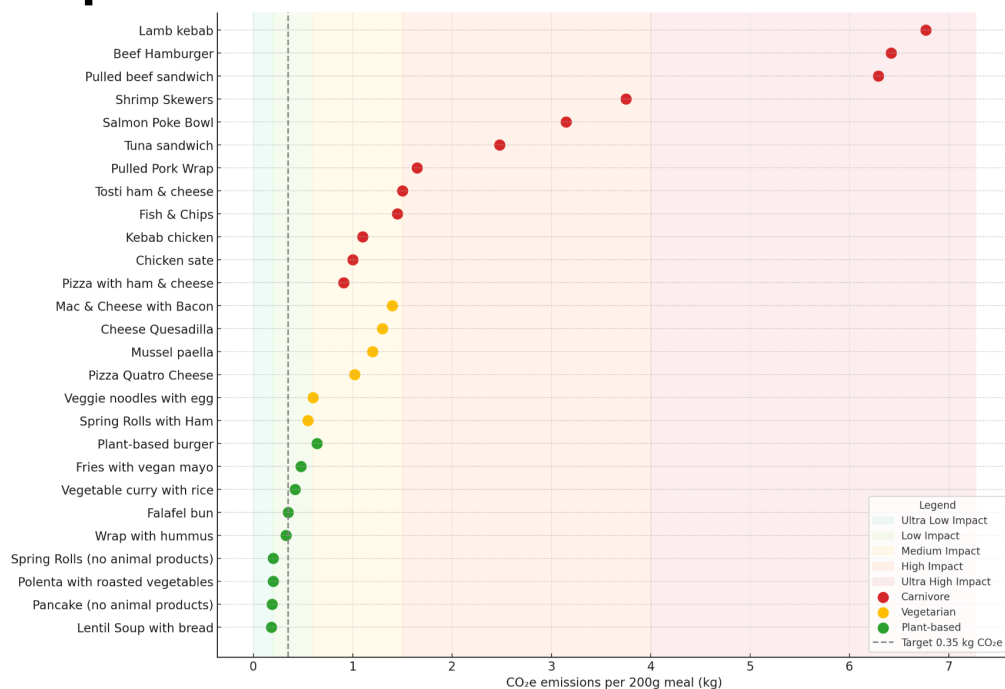


The CO₂e emissions of 27 popular festival dishes

We created 27 examples of festival dishes with the open-source LCA food database *Agribalyse* and *ChatGPT*. With the insights from these examples and advice on what you can do in each impact label category to achieve an average of 0.35 kg CO₂e per dish, weighing 200 grams. When your dishes have a different portion size, please recalculate using the same ratio.

Impact Favourite Festival Dishes



this graphic is created by the Green Deal Circular Festivals - 2025

Ultra High Festival Dishes (above 4 KG CO₂e per 200 grams)

- Beef Hamburger
- Lamb kebab
- Pulled beef sandwich

Ultra-high-impact dishes, such as the beef hamburger, lamb kebab, and pulled beef sandwich, exceed 6 kg CO₂e per 200 g serving—more than 17 times the climate target of 0.35 kg CO₂e per serving. Their extreme impact stems from the main ingredient: red meat. Beef and lamb production generate enormous emissions through methane release, land use, and animal feed, making them some of the most polluting foods on the planet. Even small portions can significantly contribute to a dish's overall carbon footprint. Including these items makes it nearly impossible to balance your menu within the planetary boundaries, no matter how many low-impact options you offer. Removing them is one of the most effective ways to reduce your event's overall environmental impact, align with climate goals, and demonstrate environmental responsibility.

Action: Remove from your festival menu or replace animal protein with plant-based alternatives

Beef Hamburger

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Beef patty	100 g	60	6.00	≈ 89 %
Burger bun	60 g	2.5	0.15	2 %
Cheese slice	15 g	13	0.20	3 %
Sauce (mayo/ketchup)	15 g	4	0.06	<2 %
Lettuce, tomato, pickle	10 g	0.8	0.01	<1 %
TOTAL (200 g)			≈ 6.42 kg CO ₂ e	100 %

Lamb Kebab

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Lamb	100 g	60	6.00	≈ 88 %
Flatbread / pita	60 g	5	0.30	4 %
Yoghurt-garlic sauce	20 g	20	0.40	6 %
Lettuce & tomato	15 g	3	0.05	1 %
Onion	5 g	4	0.02	<1 %
TOTAL (200 g)			≈ 6.77 kg CO ₂ e	100 %

