

REDUCING CO2-EMISSIONS OF A RESTAURANT MENU

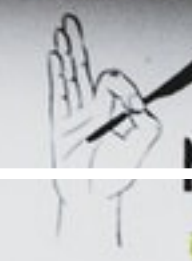
EU GREEN WEEK 2021 PARTNER EVENT

ZERO #EUGreenWeek
POLLUTION
for healthier people and planet

PETER REELFS - 11TH OF MAY 2021

Reducing CO₂-emissions of a restaurant menu

The impact of food on the climate and how to reduce it in your business



MUDRA
MALAM

DINING FOR 12 PEOPLE &
REFINED BY AYURVEDIC PRINCIPLES
CULMINATED BY INDONESIAN CHEFS
EVERYTHING IS SOURCED FROM
FROM LOCAL FARMERS & CAREFULLY
PREPARED AND COMBINED TO BRING
QUALITY INGREDIENTS

SPECIALS & APPETIZERS

BRIETABAK
A MODERN TWIST ON AN INDONESIAN STREET
FAVORITE - MEATLESS PAPER-THIN MARTABAK
TOASTED BRIE CHEESE, ONIONS, MUSHROOMS,
ORGANIC DILL PICKLES 65k

PURPLE RAIN
ROASTED CHICKEN FEET HUMMUS DIP WITH
ORGANIC LENTILS, PURPLE BEANS, SEEDS
CUCUMBER, NEWBORN IMPROVED

SMOKED SALMON WHEAT ROTI
TOASTED WHEAT PANCAKES WITH CREAM CHEESE,
SMOKED SALMON + ORGANIC PICKLES 75k

INDONESIAN SESAME SALAD
ORGANIC EGG LOUNGING ON A BED
OF GREENS WITH TEMPEH, NORI, AVOCADO 65k

**SMOKED TUNA CHOPPED
QUINOA SALAD**
SMOKED TUNA W SPICY MAYO ON A BED OF
FRESHLY CHOPPED SALAD, TOPPED WITH
VEGETABLES, FRUIT + QUINOA. HAIYAH! 75k

AVO GADO GADO
A MANDATORY INDONESIAN SALAD STAPLE -
DONE THE MUDRA WAY - BIGGER PORTIONED
AND WITH BETTER INGREDIENTS LIKE RED RICE,
TEMPEH, BEANSPROUTS, CABBAGE, PEANUT
SAUCE AND LUSCIOUS AVOCADOS 85k

DUE TO INCESSANT INQUIRY, WE ALSO SERVE
OUR EGGS ROSTI & DRAGON BOWLS AT NIGHT

Prices do not include tax + service



Agenda

9:00 - 11:30h CET - (10:00 - 12:30 EET)

- How does food impact the climate?
- What influences the impact of different food-choices?
- Do tourists care about it?
- How to reduce the climate impact of food?
- How to measure the impact of food?
- The impact of food-waste
- The environmental and economic benefits of reducing food waste
- Examples, easy ways to help customers in making the better choice
- Hands on: Do it yourself, reduce the footprint of your menu



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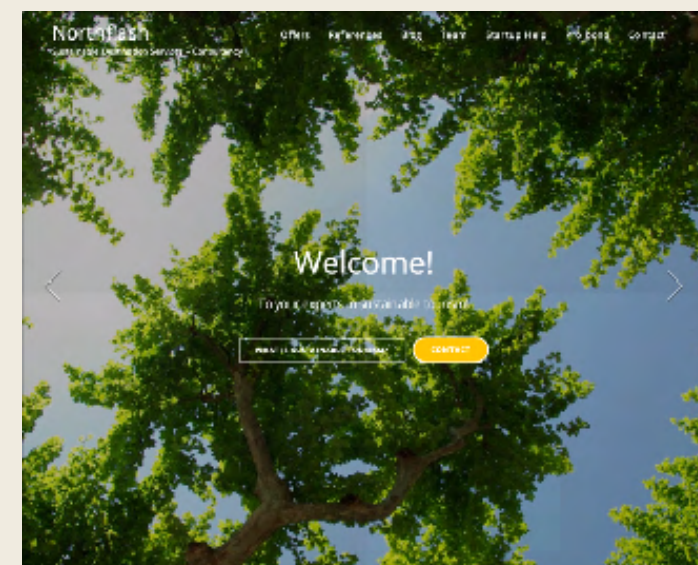
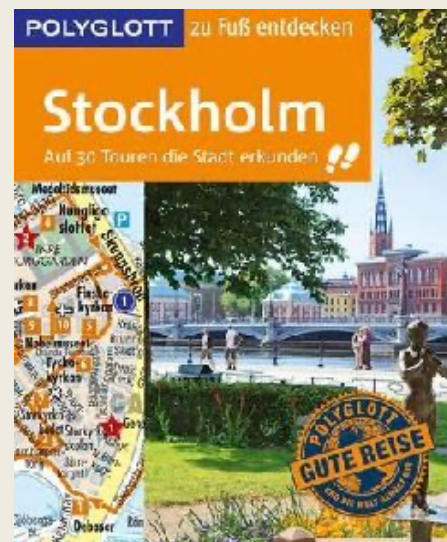
Peter Reelfs

Sustainability advisor

- Founder and owner Northflash consultancy
- Sustainability
 - Green Destinations: Board member, representative and auditor
 - Travelife: Representative, coach
 - Hållbart evenemang (sustainable events): Representative and lead auditor
- Teaching
 - Sustainable Tourism and Sustainable Event-management

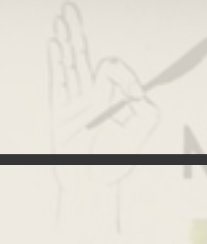


peter@northflash.com +46 (0) 703 607 492



The impact of food

Type and origin matter



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HEMISPHERE-INSPIRED PURPLE BEET HUMMUS DIP WITH
ORGANIC BALINESE PURPLE 'UBE' SWEET
POTATO CHIPS. PRINCE WLD HV APPROVED 60k

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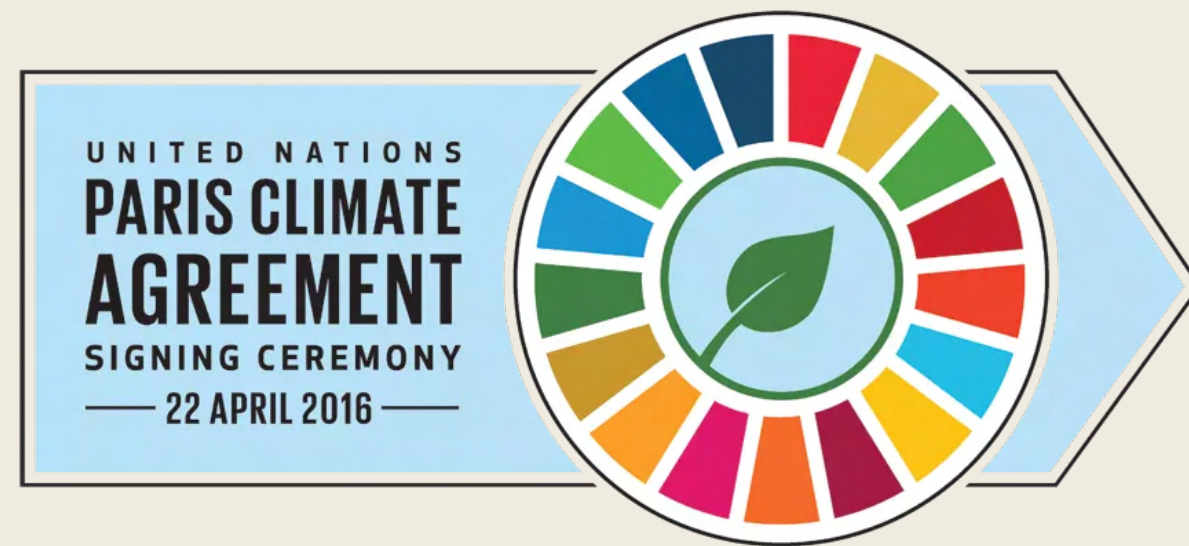
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AVOCADO GADO GADO

