

CI2, o. p. s.



Source: Orkla Foods Česko a Slovensko a.s.

PRODUCT CARBON FOOTPRINT

**VITANA INSTANT AND COOKED SOUPS**

**ORKLA FOODS ČESKO A SLOVENSKO**

[www.ci2.co.cz](http://www.ci2.co.cz)

## ASSIGNMENT

The objective of this analysis is to determine the product carbon footprint of the Vitana instant and cooked soups made by Orkla Foods Česko a Slovensko a.s. and subsequently evaluate this carbon footprint with regard to the energetic value per serving (200 ml) of ready-made instant cup-a-soup and a serving (250 ml) of a ready-made cooked soup meal. All the Vitana instant cup-a-soup and cooked soups made by Orkla Foods Česko a Slovensko a.s. were included in the study. The study covers the following 56 products:

- Instant cup-a-soup
  - Broccoli Soup with Croutons
  - Garlic Soup with Croutons
  - Chinese Piquant Chicken Soup
  - French Soup
  - Goulash Soup
  - Beef Soup with Celestine Noodles
  - Pea Soup with Croutons
  - Mushroom Soup
  - Chilli Beef Soup with Garlic
  - Chicken Soup with Noodles
  - Mexican Chilli Soup
  - Spicy Goulash Soup with Croutons
  - Tomato Soup with Noodles
  - Soup with Liver Dumplings
  - Cheese Soup with Croutons
  - Smoked Meat and Garlic Soup
  - Mushroom Soup
- Cooked soups
  - Our Byšice soup
    - Spring Soup
    - Peeled Barley Soup with Smoked Meat
    - Potato Soup
    - Broccoli Soup
    - Lentil Soup
    - Tripe Soup
    - French Soup
    - Goulash Soup
    - Goulash Spicy Special
    - Goulash Snack Soup
    - Beef Soup
    - Pea Soup with Bacon
    - Pea Soup with Smoked Meat
    - Soup with Liver Dumplings and Noodles
    - Soup with Liver Dumplings
    - Tomato Soup
    - Tomato Joy-Ride
    - Chicken Broth with Noodles
  - Add an egg soup
    - Add an Egg Chicken Noodle Soup
    - Add an Egg Safarska Soup
    - Add an Egg Garlic Soup
    - Add an Egg Blacksmith's Smoked Soup
  - Authentic soups
    - Authentic Piquant Chicken Soup
    - Authentic Potato Soup with Mushrooms
    - Authentic Soup with Bacon Dumplings
    - Authentic Lentil Soup
    - Authentic Two Dumpling Soup with Liver and Parsley Dumplings
    - Authentic French Festive Soup
    - Authentic Goulash soup
    - Authentic Beef Soup
    - Authentic Mushroom Soup

- Authentic Hungarian Goulash Soup
- Authentic Liver Dumpling Soup
- Authentic Chicken Soup
- Authentic Cabbage Soup
- Family-size soups
  - Family-size French Soup
  - Family-size Goulash Soup
  - Family-size Pea Soup
  - Family-size Chicken Soup

## METHODOLOGY FOR CALCULATION OF THE CARBON FOOTPRINT OF INSTANT CUP-A-SOUP

The analysis uses a modified method for determining the Product Carbon Footprint - PCF, which is a measure of the total quantity of greenhouse gases, that are released to the atmosphere during the lifecycle of the given product or service. The procedure for the calculation of the product carbon footprint is according to the PCF specification, as outlined in the ISO 14067:2018 standard. This cycle has several phases, of which the following were used for the calculation of the carbon footprint of Vitana instant soups by Orkla Foods Česko a Slovensko a.s.:

- production of raw materials and packaging material
- transportation of the raw materials and packaging material
- processing of raw materials into a final product and its packaging
- use of the product (preparation of instant soup)

The resulting carbon footprint of the product includes the total emissions of greenhouse gases produced during all these phases.

The calculation excluded the following phases:

- distribution of the product from the production plant to the intermediate storage facilities and the vendors
- product storage
- transportation of the product to the final customer
- disposal of generated waste

### Determination of the transportation carbon footprint

The calculation of the carbon footprint for transporting of raw materials and packaging material from the suppliers included: truck transportation, refrigerated truck transportation as well as maritime cargo transport. The ground distances were measured using Google Maps and the shortest distance between the supplier and Orkla Foods Česko a Slovensko a.s. plant in Byšice were considered. In the case of maritime transportation, the calculation of the distance was performed using the Sea Distances on-line tool and the shortest distance to the European destination port was chosen. In this case, the selected port was Rotterdam. The necessary truck transportation within Europe was also added. In the case of the relevant countries, the significant ports were selected as the starting points. For the requirements of this analysis, the ports were Alexandria (Egypt), Callao (Peru), Hong Kong (China), Kandla (India), New York & New Jersey (USA), Saigon (Vietnam), Tampico (Mexico), Tanjung Priok (Indonesia) and Valparaiso (Chile).

The transportation carbon footprint calculation was related to the means of transportation used, the distance and weight of the transported raw materials required for production of the product, also the need for refrigeration during transport. The emission factor for truck cargo transport (0.0002663 g CO<sub>2</sub>e/g/km) was chosen for a truck with an average load, and the same conditions were also applied for the refrigerated land transportation version (0.0003171 g CO<sub>2</sub>e/g/km). The emission factor for maritime transport (0.0000201 g CO<sub>2</sub>e/g/km) was related to a container ship with a freight volume of 3,000 to 4,999 TEU. All the emission factors were adopted from the publication "UK Government GHG Conversion Factors for Company Reporting" (2019) including the addition of indirect fuel emissions.

## Determination of the carbon footprint of raw materials

For determining the carbon footprint of raw materials required for production of instant soups, the emission factors were ascertained for almost 130 raw food materials supplied by 70 companies. The emission factors were adopted from the internal database of CI2, o. p. s., the "How Low Can We Go?" report issued by Cranfield University and other relevant resources. In the event that the corresponding emission factor for a given raw material was not found, it was estimated based on the experience of CI2, o. p. s. staff. This applied mainly to some spices, aromas and extracts. The emission factors ranged from 0.001 g CO<sub>2</sub>e/g (water) to 27.140 g CO<sub>2</sub>e/g (cooked beef) with an average value of 4.162 g CO<sub>2</sub>e/g.

