

Methods of Contextualising

Publishing & Literacy

Chosen Data Source

Index	Product category	All GHGs
		kgCO2e/£
1	1.1.1.1 Rice	0.774
2	1.1.1.2 Bread	0.774
3	1.1.1.3 Other breads and cereals	0.774
4	1.1.2 Pasta products	0.774
5	1.1.3.1 Buns, crispbread and biscuits	0.774
6	1.1.3.2 Cakes and puddings	0.774
7	1.1.4 Pastry (savoury)	0.774
8	1.1.5 Beef (fresh, chilled or frozen)	2.364
9	1.1.6 Pork (fresh, chilled or frozen)	2.364
10	1.1.7 Lamb (fresh, chilled or frozen)	2.364
11	1.1.8 Poultry (fresh, chilled or frozen)	2.364
12	1.1.9 Bacon and ham	2.364
13	1.1.10.1 Sausages	2.364
14	1.1.10.2 Offal, pate etc	2.364
15	1.1.10.3 Other preserved or processed meat a	2.364
16	1.1.10.4 Other fresh, chilled or frozen edible m	2.364
17	1.1.11.1 Fish (fresh, chilled or frozen)	0.152
18	1.1.11.2 Seafood, dried, smoked or salted fish	0.152
19	1.1.11.3 Other preserved or processed fish and	0.152
20	1.1.12.1 Whole milk	0.649
21	1.1.12.2 Low fat milk	0.649
22	1.1.12.3 Preserved milk	0.649
23	1.1.13 Cheese and curd	0.649
24	1.1.14 Eggs	0.649
25	1.1.15.1 Other milk products	0.649
26	1.1.15.2 Yoghurt	0.649
27	1.1.16 Butter	0.649
28	1.1.17 Margarine and other vegetable fats and	0.649
29	1.1.18.1 Olive oil	0.227

30	1.1.18.2 Edible oils and other animal fats	0.227
31	1.1.19.1 Citrus fruits	0.077
32	1.1.19.2 Bananas	0.077
33	1.1.19.3 Apples	0.077
34	1.1.19.4 Pears	0.077
35	1.1.19.5 Stone fruits	0.077
36	1.1.19.6 Berries	0.077
37	1.1.20 Other fresh, chilled or frozen fruits	0.077
38	1.1.21 Dried fruit and nuts	0.077
39	1.1.22 Preserved fruit and fruit based products	0.077
40	1.1.23.1 Leaf and stem vegetables	0.077
41	1.1.23.2 Cabbages	0.077
42	1.1.23.3 Vegetables grown for their fruit	0.077
43	1.1.23.4 Root crops, non starchy bulbs and mu	0.077
44	1.1.24 Dried vegetables	0.077
45	1.1.25 Other prepared or processed vegetable	0.077
46	1.1.26 Potatoes	0.077
47	1.1.27 Other tubers and products of tuber vege	0.077
48	1.1.28.1 Sugar	0.281
49	1.1.28.2 Other sugar products	0.281
50	1.1.29 Jams and marmalades	0.281
51	1.1.30 Chocolate	0.281
52	1.1.31 Confectionery products	0.281
53	1.1.32 Edible ices and ice cream	0.281
54	1.1.33.1 Sauces, condiments	0.281
55	1.1.33.2 Bakers yeast, dessert preparations, s	0.281
56	1.1.33.3 Salt, spices, herbs and other food pro	0.281
57	1.2.1 Coffee	0.142
58	1.2.2 Tea	0.142
59	1.2.3 Cocoa and powdered chocolate	0.142
60	1.2.4 Fruit and vegetable juices	0.446
61	1.2.5 Mineral or spring waters	0.446
62	1.2.6 Soft drinks	0.446
63	2.1.1 Spirits and liqueurs	0.135

64	2.1.2.1 Wine from grape or other fruit	0.135
65	2.1.2.2 Fortified wine	0.135
66	2.1.2.3 Champagne and sparkling wines	0.135
67	2.1.3.1 Beer and lager	0.135
68	2.1.3.2 Ciders and Perry	0.135
69	2.1.4 Alcopops	0.135