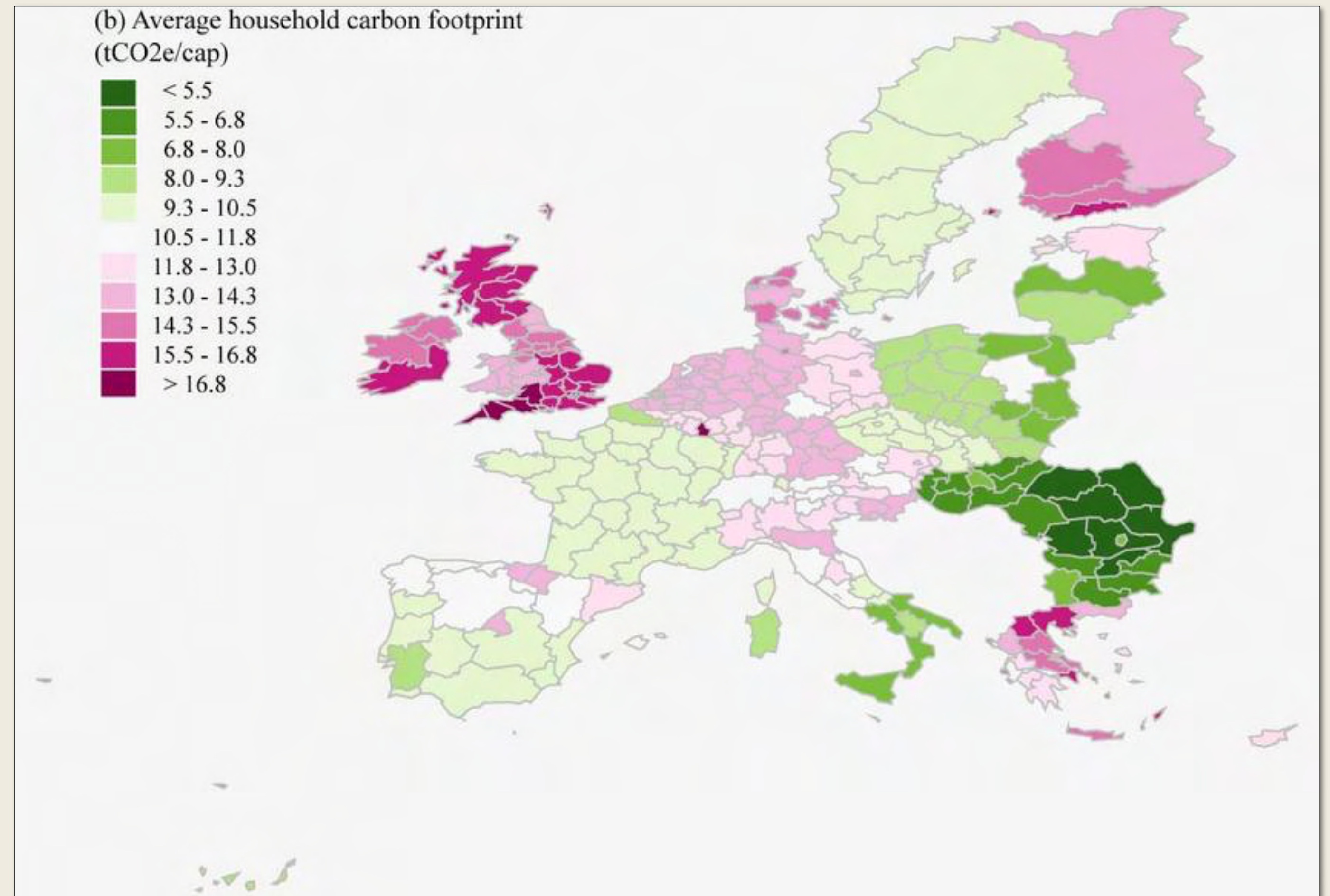
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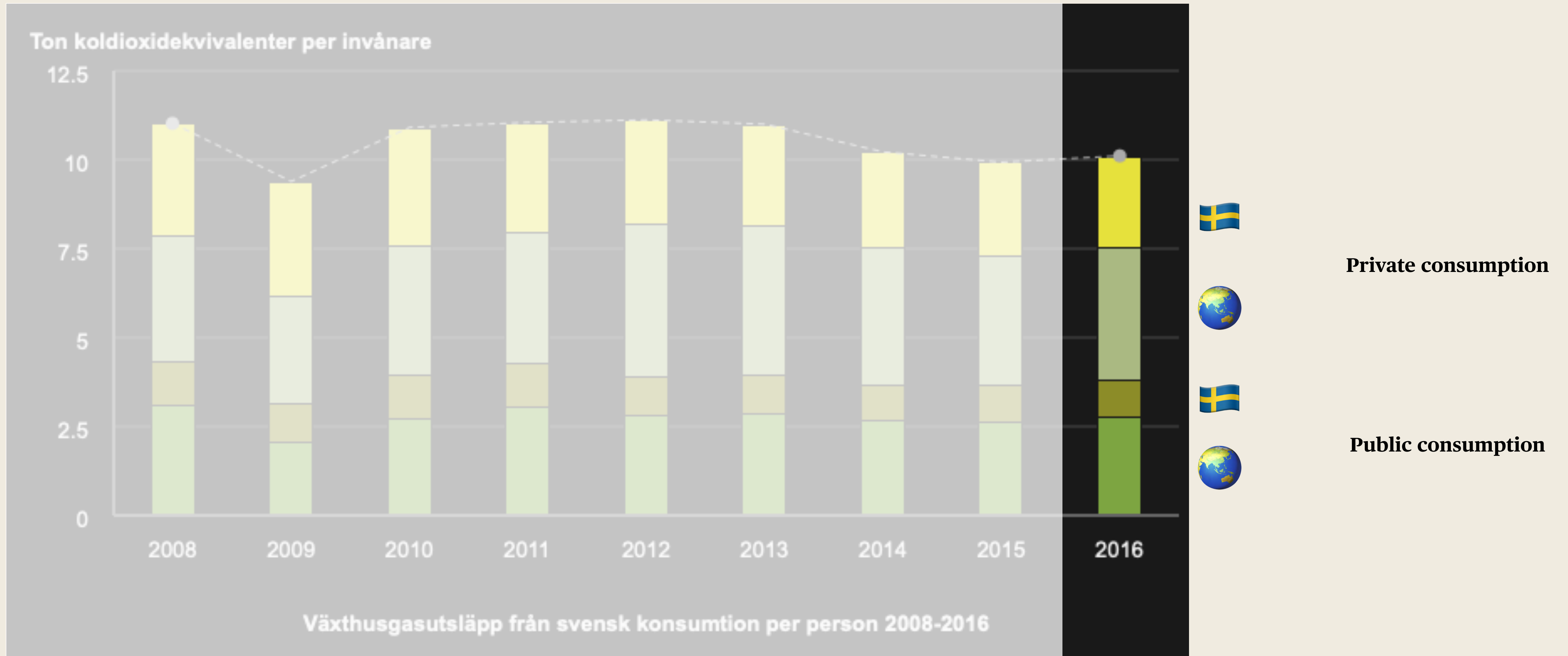


CO₂ emissions
below 2 tonnes
per person



Researchgate: [Mapping the carbon footprint of EU regions \(2017\)](#)

Example Sweden



Naturvårdsverket Sweden



Calculate and offset your Emissions!