## Determination of the carbon footprint of packaging material

The packaging material included the carbon footprint of flexible foil, which is the primary product packaging, the transport carton box and adhesive tape. The proportionate carbon footprint of the individual components, i.e. aluminium, LDPE, PET, paper and the process of their bonding and printing was added to the calculation of the carbon footprint of flexible foil, which is a composite material. The resulting calculated carbon footprint of the flexible foil was 2.727 g CO<sub>2</sub>e/g. For the carton box and transparent adhesive tape, the emission factors 0.843 g CO<sub>2</sub>e/g and 1.630 g CO<sub>2</sub>e/g, respectively, which were adopted from the "UK Government GHG Conversion Factors for Company Reporting" (2019).

## Determination of the carbon footprint of the manufacturing process

The calculation of the production process carbon footprint was completed through an assessment of the carbon footprint of the company Orkla Foods Česko a Slovensko a.s., specifically, the plant in Byšice and the weight of all products made in the given period. Based on the calculations made in June 2019 by CI2, o. p. s., the carbon footprint (Scope 1 and 2, i.e. direct emissions from the company activities and the indirect emissions from purchased energies) at the plant in Byšice was calculated at 3,333.305 t CO<sub>2</sub>e for the year 2018. 12,648,932 kg of final products were produced in the same year. It was concluded that the carbon footprint of the Byšice plant production process is 0.264 g CO<sub>2</sub>e/g.

## Determination of the product usage carbon footprint

The product usage carbon footprint included heating of 200 ml of water at room temperature to the boiling point, i.e. 100 °C. As per agreement with Orkla Foods Česko a Slovensko a.s., the electric kettle was chosen as the most common method used to heat water for preparation of instant cup-a-soup. The resulting carbon footprint is a model case and may differ from the real carbon footprint because many factors fall under the control of the consumer and plays a role here.

## Determination of the product carbon assessment scale

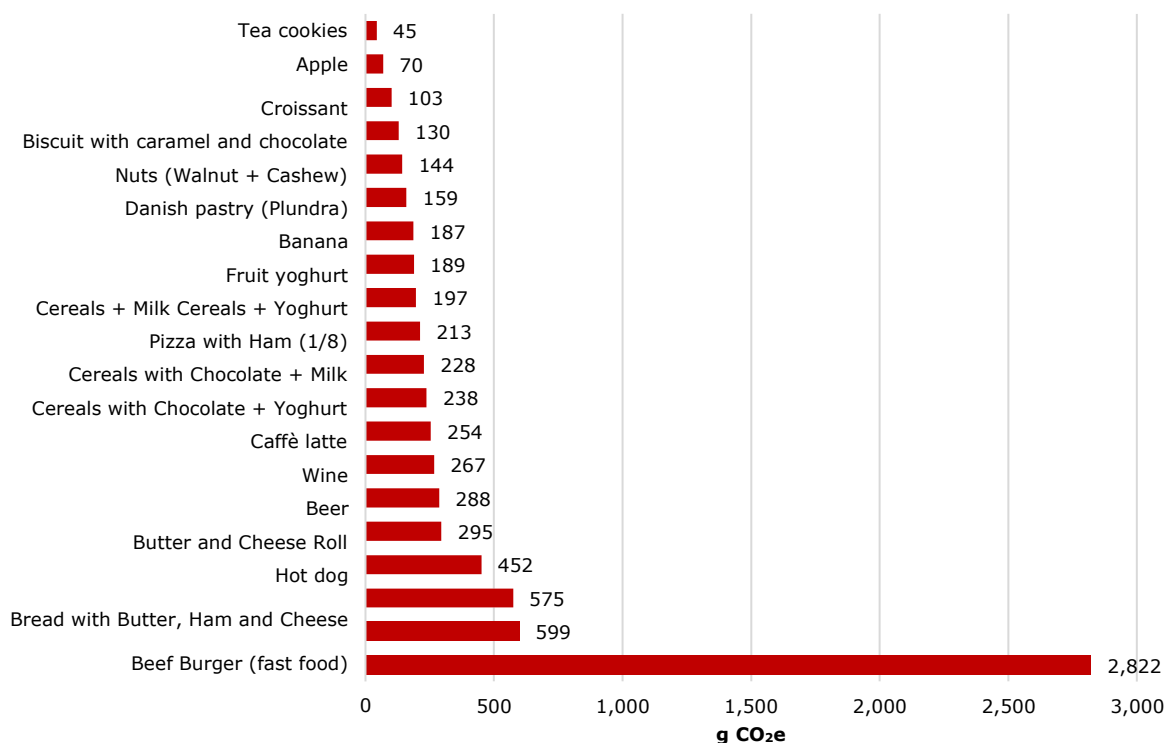
Upon request from Orkla Foods Česko a Slovensko a.s., the assessment scale was based on the fact that the instant cup-a-soup is acquainted as one snack (approx. 7.5 % of the daily energy intake). According to STOB 9, the average daily energy intake of an adult is 500 kJ. The food consumption carbon footprint was calculated by CI2, o. p. s. (using the studies by Aleksandrowicz et al., 2016, Berners-Lee et al., 2012). The average food consumption carbon footprint per person/year in the Czech Republic is thus 1,450 kg CO<sub>2</sub>e, i.e. 3.97 kg CO<sub>2</sub>e/day. It is therefore 297.7 g CO<sub>2</sub>e for one snack. Since the global target is to reduce the volume of emissions from human activity, the food emissions also play their role in the process. The assessment scale was set in such a manner that the product would fall under Category A or B, in the case of reduction of the carbon footprint of a snack by at least 50 %. In the event that the carbon footprint of a product is between 50 % and 100 % of the average carbon footprint of a snack, it would then fall under Category C. In the worst case, at a higher carbon footprint than the average carbon footprint of a snack, the product falls under Category D.