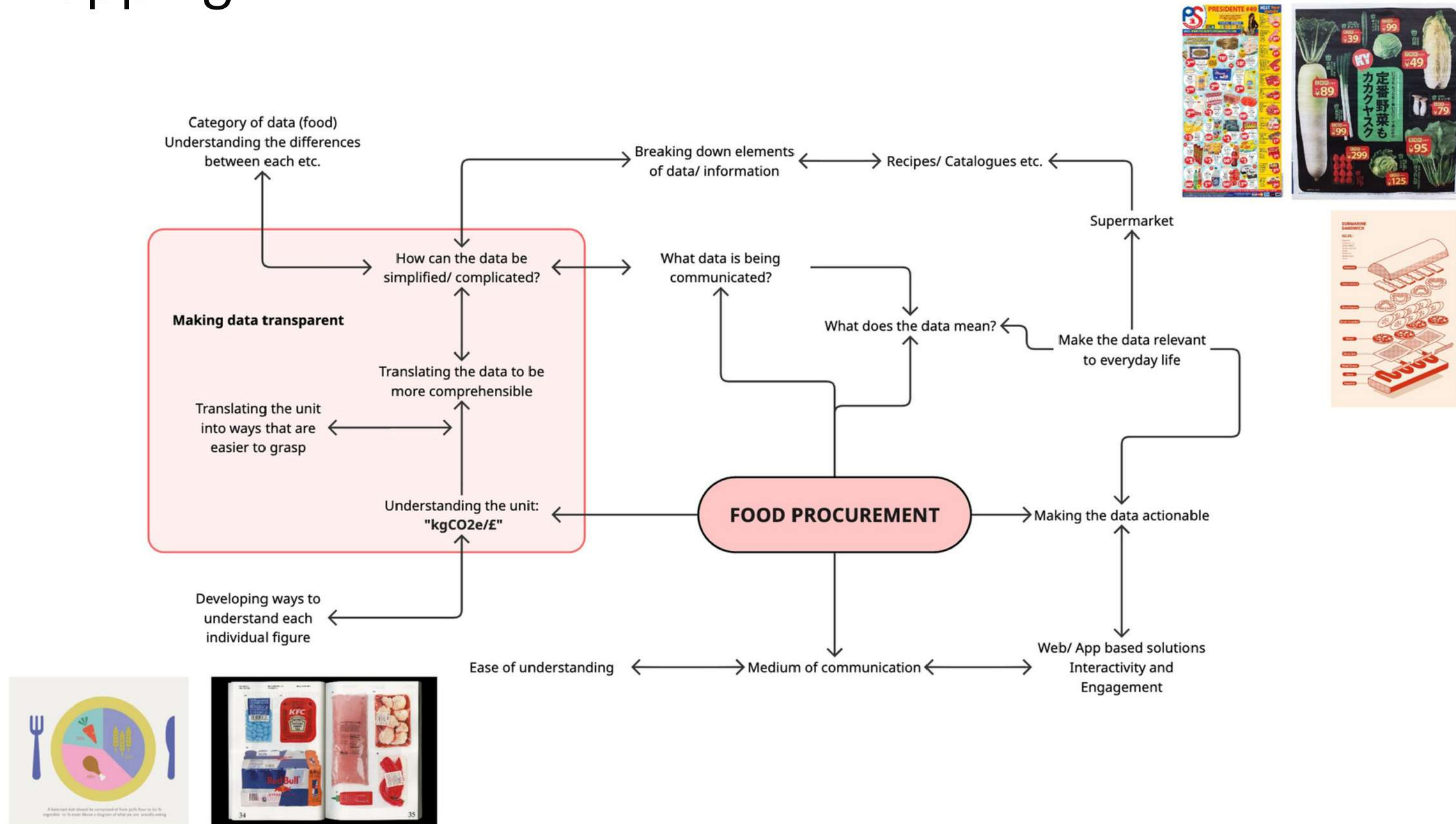
Procurement 23 24 (UAL high level results)

Question(s)

How can graphic communication design foster greater literacy?

How can graphic communication design translate food procurement data into forms that foster critical environmental literacy and agency within the CSM Canteen?