Flight



Car



Cruise



Footprint



My Project



House-hold



Company

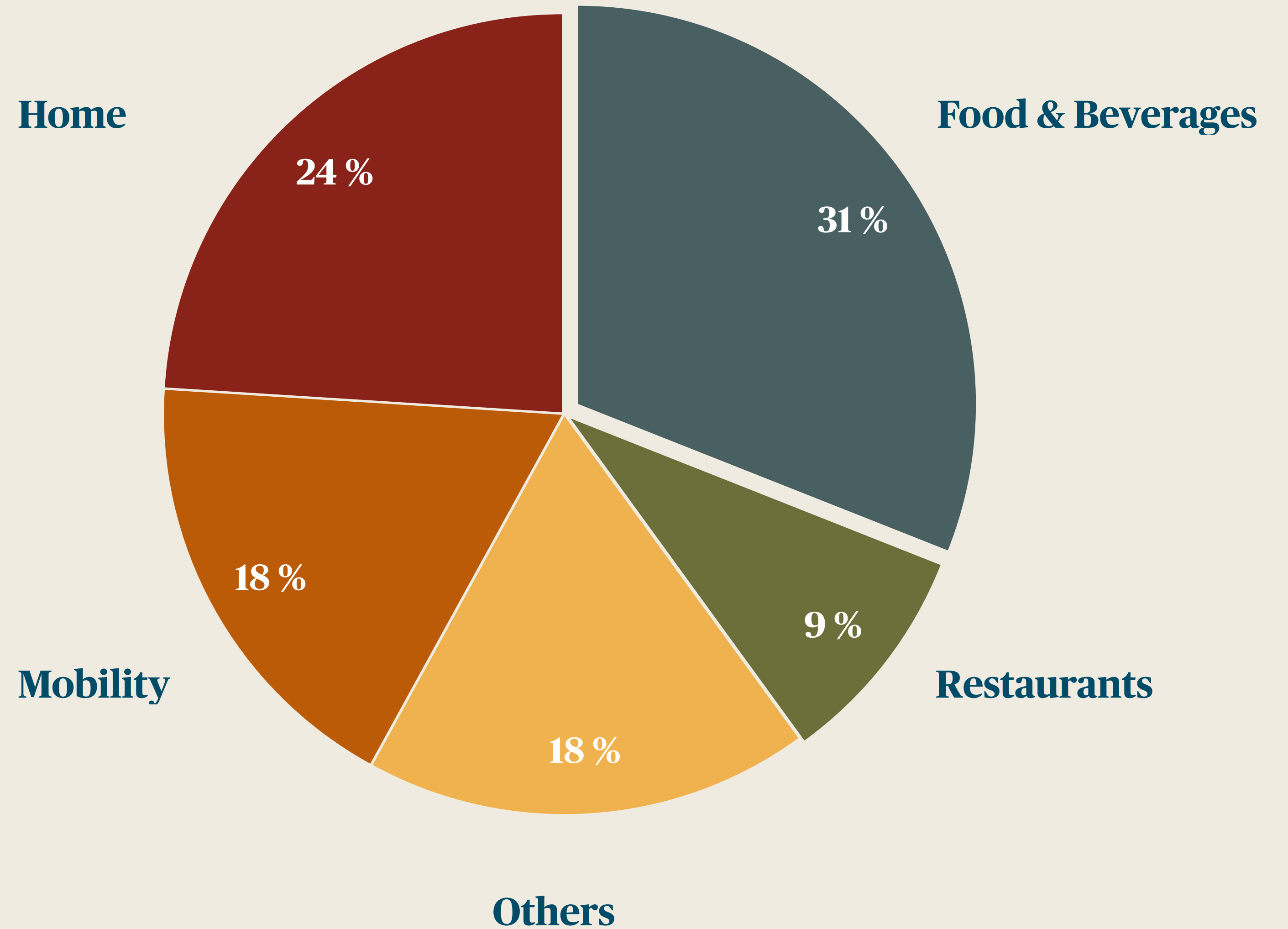


Events



Donation

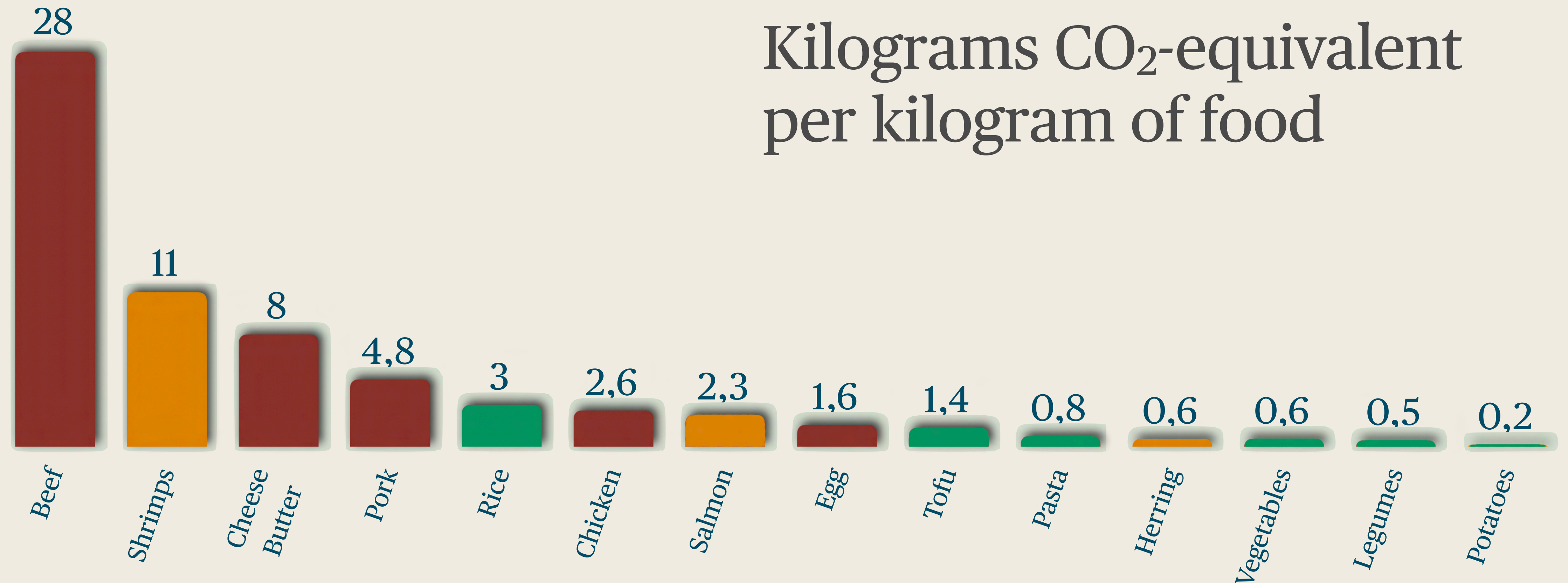
**Share of
emissions of a
typical
inhabitant of
Western Europe**