Pulled Beef Sandwich

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Slow-cooked beef	100 g	60	6.00	≈ 87 %
Brioche bun	60 g	2.5	0.15	2 %
BBQ sauce	20 g	2	0.04	1 %
Slaw (cabbage, carrot, mayo)	20 g	5	0.10	1.5 %
TOTAL (200 g)			≈ 6.29 kg CO ₂ e	100 %

High Festival Dishes (1.5 and 4 KG CO₂e per 200 grams)

- Pulled Pork Wrap
- Tuna sandwich
- Salmon Poke Bowl
- Shrimp Skewers

High-impact dishes emit between 1.6 and 3.8 kg CO₂e per 200 g portion, placing them far above the climate-safe target of 0.35 kg CO₂e. The primary drivers are animal proteins, including pork and seafood, which generate high emissions from farming, fishing, and feed production. Farmed shrimp and salmon are particularly intensive in terms of feed conversion, water use, and global transportation. Even when paired with low-impact ingredients like rice or vegetables, these proteins dominate the footprint. While not as extreme as red meat, these dishes still compromise the menu's overall sustainability.

Instead of scrapping them entirely, you can limit availability, increase pricing, or reimagine them with plant-based swaps (e.g. marinated tofu, jackfruit, or chickpea-based seafood alternatives). This approach preserves culinary diversity while helping your food offerings stay within climate limits.

ACTION: Replace animal protein with plant-based alternatives, tweak the balance of ingredients and limit availability to reduce the impact

Pulled Pork Wrap

Ingrediënt	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Pulled pork	80 g	12	0.96	≈ 58 %
Wheat tortilla	60 g	2.2	0.13	8 %
Slaw (cabbage, carrot, oil)	30 g	3	0.09	5 %
BBQ sauce	20 g	2.5	0.05	3 %
TOTAL (200 g)			≈ 1.65 kg CO ₂ e	100 %

Tuna Sandwich

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Canned tuna	80 g	28	2.24	≈ 75 %
Bread (2 slices)	80 g	1.5	0.12	4 %
Mayonnaise	20 g	6	0.12	4 %
Lettuce	10 g	0.3	0.00	<1 %
Onion	10 g	0.4	0.00	<1 %
TOTAL (200 g)			≈ 2.48 kg CO ₂ e	100 %

Salmon Poke Bowl

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Farmed salmon	80 g	35	2.80	≈ 75 %
Sushi rice	80 g	2.7	0.22	6 %
Edamame beans	20 g	2	0.04	1.5 %
Avocado	10 g	2.5	0.03	1 %
Soy & sesame dressing	10 g	5	0.05	2 %
Pickled veg	10 g	0.8	0.01	<1 %
TOTAL (200 g)			≈ 3.15 kg CO ₂ e	100 %

Shrimp Skewers

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Shrimp (farmed, peeled)	120 g	30	3.60	≈ 90 %
Marinade (oil, garlic, herbs)	10 g	5	0.05	1 %
Skewered veg (bell pepper, onion)	30 g	0.8	0.02	<1 %
Dipping sauce	20 g	4	0.08	2 %
TOTAL (200 g)			≈ 3.75 kg CO ₂ e	100 %

Medium Festival Dishes (0.6 and 1.5 KG CO₂e per 200 grams)

- Chicken sate
- Tosti ham & cheese
- Kebab chicken
- Mussel paella
- Pizza Quatro Stagioni
- Mac & Cheese with Bacon
- Fish & Chips
- Cheese Quesadilla
- Plant-based burger
- Pizza with ham & cheese

Medium-impact festival dishes emit between 0.6 and 1.5 kg CO₂e, up to four times the climate target. These dishes often rely on cheese, chicken, fish, or processed plant products, which, while lower-impact than red meat, still generate substantial emissions through dairy farming, industrial processing, and fishing. The good news? These meals don't need to disappear from your menu. Instead, replace animal ingredients with plant-based proteins, such as tofu or seitan, adjust portion sizes, and bulk up meals with local, whole foods like grains, legumes, and vegetables. Even small tweaks, such as substituting bacon for mushrooms or reducing the amount of cheese, can significantly reduce the environmental footprint. Done right, this keeps the flavour and crowd appeal while staying within planetary limits.