Category	Colour Code	Scope	
		[g CO <sub>2</sub> e]	[%]
<b>A</b>		< 99	< 33 %
<b>B</b>		99–149	33–50 %
<b>C</b>		150–298	50–100 %
<b>D</b>		298 <	100 % <

## Carbon footprint of comparable snacks

Several typical snacks were picked for comparison of the carbon footprint of Vitana instant cup-a-soup for which CI2, o. p. s. also calculated the carbon footprint. The emission factors of the typical foods were adopted from the internal database of CI2, o. p. s., the “How Low Can We Go?” report issued by Cranfield University and other relevant resources. In the event that the corresponding emission factor of the given item was not found, it was estimated on the basis of the experience of CI2, o. p. s. staff.

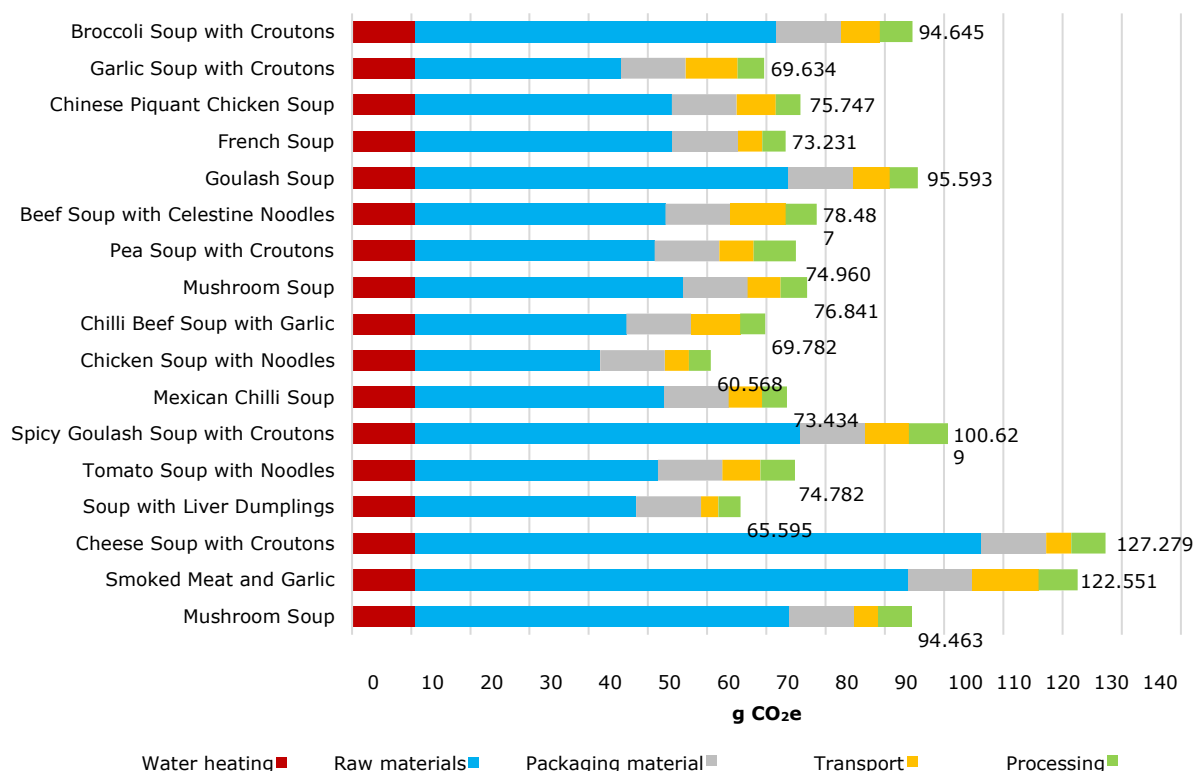
• Banana	200 g
• Caffè latte	30 ml + 200 ml
• Cereals + yoghurt	40 g + 150 g
• Cereals + milk	40 g + 150 ml
• Cereal with chocolate and nuts+ yoghurt	40 g + 150 g
• Cereal with chocolate and nuts + milk	40 g + 150 ml
• Croissant	58 g
• Tea cookies	50 g
• Hot dog	120 g
• Butter and cheese roll	50 g + 5 g + 40 g
• Beef burger (fast food)	125 g
• Bread with butter, ham and cheese	70 g + 5 g + 20 g + 40 g
• Apple	225 g
• Nuts (Walnut + Cashew)	50 g
• Fruit yoghurt	150 g
• Beer	500 ml
• Danish pastry (Plundra)	90 g
• Biscuits with caramel and chocolate	50 g
• Pizza with ham (1/8)	70 g
• Wine	200 ml