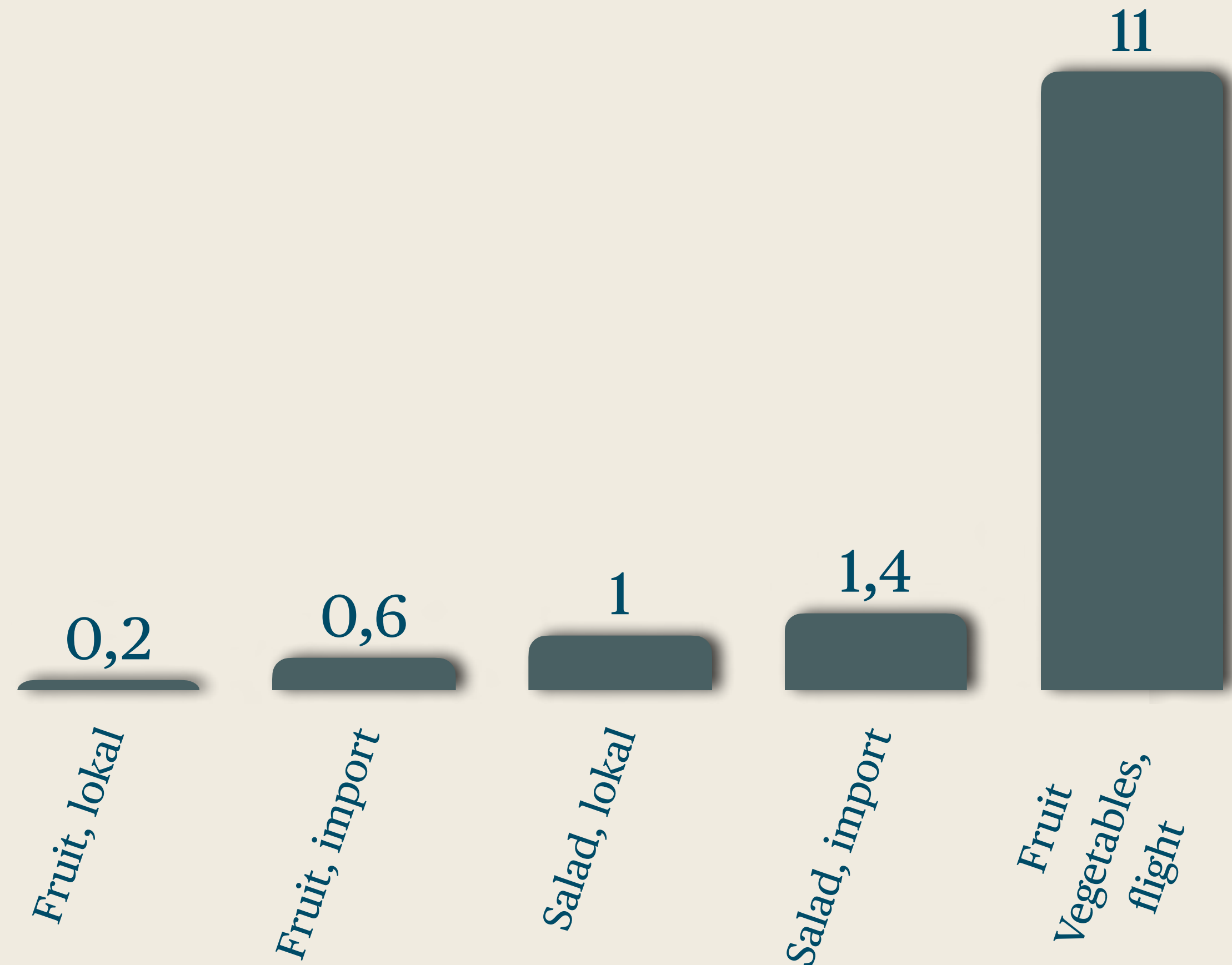
One cheeseburger = 500 hours of tv

500 hours - Almost 3 weeks continuously watching, 24 hours a day.



Source: [WWF](#)

Kilograms CO₂-
equivalent per
kilogram of food
(produkt plus packaging and
transport)



Source: [Stockholm municipality](#)

Do tourists care about their footprint?

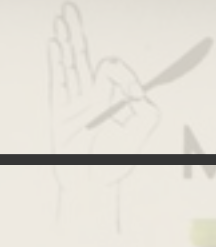
- Millennials (GenY) and Zoomers (GenZ) care a lot about sustainability
- Covid has accelerated their wish for a sustainable future
- In a few years
 - the main types of travellers
 - the main types of event attendees
- GenY and GenZ like to travel
 - but want to keep the climate footprint low

69% of travellers expect the travel industry to offer more sustainable travel options.

Source: [booking.com](https://www.booking.com)

Reducing the impact of food

Small changes can lead to big improvements



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**Advantage
locally
produced
food of the
season**