Mindmapping



Understanding kgCO2e/£

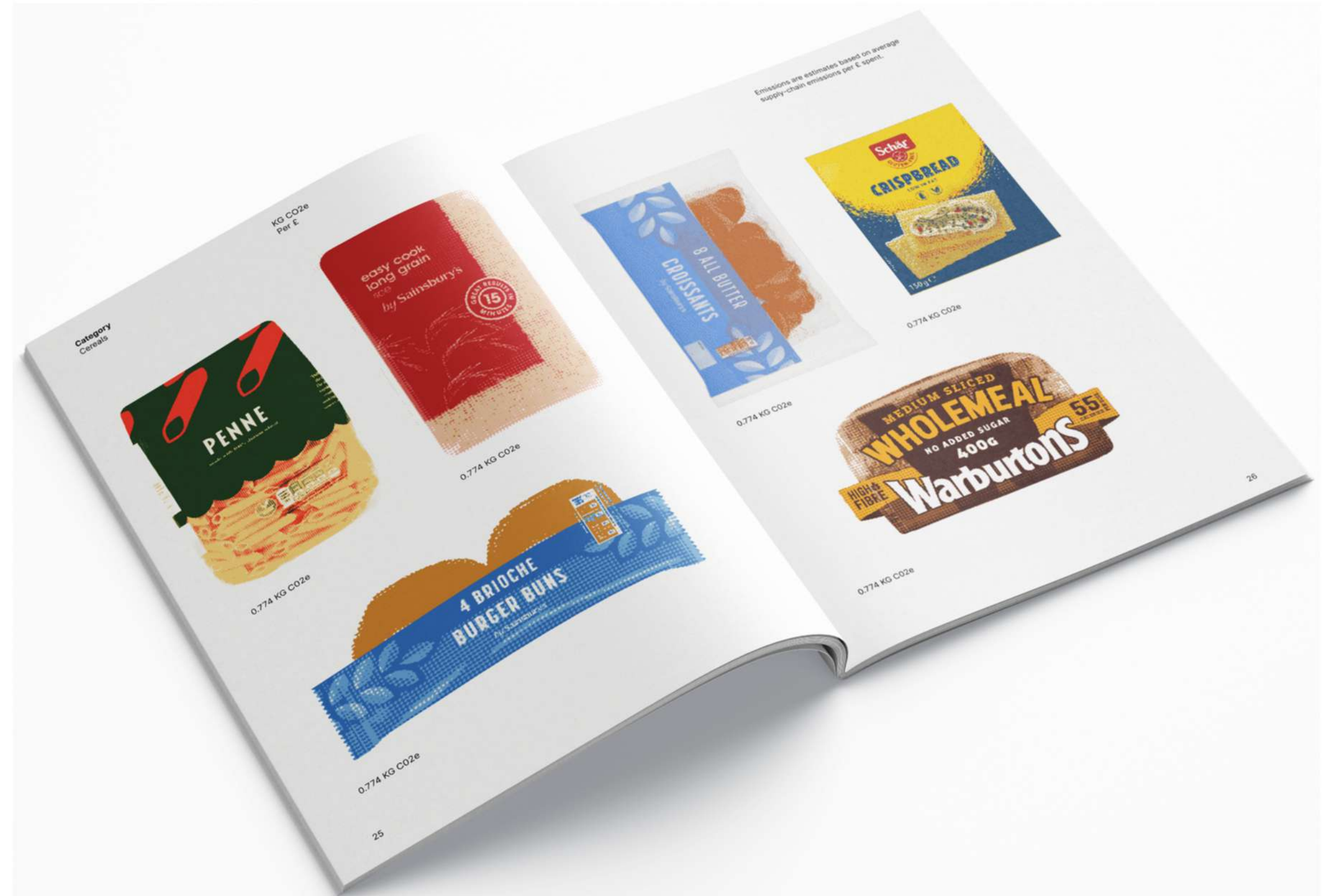
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10	8	1.1.5 Beef (fresh, chilled or frozen)	2.364

Strategies

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37	1.1.20 Other fresh, chilled or frozen fruits	0.077
38	1.1.21 Dried fruit and nuts	0.077
39	1.1.22 Preserved fruit and fruit based products	0.077
40	1.1.23.1 Leaf and stem vegetables	0.077
41	1.1.23.2 Cabbages	0.077

Data Visualisations

Iteration #1



Iteration #3



WAITROSE & PARTNERS

Kings Cross
1 Wharf Rd, London
N1C 4BZ
020 7372 5330
www.waitrose.com/kingscross

	kgCO ₂ e/£
RICE	0.774
BREAD	0.774
OTHER BREADS & CEREALS	0.774
PASTA PRODUCTS	0.774
BUNS, CRISPREAD & BISCUITS	0.774
CAKES & PUDDINGS	0.774
PASTRY (SAVOURY)	0.774
PORK (FRESH/CHILLED/FROZEN)	2.364
BEEF (FRESH/CHILLED/FROZEN)	2.364
LAMB (FRESH/CHILLED/FROZEN)	2.364
POULTRY (FRESH/CHILLED/FROZEN)	2.364
BACON & HAM	2.364
SAUSAGES	2.364
OFFAL, PATE ETC.	2.364
OTHER PRESERVED/PROCESSED MEAT & SEAFOOD	2.364
WHOLE MILK	0.649
LOW FAT MILK	0.649
PRESERVED MILK	0.649
CHEESE AND CURD	0.649
EGGS	0.649
OTHER MILK PRODUCTS	0.649
YOGURT	0.649
BUTTER	0.649
MARGARINE & OTHER VEG FATS & P	0.649
EA NUT BUTTER	0.649
OLIVE OIL	0.227
EDIBLE OILS & OTHER ANIMAL FAT	0.227
S	
CITRUS FRUITS	0.077
BANANAS	0.077
APPLES	0.077
PEARS	0.077
STONE FRUITS	0.077

BERRIES	0.077		
OTHER FRESH/CHILLED/FROZEN FRUITS	0.077		
DRIED FRUIT & NUTS	0.077		
PRESERVED FRUIT & FRUIT BASED PRODUCTS	0.077		
LEAF & STEM VEG	0.077		
CABBAGES	0.077		
VEG GROWN FOR THEIR FRUIT	0.077		
ROOT CROPS, NON STARCHY BULBS & MUSHROOMS	0.077		
DRIED VEG	0.077		
OTHER PREPARED/PROCESSED VEG	0.077		
POTATOES	0.077		
OTHER TUBERS & PRODUCTS OF TUBER VEG	0.077		
SUGAR	0.281		
OTHER SUGAR PRODUCTS	0.281		
JAMS & MARMALADES	0.281		
CHOCOLATE	0.281		
CONFECTIONERY PRODUCTS	0.281		
EDIBLE ICES & ICE CREAM	0.281		
SAUCES, CONDIMENTS	0.281		
BAKERS YEAST, DESSERT PREP, SOUPS	0.281		
SALT, SPICES, HERBS & OTHER FOOD PRODUCTS	0.281		
COFFEE	0.142		
TEA	0.142		
COCOA & POWDERED CHOCOLATE	0.142		
FRUIT & VEG JUICES	0.446		
MINERAL/SPRING WATERS	0.446		
SOFT DRINKS	0.446		
SPIRIT & LIQUEURS	0.135		
WINE FROM GRAPE/OTHER FRUIT	0.135		
FORTIFIED WINE	0.135		
CHAMPAGNE & SPARKLING WINES	0.135		
BEEF & LAGER	0.135		
CIDERS & PERRY	0.135		
ALCOPOPS	0.135		
69 items			
BALANCE DUE	£7,647,890.00		
GHG EMISSIONS DUE	11,002.820kgCO ₂ e		
MasterCard Debit *****4875	£7,647,890.00		
CHANGE	0.00		
VAT SUMMARY			
Rate	Net	VAT	Gross
0.0%	0.00	0.00	0.00
0.0%	6373241.67	1274648.33	7647890.00