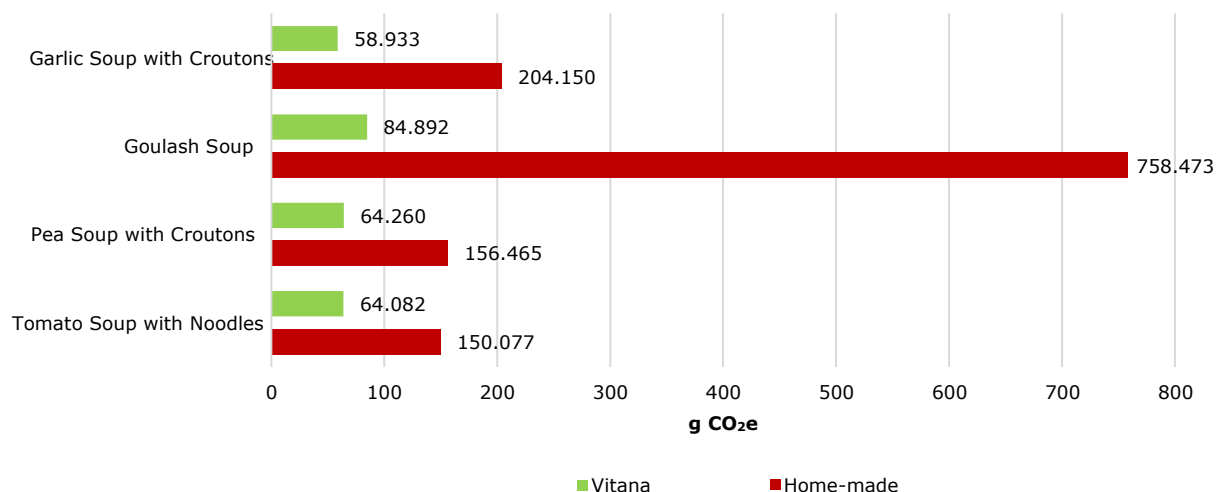
## CALCULATION OF THE CARBON FOOTPRINT OF INSTANT CUP-A-SOUP

The calculation was done for 17 instant soups on the basis of the data inputs provided by Orkla Foods Česko a Slovensko a.s. with the application of the above-stated calculation methodology. Fourteen instant soups fall under Category A, three under Category B. This mode of assessment found the best was Chicken Soup with Noodles, and the worst was Cheese Soup with Croutons.

The average carbon footprint of one instant soup is 84.013 g CO<sub>2</sub>e (100.00 %), of which 51.037 g CO<sub>2</sub>e (60.75 %) accounts for the raw materials, 10.934 g CO<sub>2</sub>e (13.01 %) for packaging materials, 6.285 g CO<sub>2</sub>e (7.48 %) for transport, 5.057 g CO<sub>2</sub>e (6.00 %) for processing and 10.700 g CO<sub>2</sub>e (12.74 %) for preparation.



Selected instant cup-a-soup (Garlic Soup with Croutons, Goulash Soup, Pea Soup with Croutons and Tomato Soup with Noodles) were compared with soups made from fresh ingredients, for instance, "home-made", where the carbon footprint calculation included only the raw materials. The recipes were adopted from the publication titled *Hot Food Recipes - Receptury teplých pokrmů* (Syrový, Nestával, 1986). The chosen serving was identical, i.e. 200 ml of soup.



## METHODOLOGY FOR CALCULATION OF THE CARBON FOOTPRINT OF COOKED SOUP

The analysis uses a modified method for determination of the Product Carbon Footprint - PCF, which is a measure of the total quantity of greenhouse gases, that are released to the atmosphere during the lifecycle of the given product or service. The procedure for calculation of the product carbon footprint is according to the PCF specification, as outlined in the ISO 14067:2018 standard. This cycle has several phases, of which the following were used for calculation of the carbon footprint of Vitana cooked soups by Orkla Foods Česko a Slovensko a.s.:

- production of raw materials and packaging material
- transportation of the raw materials and packaging material
- processing of raw materials into a final product and its packaging
- use of the product (preparation of instant soup)

The resulting PCF includes the total greenhouse gas emissions during all these phases.

The following phases were not included in the calculation:

- distribution of the product from the production plant to the intermediate storage facilities and the vendors
- product storage
- transportation of the product to the final customer
- disposal of generated waste

### Determination of the transportation carbon footprint

The calculation of the carbon footprint for transportation of raw materials and packaging material from the suppliers included truck transportation, refrigerated truck transportation as well as maritime cargo transport. The ground distances were measured using Google Maps and the shortest distance between the supplier and Orkla Foods Česko a Slovensko a.s. plant in Byšice were considered. In the case of maritime transportation, the calculation of the distance was performed using the Sea Distances on-line tool and the shortest distance to the European destination port was chosen. In this case, the selected port was Rotterdam. The necessary truck transportation within Europe was also added. In the case of the relevant countries, the significant ports were selected as the starting points. For the requirements of this analysis, the ports were Alexandria (Egypt), Callao (Peru), Dublin (Ireland), Halifax (Canada), Hong Kong (China), Kandla (India), New York & New Jersey (USA), Saigon (Vietnam), Santos (Brazil), Tampico (Mexico), Tanjung Priok (Indonesia), Toamasina (Madagascar) and Valparaíso (Chile).

The carbon footprint calculation was related to the means of transportation used, the distance and weight of the transported raw materials required for production of the product, also the need for refrigeration during transport. The emission factor for truck cargo transport (0.0002663 g CO<sub>2e</sub>/g/km) was chosen for a truck with average load, and the same conditions were also chosen for the refrigerated land transport version (0.0003171 g CO<sub>2e</sub>/g/km). The emission factor for maritime transport (0.0000201 g CO<sub>2e</sub>/g/km) was related to a container ship with a freight volume of 3,000 to 4,999 TEU. All the emission factors were adopted from the publication "UK Government GHG Conversion Factors for Company Reporting" (2019) including the addition of indirect fuel emissions.

### Determination of the carbon footprint of raw materials

For determination of the carbon footprint of the raw materials required for production of cooked soups, the emission factors were ascertained for almost 220 raw food materials supplied by more than 90 companies. The emission factors were adopted from the internal database of CI2, o. p. s., the "How Low Can We Go?" report issued by Cranfield University and other relevant resources. In the event that the corresponding emission factor of the given raw material was not found, it was estimated on the basis of the experience of CI2, o. p. s. staff. This applied mainly to some spices, aromas and extracts. The emission factors ranged from 0.001 g CO<sub>2e</sub>/g (water) to 27.140 g CO<sub>2e</sub>/g (cooked beef) with an average value of 3.826 g CO<sub>2e</sub>/g.

### Determination of the carbon footprint of packaging material

The packaging material included the carbon footprint of flexible foil, which is the primary product packaging, the transport carton box and adhesive tape. The proportionate carbon footprint of the individual components, i.e. aluminium, LDPE, PET, paper and the process of their bonding and printing were added to the calculation of the carbon footprint of flexible foil, which is a composite



material. The resulting carbon footprint of flexible foil was calculated at 2.696 g CO<sub>2</sub>e/g for the Our Bysicka (Naše byšická) and Family-size soups range and 2.727 g CO<sub>2</sub>e/g for the Authentic and Add an Egg series soups. For the carton box and transparent adhesive tape, the emission factors 0.843 g CO<sub>2</sub>e/g, and 1.630 g CO<sub>2</sub>e/g respectively, was adopted from the "UK Government GHG Conversion Factors for Company Reporting" (2019).