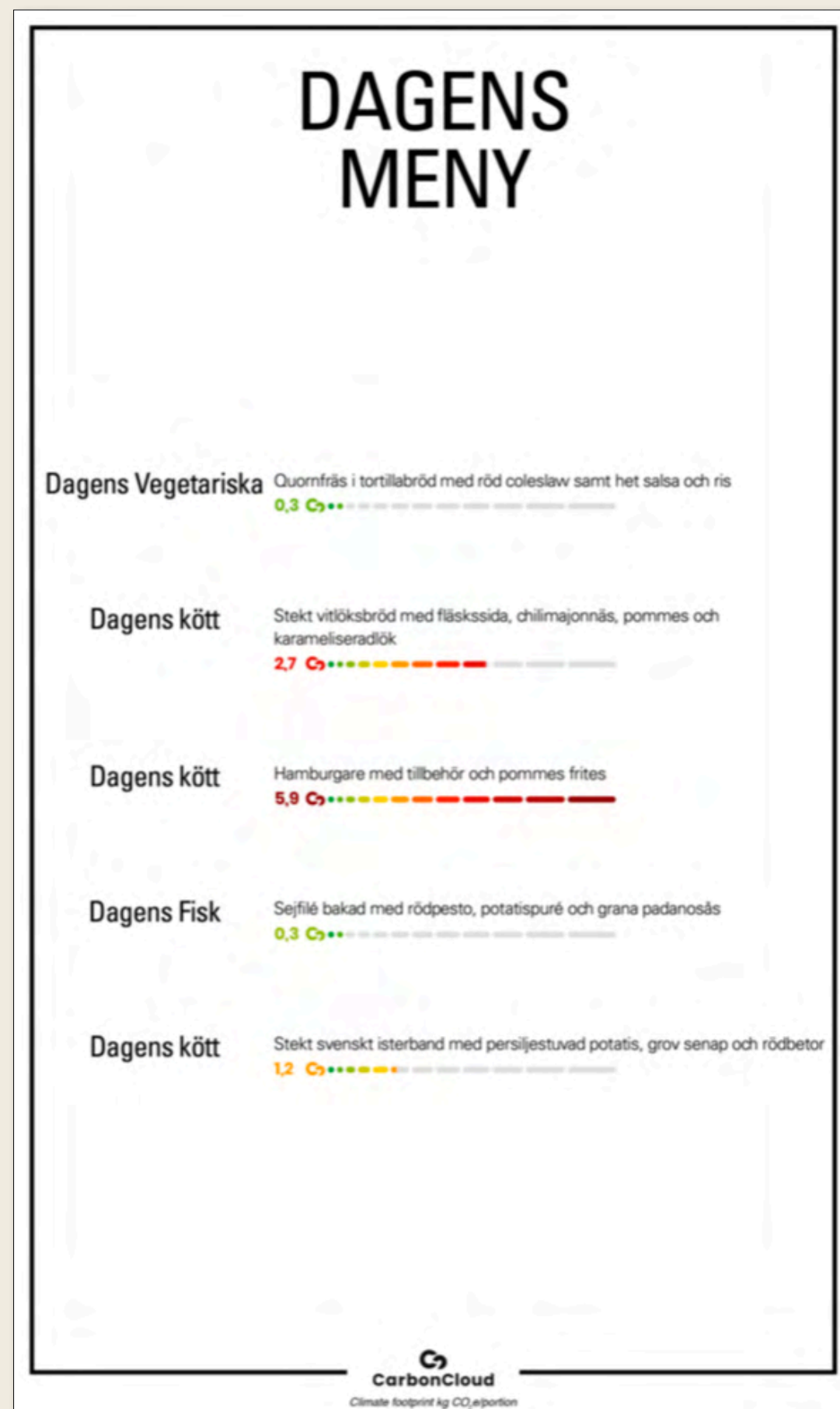


Ways to reduce the impact

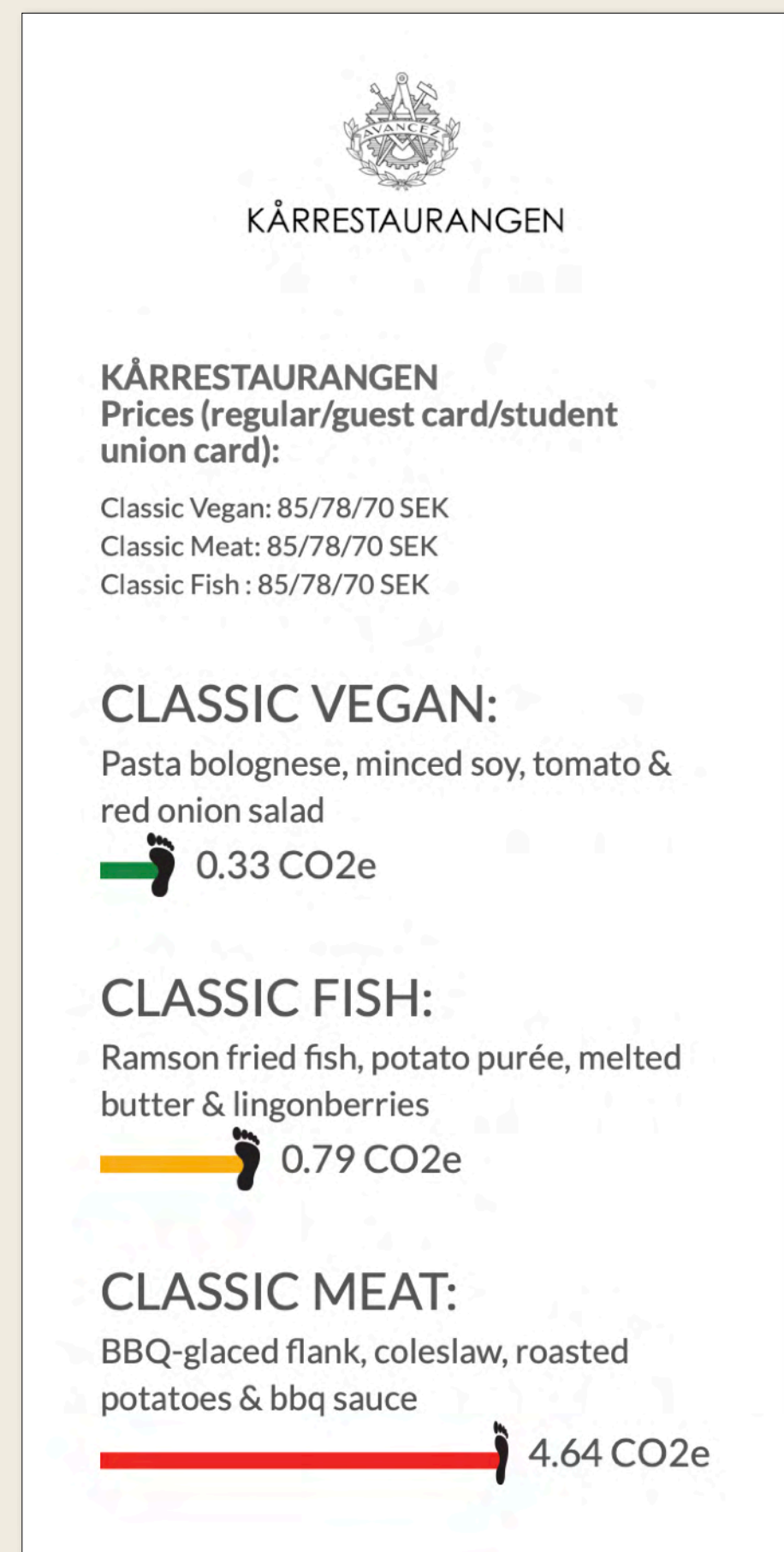
- Less meat, more plant based ingredients
- More vegetarian and vegan options
- Use meat substitutes (local/regional)
- More local and seasonal products
- Wholly using foods
- More ecological produced products
- Fair-trade products
- Raise awareness of food impact
- Choose the right supplier
- Offer tap water and refilling stations



Show the impact of food



Source: [Carbon Cloud](#)




Source: [Chalmers](#)



Show the impact of food

Video



Notes
You can jazz this recipe up by adding any other Caribbean fruits of your choice: pomegranate, melon, cantaloupe, plantain, mango or even apples.
If fresh coriander (cilantro) is not to your taste, you can replace this with mint or basil, but never parsley as the flavour of parsley is too strong.

Nutrition
Calories: 180kcal | Carbohydrates: 12g | Fat: 15g | Saturated Fat: 2g | Sodium: 8mg | Potassium: 212mg | Fiber: 2g | Sugar: 7g | Vitamin A: 850IU | Vitamin C: 63mg | Calcium: 30mg | Iron: 0.5mg

Environmental Information
Carbon footprint: **596 gCO₂e** per serving (19.5% fair daily food emissions)
Find out more at myemissions.green

Menu		Low carbon food options available 	
Appetizers		Main Course	
Bruschetta	£ 4	Aubergine Noodles	£ 7
<i>Low carbon option</i>		<i>Low carbon option</i>	
Tomato and mozzarella	£ 5	Glazed Salmon	£ 11
Honey chicken skewers	£ 5	Halloumi burger	£ 9
		<i>Low carbon option</i>	

Tomato and Basil soup

Carbon footprint

279 gCO₂e

9.1% RI*

Low 

Carbon data provided by myemissions.green
Reference Intake: 3.05 kgCO₂e per day



Source: [My Emissions](https://myemissions.green)

Show the impact of food



Source: [Carbon Cloud](https://www.carboncloud.com/)

Show the impact of food

Does it have effect?