20:04 6373241.67 1274648.33 7647890.00
Totals 6373241.67 1274648.33 7647890.00

*** CARDHOLDER COPY ***

P:V3526960 T:****7297
V:***59745
12/02/2026 17:06:55

MC DEBIT
*****4875

CONTACTLESS CP SALE
Please debit my account
AMOUNT GBP7647890.00
TOTAL GBP7647890.00

NO CARDHOLDER VERIFICATION

Please Keep This Receipt
For your Records
Auth Code: 410555
Ref: 000000051290
AID: A0000000004101001
App Seq: 01

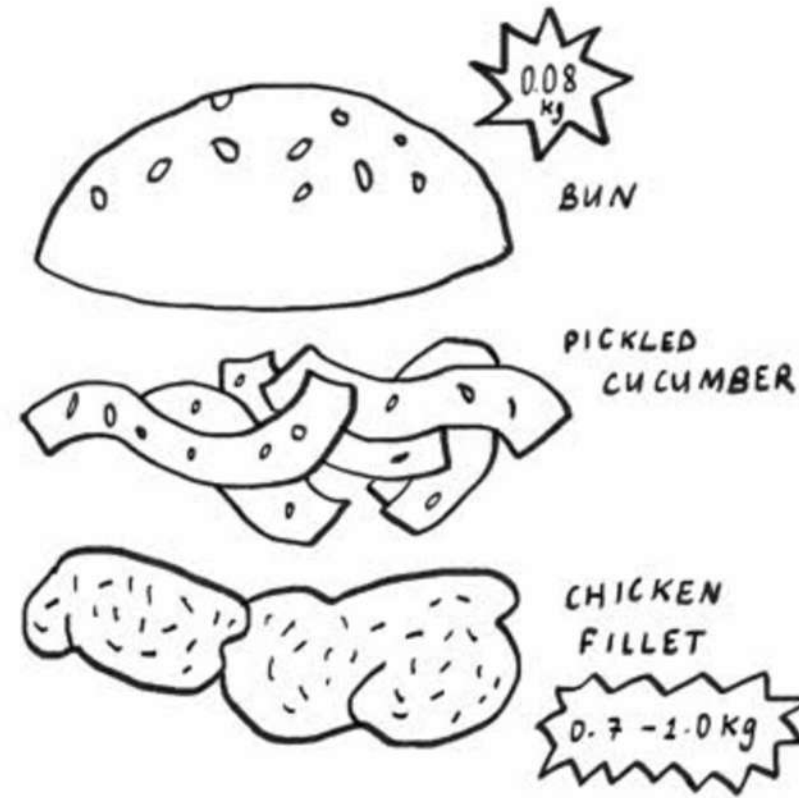
Account on File Registration
Details
Result: Registration Successful
Token ID: 1927485093817284

Did you receive great service today?
Visit waitrosehaveyoursay.com and you could win £500 for Waitrose vouchers.
Please retain your receipt to enter.