### Determination of the carbon footprint of the manufacturing process

The calculation of the production process carbon footprint was completed through an assessment of the carbon footprint of the company Orkla Foods Česko a Slovensko a.s., specifically the plant in Byšice and the weight of all products made in the given period. Based on the calculations made in June 2019 by CI2, o. p. s., the carbon footprint (Scope 1 and 2, i.e. direct emissions from the company activities and the indirect emissions from purchased energies) at the plant in Byšice was calculated at 3,333.305 t CO<sub>2</sub>e for the year 2018. 12,648,932 kg of final products were produced in the same year. Therefore, the carbon footprint of the Byšice plant production process is 0.264 g CO<sub>2</sub>e/g.

### Determination of the product usage carbon footprint

The product usage carbon footprint includes cooking and ingredients added by the consumer (water, milk, eggs) according to the cooking instructions. As per agreement with Orkla Foods Česko a Slovensko a.s., heating and cooking on a gas-fired stove was chosen as the most common method for preparation of the Vitana cooked soups. The emission factor for natural gas consumed in the household environment (2.205 g CO<sub>2</sub>e/m<sup>3</sup>) was adopted from the national inventory report of the NIR (2018) including the indirect fuel emissions. The volume of heated water and the cooking times were adopted from the instructions for preparation of each individual Vitana cooked soup. The resulting carbon footprint is a model case and may differ from the real carbon footprint because many factors (for instance, water-heating method and efficiency) which fall under the control of the customer, plays a role here. The product usage carbon footprint also included the carbon footprint of the water and other necessary ingredients used. In the case of the Our Bysicka Broccoli Soup and Authentic Mushroom Soup, this is milk and in the case of the four soups of the Add an egg soup, this is the egg. Determination of the carbon footprint of these ingredients were compiled using the same methodology that is described in the above-stated part titled Determination of the carbon footprint of raw materials.

### Determination of the product carbon assessment scale

Upon request from Orkla Foods Česko a Slovensko a.s., the assessment scale was based on the fact that the cooked soup is recognized as a component of the main daily meal (approx. 10.0 % of the daily energy intake). According to STOB 9, the average daily energy intake of an adult is 500 kJ. The food consumption carbon footprint was calculated by CI2, o. p. s. (using the studies by Aleksandrowicz et al., 2016, Berners-Lee et al., 2012). The average food consumption carbon footprint per person/year in the Czech Republic is thus 1,450 kg CO<sub>2</sub>e, i.e. 3.97 kg CO<sub>2</sub>e/day. It is therefore 397.0 g CO<sub>2</sub>e for one cooked soup serving. Since the global target is to reduce the volume of emissions from human activity, the food emissions also play their role in the process. The assessment scale was set in such a manner that in case of reduction of the carbon footprint of cooked soup by at least 50 % the product would fall under Category A or B. In the event that the carbon footprint of a product is between 50 % and 100 % of the average carbon footprint of soup, it would then fall under Category C. In the worst case, at a higher carbon footprint than the average carbon footprint of soup, the product falls under Category D.

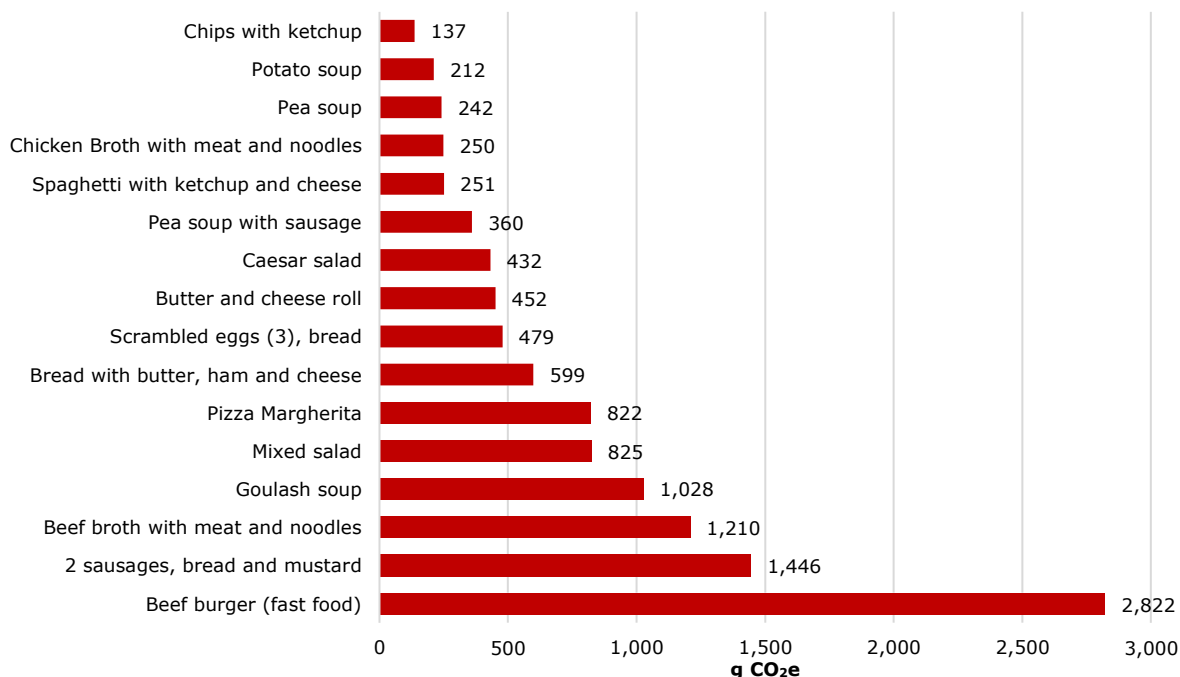
Category	Colour Code	Scope	
		[g CO <sub>2</sub> e]	[%]
<b>A</b>		< 132	< 33 %
<b>B</b>		132–198	33–50 %
<b>C</b>		199–397	50–100 %
<b>D</b>		397 <	100 % <