Food labelled with CO2 emissions changes behaviour, even in people who try to ignore the information.

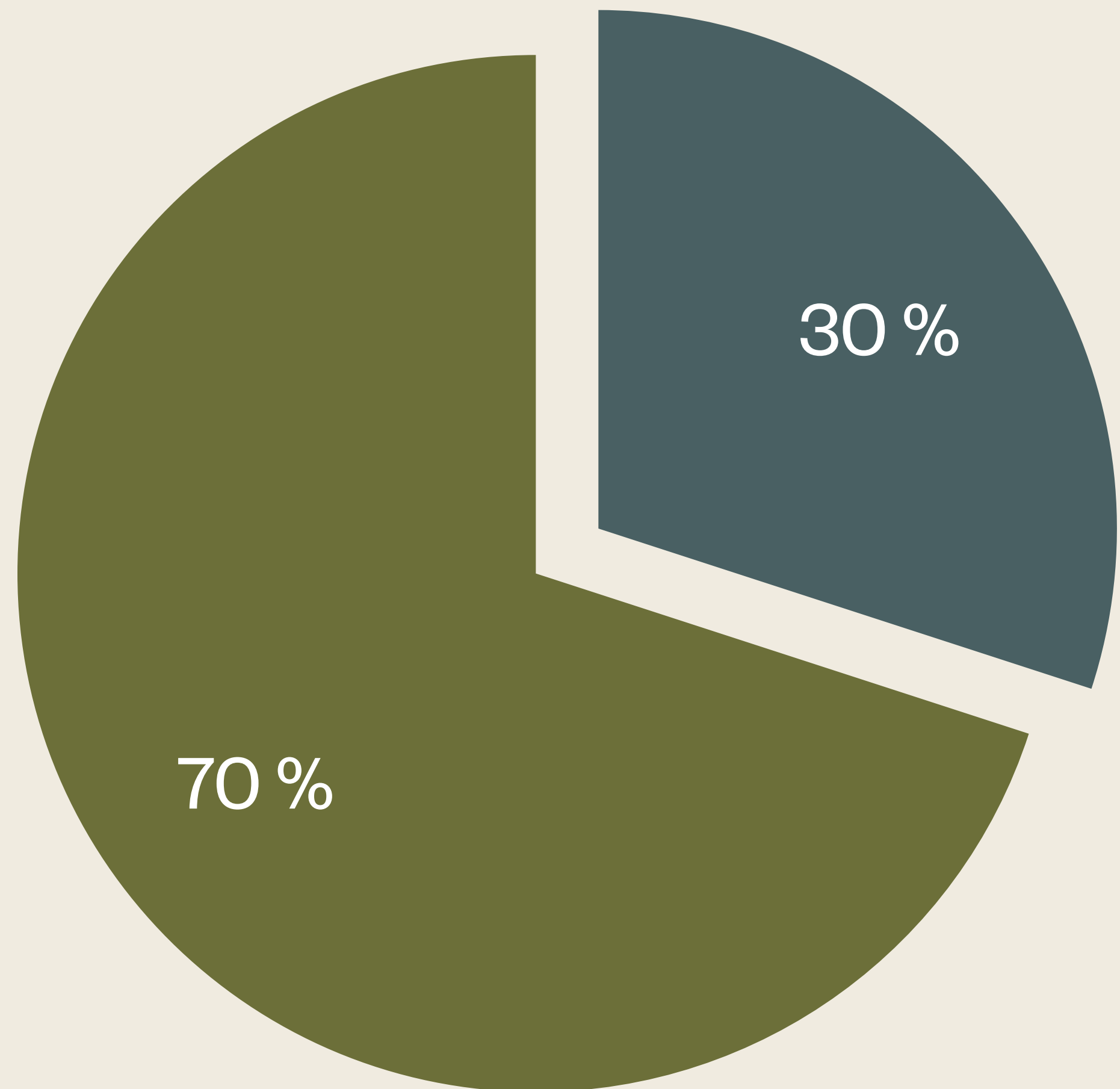


Source: [Science Direct](#)

Problem: Food waste

Wasted money, wasted emissions

Problem: Food waste



- Growing
- Processing
- Packaging
- Transporting
- Marketing
- Impact of food
- 250 km³ water
- Enough to cover the household water in the entire world
- 3.3 giga tonnes of GHG
 - as a country, the 3rd biggest emitter of the world
- 30% of the land use unnecessary
- More chemicals
- Less biodiversity

Ways to reduce the food waste

- Better planning
- Measure the amount and adapt
- Use not good looking fruits and vegetables
- Wholly using foods
- Smaller portions
- Use leftovers for soups, etc.
- Raise awareness
- Donate left over food
 - at least for animal food



Examples: Ways to reduce the food waste



Hela 90% av deltagarna valde att äta vegetariskt på GamifyUs



Clarion hotels reduced food waste by 20 percent

Source

Examples: Ways to reduce the food waste



MATSVINNSFESTIVALEN!