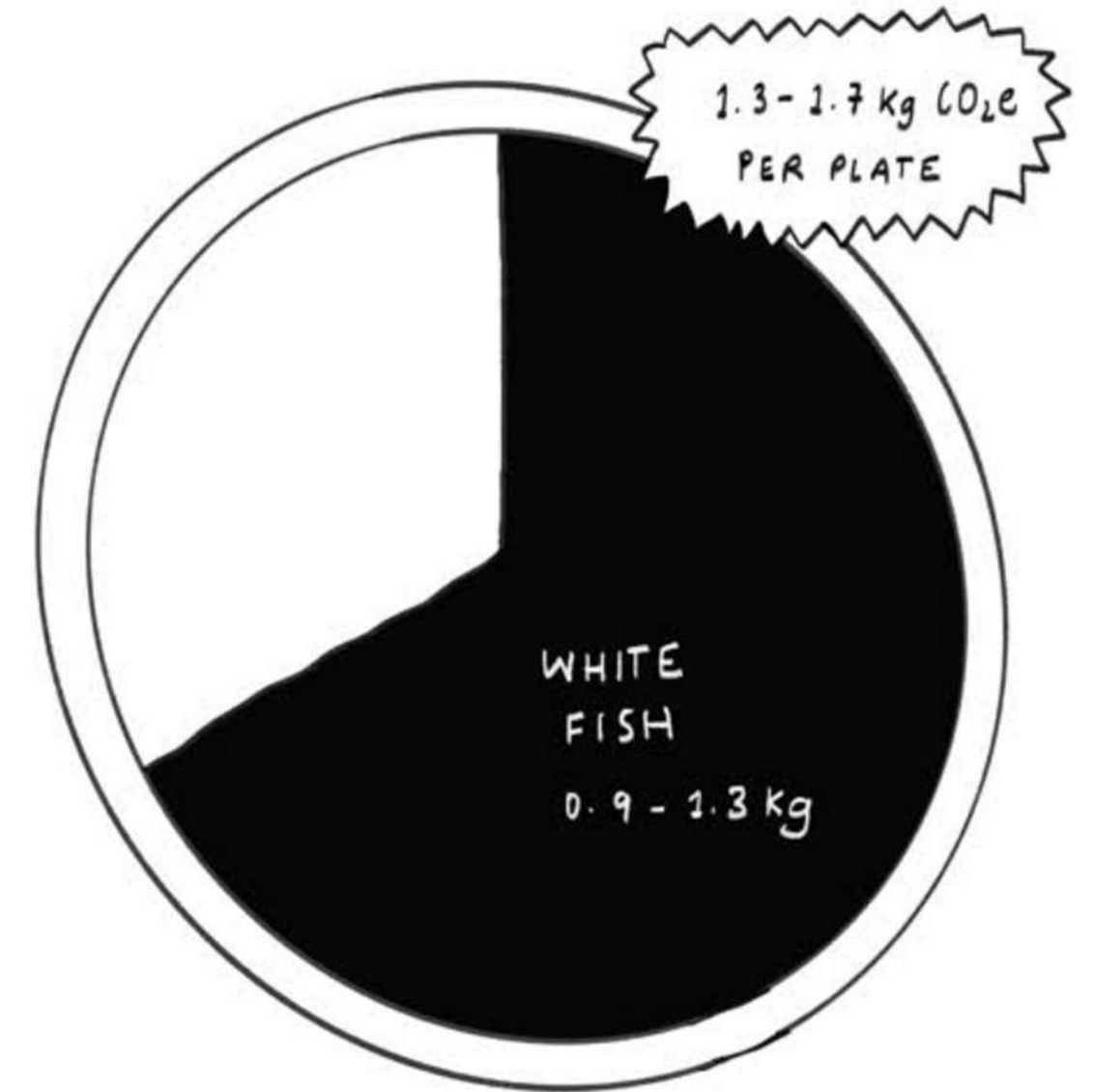
THANK YOU FOR SHOPPING AT WAITROSE
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Iteration #4