ACTION: Replace animal protein with plant-based alternatives and tweak the balance of ingredients to reduce the impact.

Chicken Saté

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Chicken thigh	100 g	6	0.60	≈ 60 %
Saté sauce (peanut, coconut milk, soy)	40 g	3.5	0.14	14 %
Rice	50 g	2.7	0.14	14 %
Garnish (fried onion, herbs)	10 g	2	0.02	2 %
TOTAL (200 g)			≈ 1.00 kg CO ₂ e	100 %

Cheese Quesadilla

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Cheese (mix)	60 g	13	0.78	≈ 60 %
Wheat tortilla	80 g	2.2	0.18	14 %
Oil (for frying)	10 g	6	0.06	4 %
Salsa / garnish	20 g	1.5	0.03	2 %
TOTAL (200 g)			≈ 1.30 kg CO ₂ e	100 %

Fish & Chips

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
White fish (e.g. cod)	80 g	13	1.04	≈ 45 %
Potatoes (fried)	90 g	2.5	0.23	10 %
Frying oil absorbed	10 g	6	0.06	3 %
Batter (flour, egg, milk)	10 g	6	0.06	3 %
Sauce (tartar or mayo)	10 g	6	0.06	3 %
TOTAL (200 g)			≈ 1.45 kg CO ₂ e	100 %

Mac & Cheese with Bacon

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Cheese (cheddar/parmesan)	50 g	13	0.65	≈ 46 %
Macaroni (pasta)	90 g	1.8	0.16	11 %
Milk & cream	30 g	2.5	0.08	6 %
Bacon	20 g	11	0.22	15 %
Butter & flour (roux)	10 g	7	0.07	5 %
Topping (breadcrumbs, herbs)	10 g	1.5	0.02	<1 %
TOTAL (200 g)			≈ 1.40 kg CO ₂ e	100 %

Pizza Quattro Stagioni

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Cheese blend (mozzarella, gorgonzola, parmesan, emmental)	60 g	13	0.78	≈ 65 %
Pizza dough	90 g	1.5	0.14	12 %
Tomato sauce	30 g	1.1	0.03	2 %
Olive oil	10 g	6	0.06	5 %
Garnish (herbs, garlic)	10 g	1.5	0.01	<1 %
TOTAL (200 g)			≈ 1.02 kg CO ₂ e	100 %

Plant-Based Burger

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Plant-based patty (soy/pea protein)	100 g	4	0.40	≈ 62 %
Vegan bun	60 g	2.5	0.15	23 %
Vegan cheese	15 g	6	0.09	14 %
Sauce (vegan mayo/ketchup)	15 g	3	0.05	8 %
Lettuce, tomato, pickle	10 g	0.8	0.01	<1 %
TOTAL (200 g)			≈ 0.64 kg CO ₂ e	100 %

Pizza with Ham & Cheese

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Cheese (mozzarella)	40 g	13	0.52	≈ 60 %
Pizza dough	90 g	1.5	0.14	16 %
Ham	20 g	11	0.22	25 %
Tomato sauce	30 g	1.1	0.03	3 %
TOTAL (200 g)			≈ 0.91 kg CO ₂ e	100 %

Low Festival Dishes (0.2 and 0.6 KG CO₂e per 200 grams)

- Veggie noodles with egg
- Spring Rolls with Ham

- Vegetable curry with rice
- Wrap with hummus
- Fries with vegan mayo
- Falafel bun

Low-impact dishes strike a practical balance between taste, familiarity, and circularity. With emissions ranging from 0.3 to 0.6 kg CO₂e per 200 g, they align well with a low-carbon food strategy, especially when key ingredients are reduced or modified. Most of their footprint comes from small portions of cheese, egg, or ham, or processed vegan products like plant-based cheese or mayo. Swapping these with lower-impact ingredients (like pulses or vegetables) can bring most dishes below the 0.35 kg CO₂e target. These meals are also crowd-pleasers: versatile, comforting, and easy to scale. By promoting these dishes in high-traffic areas, an attractive pricing strategy is presented as the default choice.

Action: Promote with smart pricing, prime placement, and preference for these dishes among the crew.