Source

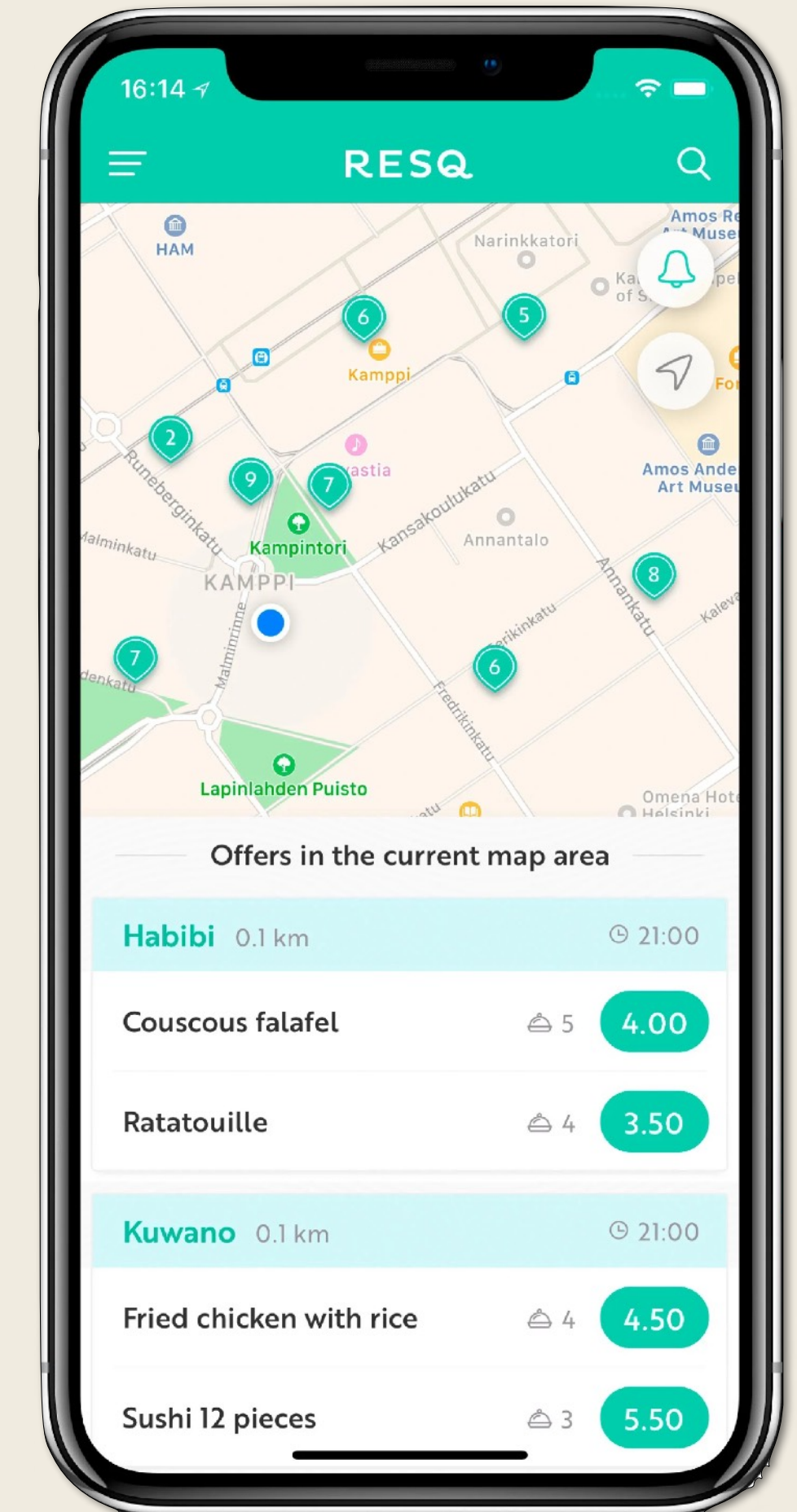
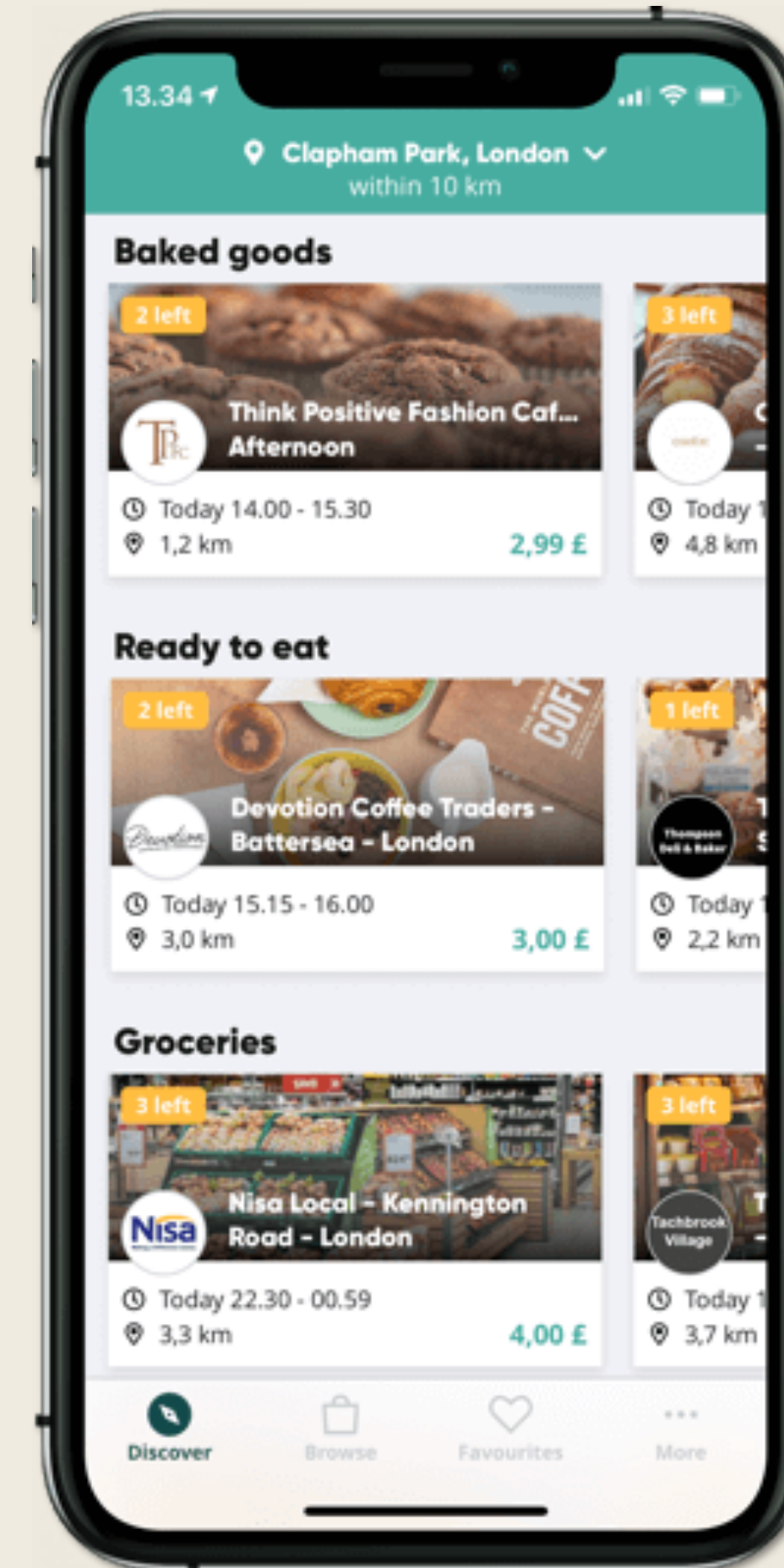


Competition: Most climate-friendly menu

Source

Examples: Ways to reduce the food waste

Use food waste apps



DIY: Reduce the footprint of your menu

Now it's your turn

DIY: Reduce the footprint of your menu

Now it's your turn

Option 1

- Take your menu
- Choose a meal
- Calculate the impact
- Try to find a dish with less impact

Option 2

- Take your favorite dish
- Assemble the ingredients
- Calculate the impact
- How could you reduce the impact?

Option 3

- Create a new low emission dish
- Vegan, vegetarian, fish, chicken
- Calculate the impact

DIY: Reduce the footprint of your menu

Now it's your turn

The interface is on a green background. It features two dropdown menus: 'Choose Food Category' and 'Choose Food Type'. Below these are two input fields: 'Servings:' with a value of '1' and 'Weight(g):' which is empty. A large white table with the headers 'Food' and 'Weight (g)' is positioned to the right. At the bottom, there are two blue buttons: 'Enter Food Selection' and 'Calculate Daily Food Emissions'.

Source: [My emissions](#)

The interface has a teal background. At the top left is the logo 'PLATE UP FOR THE PLANET' with a globe icon and the tagline 'TASTE THE FUTURE. GO VEGAN.'. To the right is the title 'Carbon Food Calculator'. Below the title are four numbered instructions: 1. Select the ingredient from the drop-down list, or start typing your ingredient name in the box. You can reduce the options in the drop-down list by selecting an ingredient category. 2. Select the country of origin for each ingredient - if this is unknown, select 'unknown'. 3. Enter the amount in either kilograms, grams, litres or ounces/pounds (select unit of measurement from the drop down list). 4. Click the '+' button to add the ingredient to the recipe. At the bottom, there are five input fields: 'Ingredient category' (set to 'All'), 'Ingredient' (empty), 'Region of origin' (set to 'Unknown'), 'Amount' (empty), and 'Unit' (set to 'kg'). A blue '+' button is on the far right.

