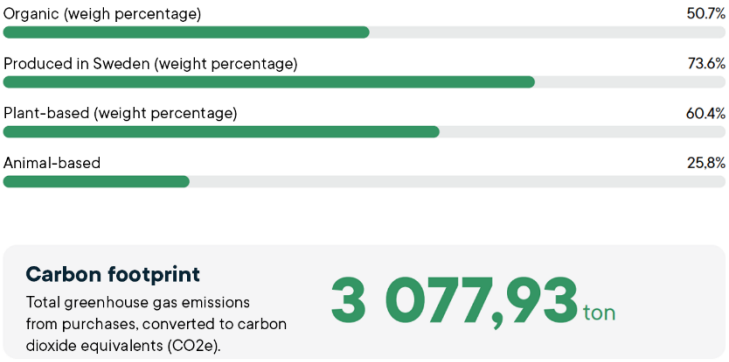


CONSUPEDIA

Analysis of Purchases

Carbon emissions are often used as the primary indicator for measuring sustainability, but sustainability is more than that. Södertälje municipality is aware of this complexity and, with the support of Consupedia, has conducted a comprehensive evaluation of its sustainability footprint covering the environment, health and social sustainability.

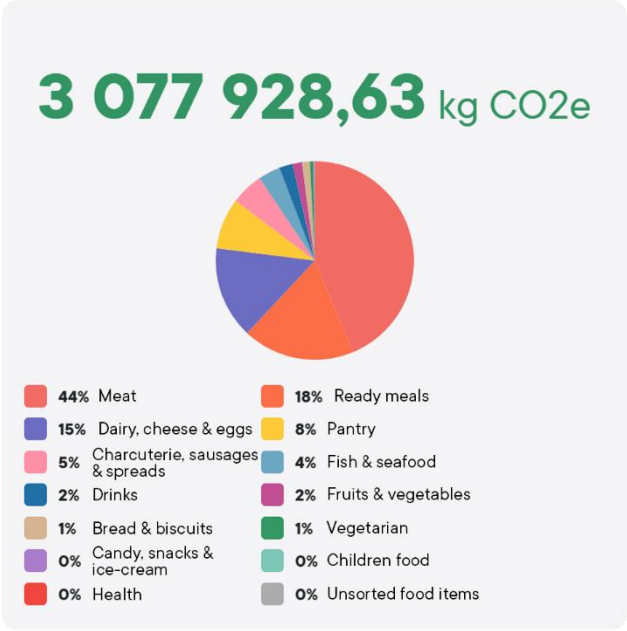
Results from the analys*:



- 50.7% were organic. Organic production means reduced use of chemical plant protection products and benefits biodiversity, which in turn contributes to strengthened preparedness.
- 73,6 % of the products were produced in Sweden. An important factor for security of supply in the event of import disruptions. Local sourcing reduces the transport impact and often contributes to more jobs in the area and better working conditions compared to production that takes place elsewhere in the world. better working conditions.
- As much as 60,4 % are plant based products.

*All values are per purchase of food in kilograms.

Highlights CO2e:



- Beef has the highest CO2e emissions.
- Plant-based foods have the smallest climate footprint.
- Rice from Pakistan has significantly higher emissions (2.53 kg CO2e/kg) compared to Swedish grain alternatives (0.55 kg CO2e/kg).
- There are large differences in CO2e emissions in "Meat & poultry", where minced beef, for example, has 11 times higher CO2e emissions than minced hen.
- In the Fruit and Vegetables group, green peas, KRAV, stand out due to large purchase volumes (9.7 tons). However, green peas have a low total CO2e emission of 0.55 kg CO2e/kg product. The entire group "Fruit & Vegetables" accounts for only 2% of total emissions.

CONSUPEDIA

Below is a selection of products that Södertälje municipality uses. The footprint of conventional and organic products in similar categories can be compared against each other. All values show CO2e/kg product. Selected products also have a score of Fairness, the higher the score the better.

LEGUMES:
Chickpea conv. (Art. No.: 291548) - 0.99
Chickpea organic (art.nr: 572982) - 0.99
Large Grey Pea (art.nr: 346569) - 0.55
Lentils conv. (art.nr 546929) - 0.77
Gotland lentil Swedish and KRAV art.nr: 299487) - 0.77

GRAIN
Bulgur of barley, Swedish KRAV (art.nt:127561) - 0.55. Fairness 86 p
Barley replacing rise, Swedish (art.nr: 431338) - 0.55. Fairness 85 p
Rice, Long Grain, Organic, Pakistan (art.nr: 642603) - 2.53. Fairness 49 p
Rice, parboiled , KRAV, Italy (art.nr 111409) - 2.53. Fairness 69 p

POTATOES:
Potatoes conv. Swedish (art.nr:126292) - 0.11
Potatoes Swedish (art.nr:119410) - 0.12

FISH AND SEAFOOD
Salmon fillet Norwegian MSC (art.nr:461400) - 4.18. Fairness 91
Salmon Pan Poland MSC (art.nr: 422752) - 4.18. Fairness 72 p
Pollock MSC China (art.nr: 592675) - 1.64. Fairness 59 p.
Cod Spine MSC China(art.nr: 898635) - 1.54. Fairness e 59 p
Minced herring Swedish MSC (art.nr:120640) - 0.5
Herring flounder breaded Swedish (Merhav) MSC (art.nr:362208) - 0.77
Herring fillet fresh MSC Netherlands (art.nr:387043) - 0.46
Mackerel fillet Norwegian non MSC (art.nr:360891) - 0.55
Claria mince Swedish conv. (art.nr:105232) - 3.08
Minced bream Swedish conv. (art.nr: 070091) - 2.97. Fairness 85 p
Blue mussels MSC in nets (art.nr:403865) - 0.16

PROTEIN
Mince
Minced beef Swedish KRAV (art.nr:456327) - 30,8
Beef & Quinoa legume mince KRAV (art.nr:127624) - 17,12
Minced chicken conv. (art.nr: 215202) - 2.33
Minced chicken Reko KRAV (art.nr:323719) - 2.64
Minced hen Swedish organic (art.nr: 408049) - 2.2
Veggie mince, conv. (art.nr:252748) - 1.87
Veggie mince eco (art.nr:449645) - 2.09
Veggie mince Swedish KRAV (art.nr:110008) - 0.34
Quorn mince conv. (art.nr 127114) - 1.88

Ready to eat
Sausage hen eco (art.nr:353407) - 2,21
Sausage Swedish eco (art.nr:353748) - 5,64
Hen schnitzel eco (art.nr:442426) - 2,04
Pork schnitzel Swedish conv. (art.nr 518464) - 4,51
Vego schnitzel (Sweden) (art.nr:443162) - 1,54
Sausage vegan Swedish (art.nr:415057) - 1,66

Meatballs Swedish conv. (art.nr: 437871) - 23.1
Meatball Swedish KRAV (art.nr: 611970) - 23.1
Chicken meatball Swedish conv. (art.nr 332643) - 2.2
Chicken meatball Swedish (art.nr:270387) - 2.2
Venison meatball (art.nr: 410242) - 20.6
Fish meatball (art.nr:119314) - 3.09
Vegobuns soy (art.nr: 509943) - 1.87
Vegobun Swedish pea (art.nr: 352999) - 1.87
Vegobuns Swedish (art.nr:130099) - 2.2
Venison NZ (art.nr:416438) - 52.8
Beef spat Swedish conv. (art.nr: 374957) - 20.9