## Carbon footprint of comparable meals

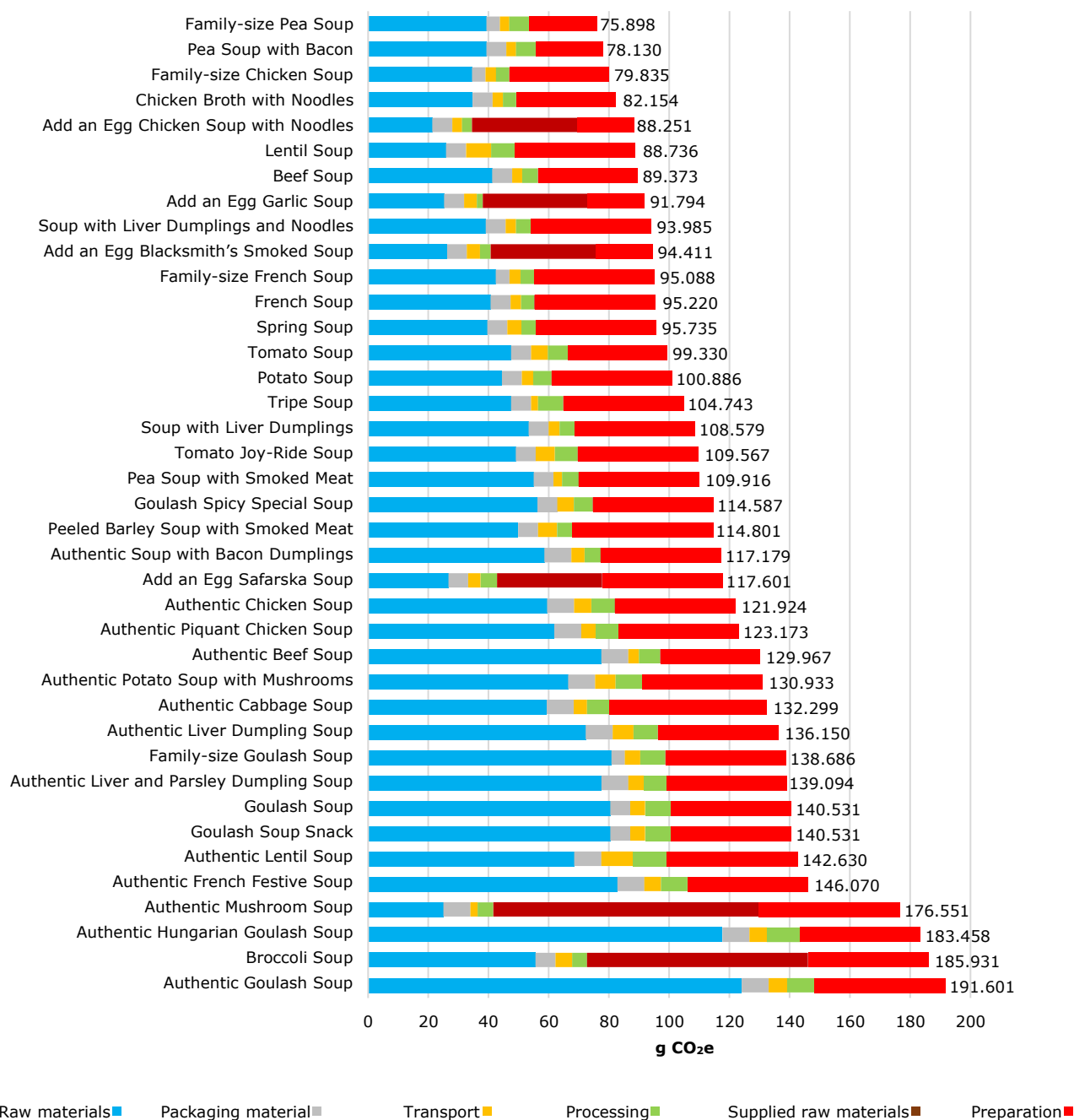
For comparison of the carbon footprint of the Vitana cooked soups, several traditional foods for which the company CI2, o. p. s. also calculated the carbon footprint were selected. In the case of soups made from fresh ingredients, for instance, "home-made", the carbon footprint included the raw materials and cooking of the soup on a gas-fired stove. The recipes were adopted from the publication titled *Hot Food Recipes - Receptury teplých pokrmů* (Srový, Nestával, 1986). The emission factors of the typical foods were adopted from the internal database of CI2, o. p. s., the "How Low Can We Go?" report issued by Cranfield University and other relevant resources. In the event that the corresponding emission factor of the given item was not found, it was estimated on the basis of the experience of CI2, o. p. s. staff.

• 2 sausages, bread and mustard	150 g + 70 g + 20 g
• Potato soup (home-made)	250 ml
• Caesar salad (salad, dressing, parmesan, croutons)	200 g + 30 g + 35 g + 30 g
• Goulash soup (home-made)	250 ml
• Butter and cheese roll	50 g + 5 g + 40 g
• Beef burger (fast food)	125 g
• Beef broth with meat and noodles (home-made)	250 ml
• Pea soup (home-made)	250 ml
• Pea soup with sausage (home-made)	250 ml
• Bread with butter, ham and cheese	70 g + 5 g + 20 g + 40 g
• Chicken broth with meat and noodles (home-made)	250 ml
• Scrambled Eggs (3), bread	165 g + 70 g
• Pizza Margherita	330 g
• Mixed Salad (tomatoes, paprika, cucumber, onion, feta cheese)	100 g + 135 g + 200 g + 40 g + 75 g
• Spaghetti with ketchup and cheese	240 g + 20 g + 15 g