Source: [The Vegan Society](#)



DIY: Reduce the footprint of your menu

Now it's your turn

Recipe suggestion

Estonian mashed potatoes with barley

(Mulgi puder) - 4 servings

- 3 $\frac{1}{3}$ pounds / 1 $\frac{1}{2}$ kg potatoes
- $\frac{1}{2}$ cup / 0.22 pounds / 100 g pearl barley
- 2 onions
- 2 tsp / 8.5 g fine salt
- 2 - 3 bay leaves (laurel)
- 6 $\frac{1}{3}$ cups / 1.5 liter water

For serving:

- 3 onions
- 1 medium eggplant (aubergine)
- salt and pepper to taste

DIY: Reduce the footprint of your menu

Total Emissions:
3226 gCO₂e

Percent of Fair Daily Food Emissions (FD FE):
105.9%

Food	Weight (g)	Emissions (gCO ₂ e)	%FD FE
Potatoes	1320	1680	55.2%
Salt	8.5	10	0.3%
Onion	400	420	13.8%
Black pepper	4	5	0.2%
Bay leaves	8	9	0.3%
Barley	100	112	3.7%
Aubergine	320	990	32.5%

807 g CO₂e per serving

845 g CO₂e per serving

Carbon Food Calculator

Ingredient category: All | Ingredient: pepper | Region of origin: Unknown | Amount: 1 | Unit: g

Recipe Listing | Please estimate the number of servings: 1

Ingredient	Amount	Greenhouse Gases
Pepper	0	kg 0kg CO ₂ e(1.43kg CO ₂ e/kg)
Salt	0,01	kg 0.01kg CO ₂ e(1.49kg CO ₂ e/kg)
Aubergine	0,32	kg 1.31kg CO ₂ e(4.1kg CO ₂ e/kg)
Onions	0,4	kg 0.46kg CO ₂ e(1.15kg CO ₂ e/kg)
Potatoes	1,32	kg 1.52kg CO ₂ e(1.15kg CO ₂ e/kg)
Barley	0,1	kg 0.08kg CO ₂ e(0.78kg CO ₂ e/kg)

Greenhouse Gases

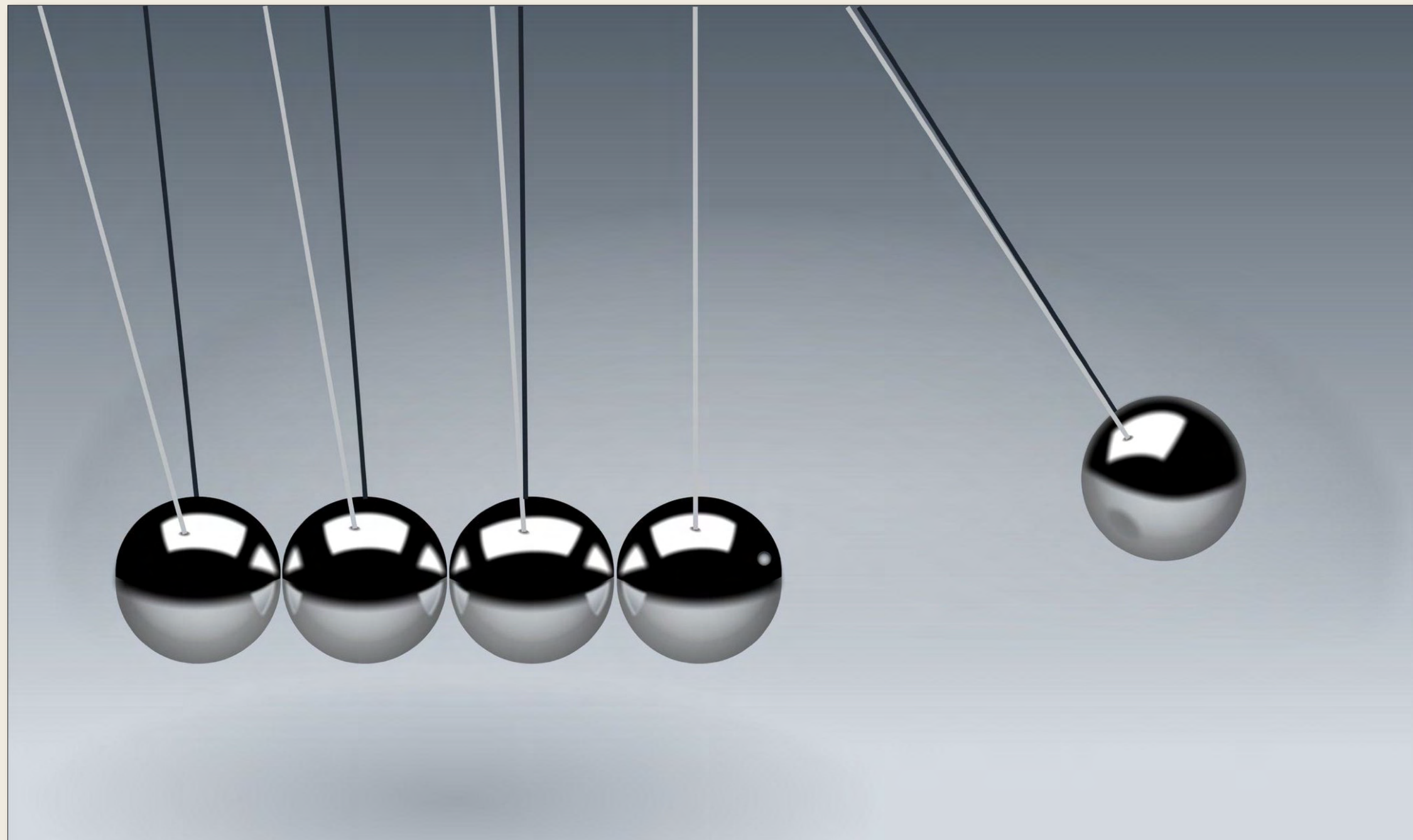
Total per serving: 3380g CO₂e










Total overall: 3.38kg CO₂e

CO₂e per serving is equivalent to driving 11.34 miles in an average UK petrol car

Nudging

Behavioural economics - behavioural solutions



SYSTEM 1	SYSTEM 2
 Fast	 Slow
 Subconscious	 Conscious
 Automatic	 Effortful
 Everyday decisions	 Complex decisions
 Error prone	 Reliable

Source: [Region Västmanland](#)

Nudging


Behavioural economics - behavioural solutions



Nudging


Behavioural economics - behavioural solutions






KÅRRESTAURANGEN

KÅRRESTAURANGEN
Prices (regular/guest card/student union card):

Classic Vegan: 85/78/70 SEK
Classic Meat: 85/78/70 SEK
Classic Fish : 85/78/70 SEK

CLASSIC VEGAN:
Pasta bolognese, minced soy, tomato & red onion salad
 0.33 CO2e

CLASSIC FISH:
Ramson fried fish, potato purée, melted butter & lingonberries
 0.79 CO2e

CLASSIC MEAT:
BBQ-glaced flank, coleslaw, roasted potatoes & bbq sauce
 4.64 CO2e

Source: [Chalmers](#)



11TH OF MAY 2021

Thank you!

Peter Reelfs

Sustainability advisor

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