CHICKEN
KATSU
BURGER

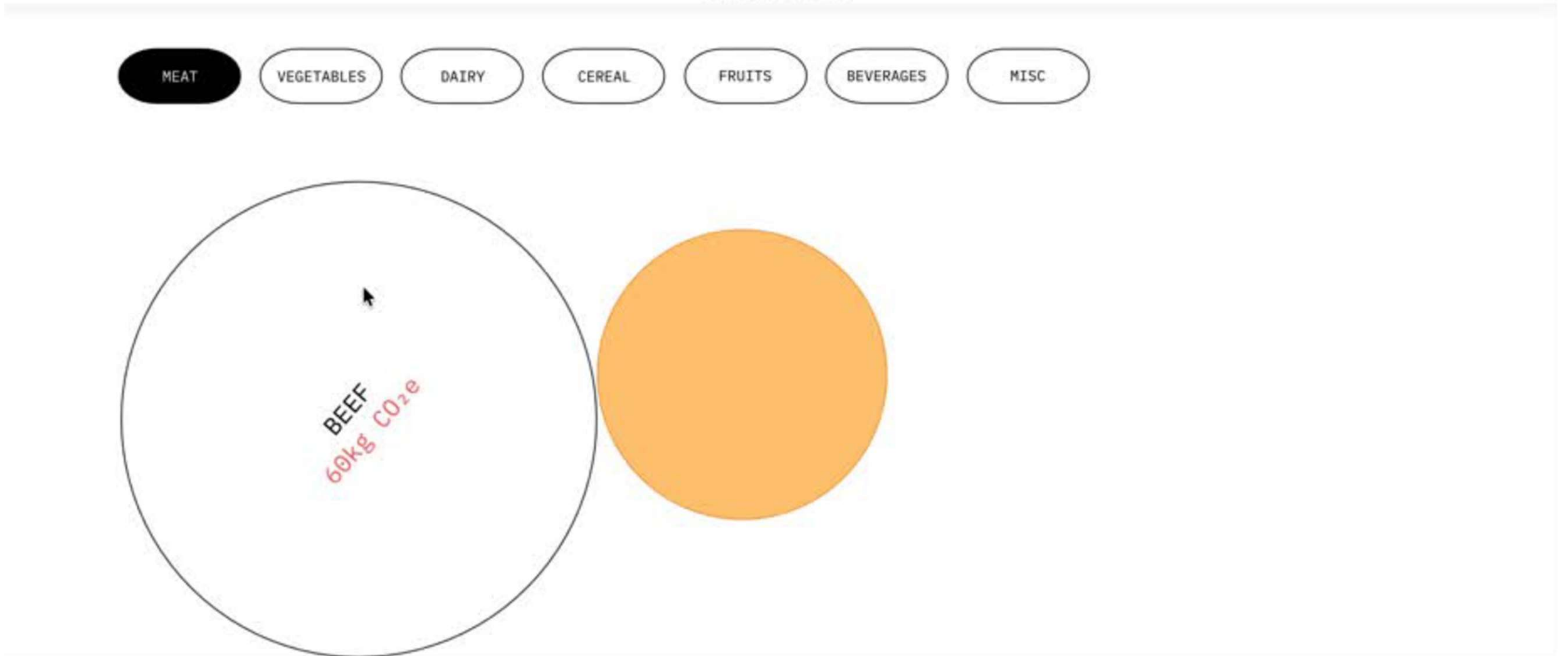


WHAT IS UAL
EATING?

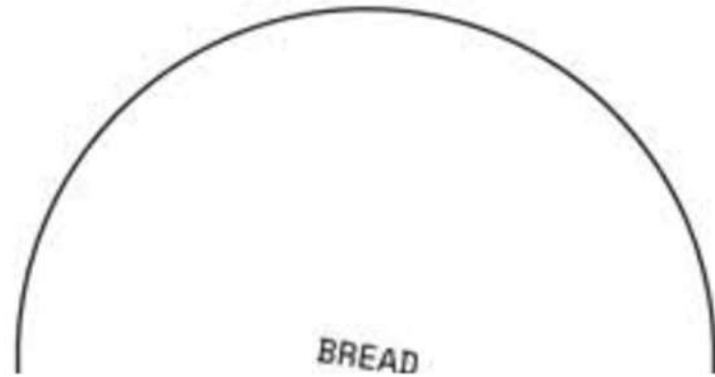