## CALCULATION OF THE CARBON FOOTPRINT OF COOKED SOUPS

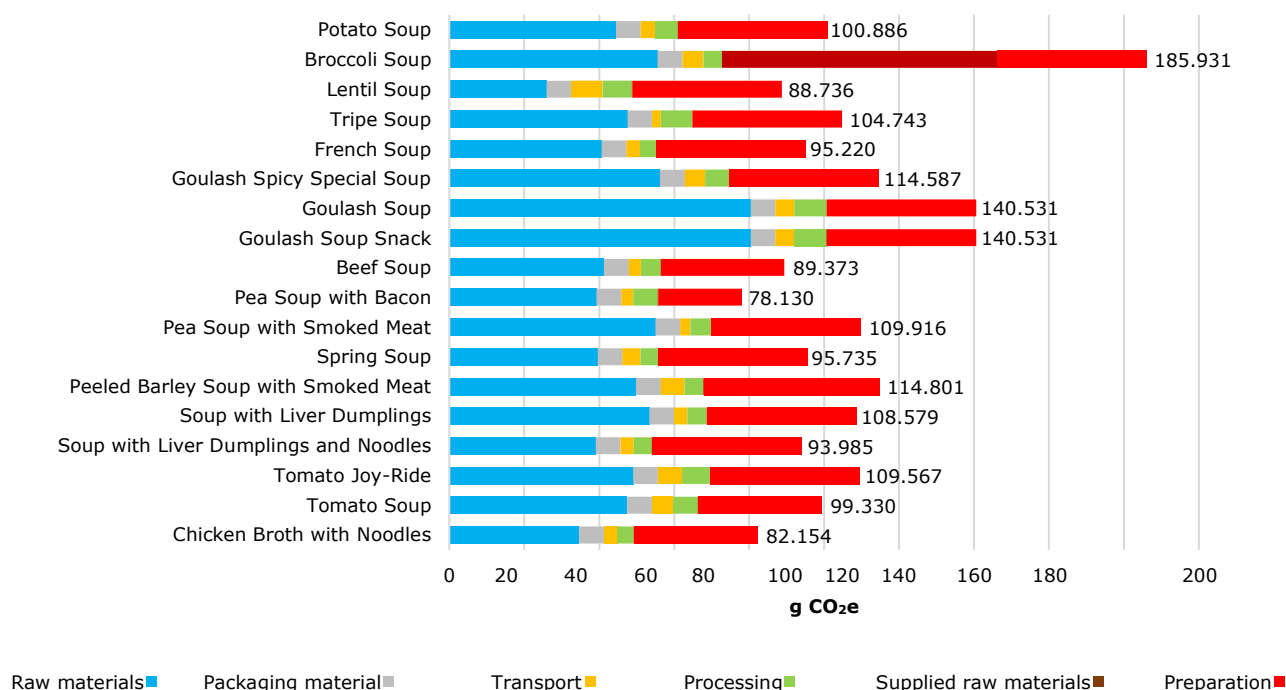
The calculation was made for 39 cooked soups on the basis of the data inputs provided by Orkla Foods Česko a Slovensko a.s. with the application of the above-stated calculation methodology. Of this number, 27 instant cooked soups fall under category A and 12 under category B. The best of all the 39 soups in this mode of assessment was the Family-size Pea Soup with its carbon footprint of 75.898 g CO<sub>2</sub>e per serving, and the worst was Authentic Goulash Soup with 191.601 g CO<sub>2</sub>e. The average carbon footprint per serving (250 ml) of cooked soup of the Vitana range is 118.085 g CO<sub>2</sub>e (100.00 %), of which 54.534 g CO<sub>2</sub>e (46.18 %) accounts for the raw materials, 7.194/g CO<sub>2</sub>e (6.09%) for the packaging material, 4.751 g CO<sub>2</sub>e (4.02 %) for transport, 6.505 g CO<sub>2</sub>e (5.51 %) for processing, 7.797 g CO<sub>2</sub>e (6.60 %) for the supplied raw materials and 37.306 g CO<sub>2</sub>e (31.59 %) for preparation.



## Our Byšice soup

The calculation was made for 18 Vitana cooked soups of the Our Bysicka range. Of the total number of soups, 15 soups fell under category A and 3 under category B. The best in the mode of assessment was Our Bysicka Pea Soup with Bacon with a carbon footprint per serving of 78.130 g CO<sub>2</sub>e, the worst was Our Bysicka Broccoli Soup with 185.931 g CO<sub>2</sub>e.

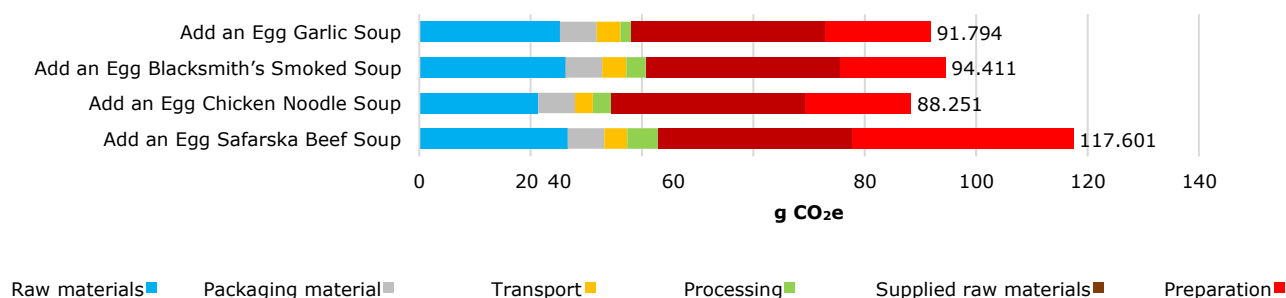
The average carbon footprint per serving (250 ml) of cooked soup of the Vitana Our Bysicka range is 108.485 g CO<sub>2</sub>e (100.00 %), of which 48.873 g CO<sub>2</sub>e (45.05 %) accounts for the raw materials, 6.626 g CO<sub>2</sub>e (6.11 %) for the packaging material, 4.542 g CO<sub>2</sub>e (4.19 %) for transport, 6.165 g CO<sub>2</sub>e (5.68 %) for processing, 4.168 g CO<sub>2</sub>e (3.84 %) for the supplied raw materials and 38.114 g CO<sub>2</sub>e (35.13 %) for preparation.