Wrap with Hummus & Roasted Veg

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Wheat tortilla	60 g	2.2	0.13	≈ 39 %
Hummus	40 g	2	0.08	24 %
Roasted vegetables (zucchini, bell pepper, carrot)	90 g	1.2	0.10	30 %
Herbs or dressing (oil, lemon, garlic)	10 g	2	0.02	7 %
TOTAL (200 g)			≈ 0.33 kg CO ₂ e	100 %

Vegetable Curry with Rice

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Rice	80 g	2.7	0.22	≈ 52 %
Chickpeas (cooked)	60 g	1.8	0.11	26 %
Coconut milk & curry paste	40 g	1.7	0.07	17 %
Mixed vegetables	20 g	0.8	0.02	5 %
TOTAL (200 g)			≈ 0.42 kg CO ₂ e	100 %

Veggie Noodles with Egg

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Egg noodles	100 g	2.7	0.27	≈ 45 %
Egg (scrambled or boiled)	30 g	4.8	0.14	23 %
Mixed stir-fried veg	50 g	0.8	0.04	6 %
Sauce (soy, sesame, oil)	20 g	3.5	0.07	10 %
TOTAL (200 g)			≈ 0.60 kg CO ₂ e	100 %

Fries with Vegan Mayo

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Potatoes (fried)	160 g	2.5	0.40	≈ 85 %
Vegan mayo	40 g	2	0.08	15 %
TOTAL (200 g)			≈ 0.48 kg CO ₂ e	100 %

Falafel Bun (All Plant-Based)

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Falafel balls (chickpeas, herbs, oil)	80 g	1.8	0.14	≈ 60 %
Bun (wheat)	60 g	2.2	0.13	25 %
Lettuce, tomato, onion	40 g	0.8	0.03	10 %
Sauce (tahini or vegan mayo)	20 g	2.5	0.05	5 %
TOTAL (200 g)			≈ 0.35 kg CO ₂ e	100 %

Ultra Low Festival Dishes (0.2 and less KG CO₂e per 200 grams)

- Spring Rolls (no animal products)
- Pancake (no animal products)

- Lentil Soup with bread
- Polenta with roasted vegetables

Ultra Low Dishes emit 0.18–0.20 kg CO₂e per 200 g, making them the most climate-responsible choices on your festival menu. Their low impact stems from the use of pure, whole, and unprocessed plant-based ingredients, excluding meat, cheese, and eggs.

To meet the target average of 0.35 kg CO₂e per dish, offering a substantial share of these ultra-low-impact meals is essential, especially if you continue serving medium-emission favourites like chicken saté or veggie noodles with egg. Ultra-low dishes create vital "space" in your carbon budget.

Position them as the default choice through attractive pricing, high visibility, and creative promotion. By making these dishes appealing and accessible, you maintain a balanced, inclusive menu that aligns with your circular food goals.

Action: Promote with smart pricing, prime placement, large volume/multiple counters and preference for these dishes among the crew.

Spring Rolls (No Animal Products)

Ingrediënt	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Wrapper (rice or wheat)	50 g	1.8	0.09	≈ 45 %
Stir-fried veg (cabbage, carrot, glass noodles)	120 g	0.8	0.10	50 %
Soy-based dipping sauce	30 g	1.2	0.04	5 %
TOTAL (200 g)			≈ 0.20 kg CO ₂ e	100 %

Lentil soup with bread

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Cooked lentils	100 g	1.3	0.13	≈ 65 %
Vegetables (carrot, celery, onion)	60 g	0.8	0.05	25 %
Spices, oil & herbs	10 g	2.5	0.03	8 %
Bread (slice)	30 g	1.5	0.05	2 %
TOTAL (200 g)			≈ 0.18 kg CO ₂ e	100 %

Polenta with roasted Vegetables

Ingredient	Portion (g)	Emission factor (kg CO ₂ e / kg)	CO ₂ e per portion (kg)	Share of total impact
Polenta (cooked cornmeal)	100 g	0.8	0.08	≈ 40 %
Roasted vegetables (zucchini, bell pepper, onion)	80 g	0.9	0.07	35 %
Olive oil & herbs	20 g	2.5	0.05	25 %
TOTAL (200 g)			≈ 0.20 kg CO ₂ e	100 %

Data is based on the “climate change” indicator from Agribalyse 3.1. Agribalyse data is open-source and based on French production systems, but is broadly representative of Western Europe, including the UK. Margins of $\pm 10\%$ may apply. This content was generated with the assistance of ChatGPT, an AI language model developed by OpenAI. While every effort has been made to ensure accuracy and relevance, no rights can be derived from this content. Users are advised to verify the information independently before making decisions based on it.