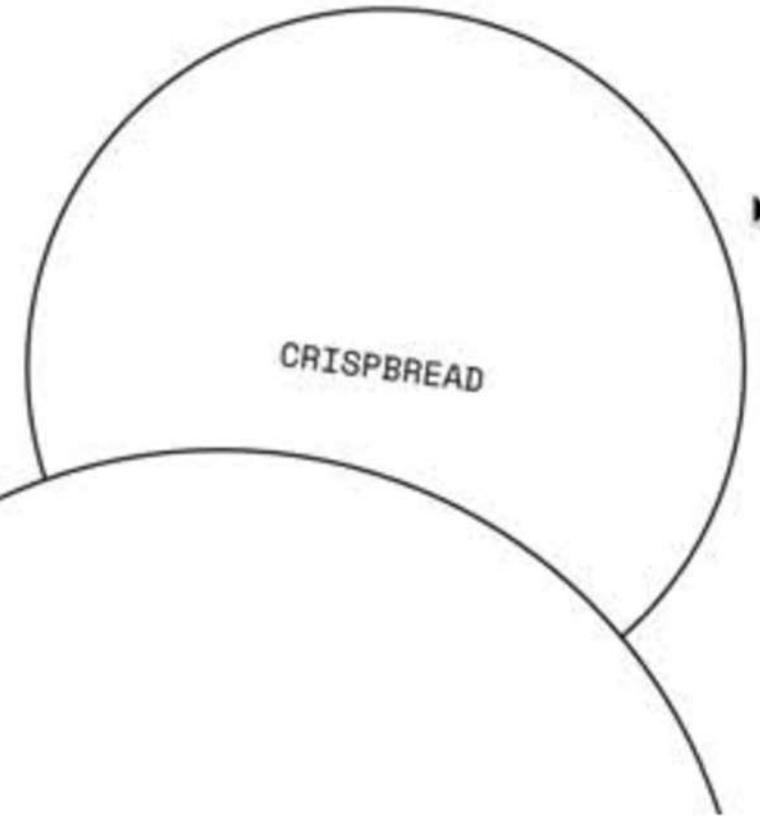
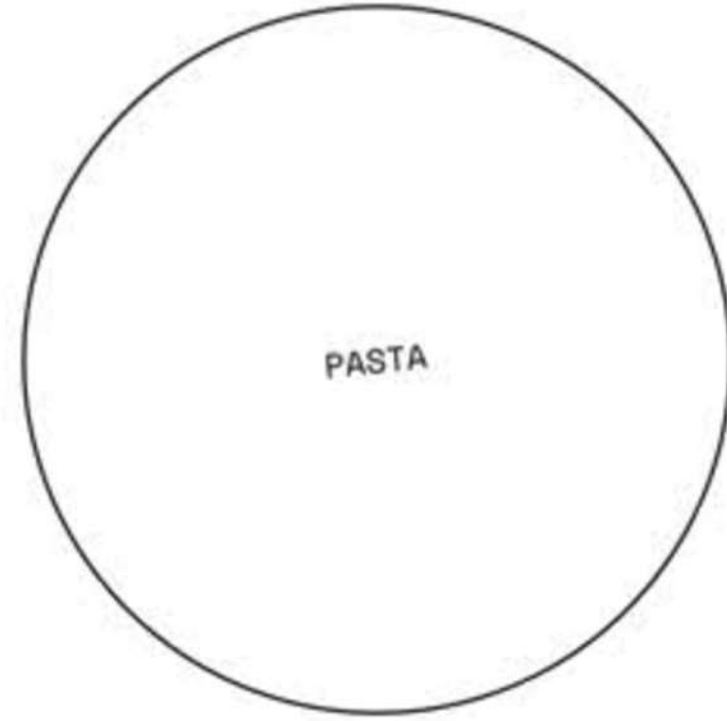
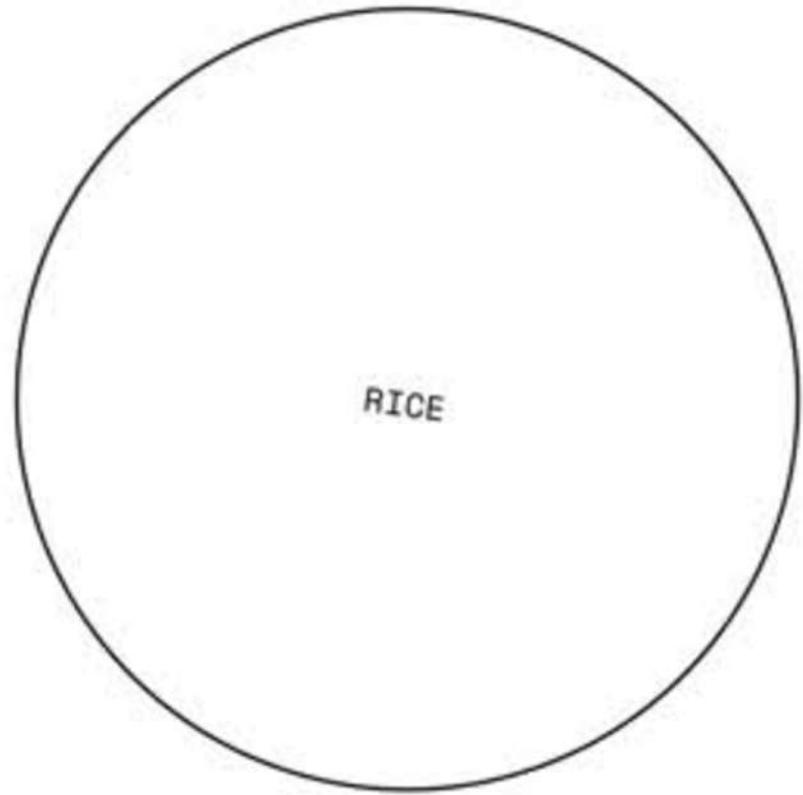