## Add an egg soups

The calculation was made for 4 Vitana cooked soups of the Add an Egg Soup range. All the soups fell under category A. The best in this mode of assessment was Add an Egg Chicken Noodle Soup with a carbon footprint per serving of 88.251 g CO<sub>2</sub>e, the worst was Add an Egg Safarska Beef Soup with 117.601 g CO<sub>2</sub>e.

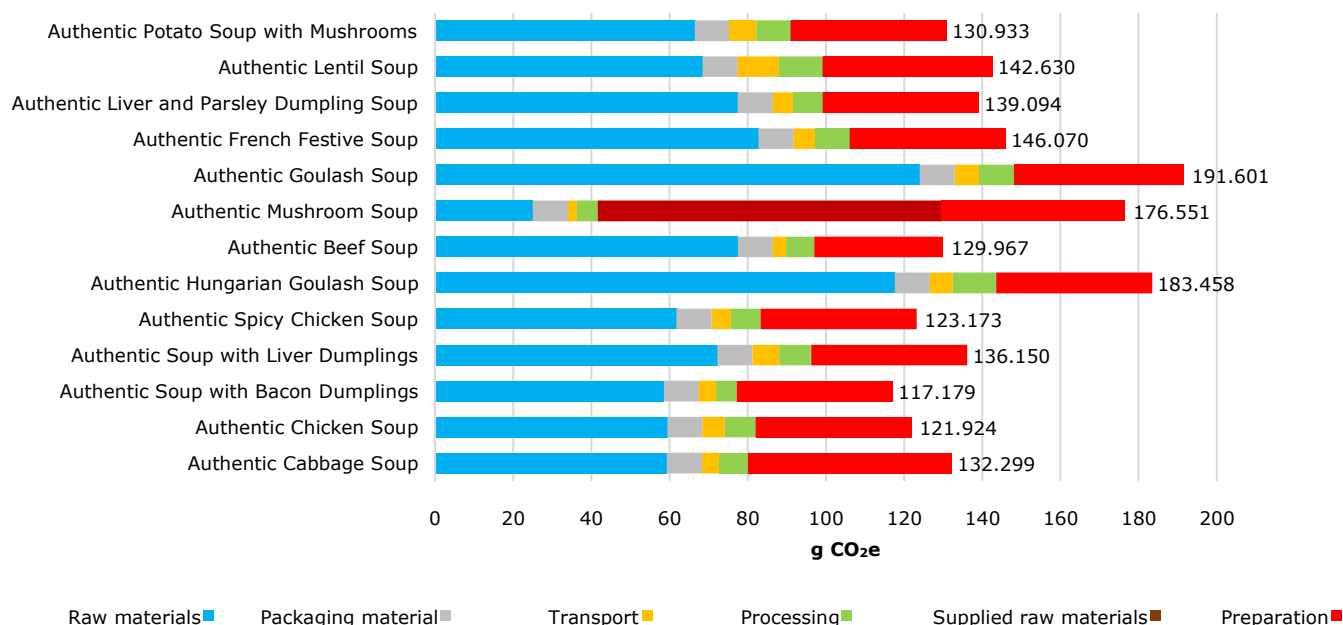
The average carbon footprint per serving (250 ml) of the Vitana Add an Egg cooked soup range is 98.014 g CO<sub>2</sub>e (100.00 %), of which 24.877 g CO<sub>2</sub>e (25.38 %) accounts for the raw materials, 6.614 g CO<sub>2</sub>e (6.75 %) for the packaging material, 3.974 g CO<sub>2</sub>e (4.05 %) for transport, 3.576 g CO<sub>2</sub>e (3.65 %) for processing, 34.865 g CO<sub>2</sub>e (35.57 %) for the supplied raw materials and 24.108 g CO<sub>2</sub>e (24.60 %) for preparation.



## Authentic soups

The calculation was made for 13 Vitana Authentic range cooked soups. Of the total number of soups, 5 soups fell under category A and 8 under category B. The best in this mode of assessment was Authentic Soup with Bacon Dumplings with a carbon footprint per serving of 117.179 g CO<sub>2</sub>e, the worst was Authentic Goulash Soup with 191.601 g CO<sub>2</sub>e.

The average carbon footprint per serving (250 ml) of cooked soup of the Vitana Authentic range is 143.925 g CO<sub>2</sub>e (100.00 %), of which 73.124 g CO<sub>2</sub>e (50.81 %) accounts for the raw materials, 8.986 g CO<sub>2</sub>e (6.24 %) for the packaging material, 5.556 g CO<sub>2</sub>e (3.86 %) for transport, 8.050 g CO<sub>2</sub>e (5.59%) for processing, 6.863 g CO<sub>2</sub>e (4.77 %) for the supplied raw materials and 41.346 g CO<sub>2</sub>e (28.73 %) for preparation.



## Family-size soups

The calculation was made for 4 instant soups of the Vitana Family-size range. Of the total number of soups, 3 soups fell under category A and 1 under category B. The best in this mode of assessment was Family-size Pea Soup with a carbon footprint per serving of 75.898 g CO<sub>2</sub>e, the worst was Family-size Goulash Soup with 138.686 g CO<sub>2</sub>e.

The average carbon footprint per serving (250 ml) of cooked soup of the Vitana Authentic range is 97.377 g CO<sub>2</sub>e (100.00 %), of which 49.246 g CO<sub>2</sub>e (50.57 %) accounts for the raw materials, 4.502 g CO<sub>2</sub>e (4.62 %) for the packaging material, 3.849 g CO<sub>2</sub>e (3.95 %) for transport, 5.947 g CO<sub>2</sub>e (6.11%) for processing, 0.096 g CO<sub>2</sub>e (0.10 %) for the supplied raw materials and 33.737 g CO<sub>2</sub>e (34.65 %) for preparation.