FISH AND CHIPS

Iteration #5

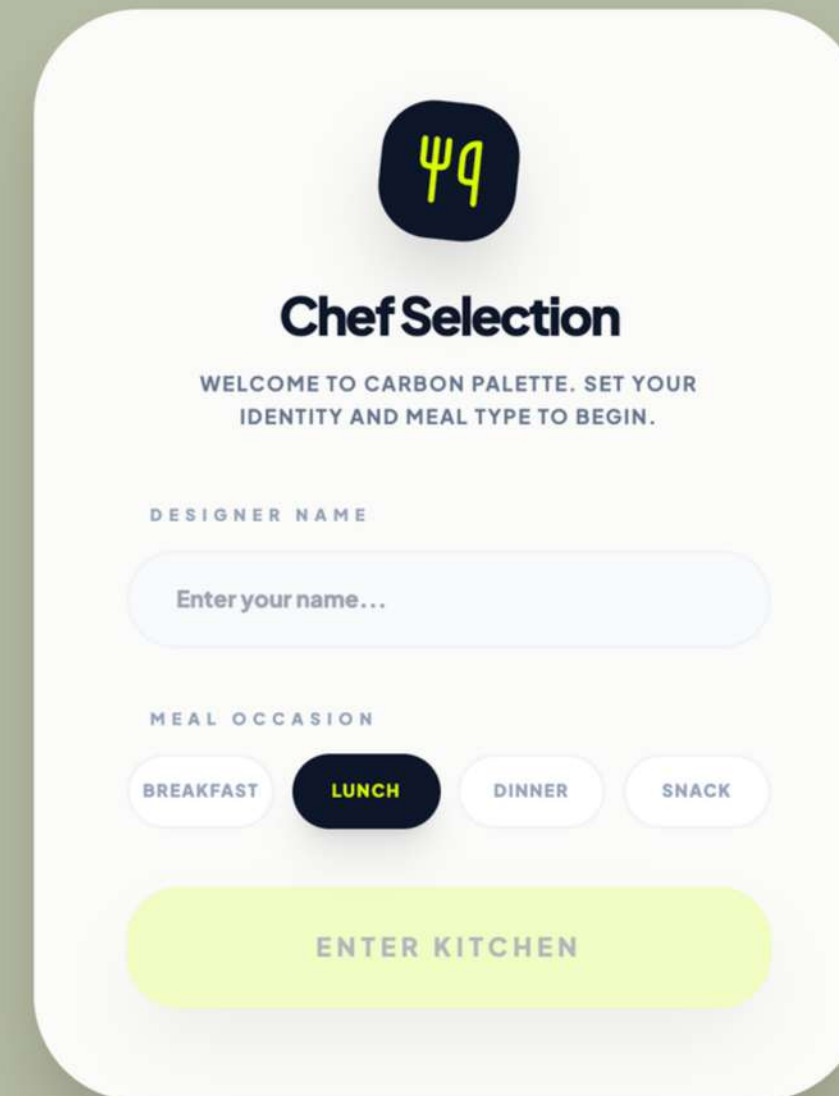
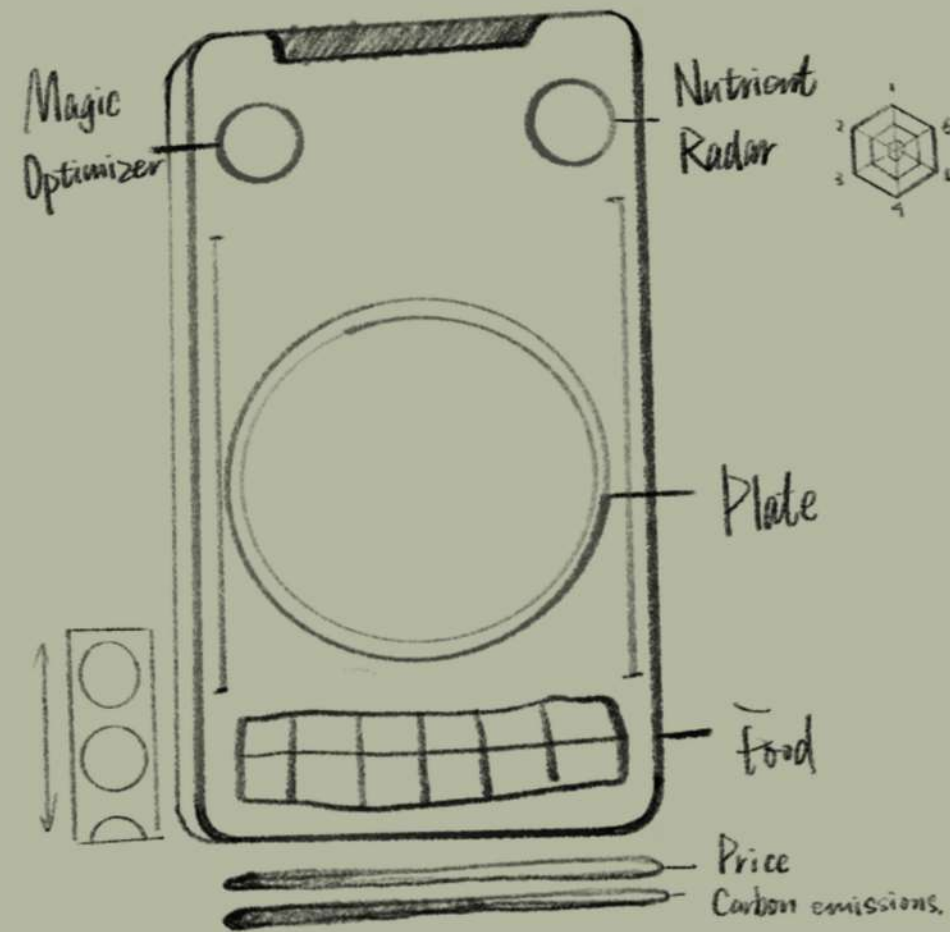


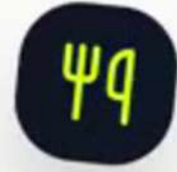
- CEREAL
- BAKERY
- POULTRY
- DAIRY
- FRUITS
- VEGETABLES
- CONFECTIONERY
- BEVERAGES
- MISC



Iteration #6

Carbon Palette is a “carbon footprint meal planner” app designed for environmentally conscious consumers. By dragging ingredients onto a virtual plate, users can observe in real time the relationship between monetary expenditure and carbon emissions (kgCO₂e), enabling them to make more sustainable dietary choices with every meal.





Chef Selection

WELCOME TO CARBON PALETTE. SET YOUR
IDENTITY AND MEAL TYPE TO BEGIN.

DESIGNER NAME

MEAL OCCASION

BREAKFAST

LUNCH

DINNER

SNACK

ENTER KITCHEN

Claire
LUNCH SESSION

MEAL PROGRESS 87%

Magic Optimizer
AI SUSTAINABLE SWAP

Balance Radar
REALTIME NUTRIENTS

TOTAL TRANSACTION

£16.90

PRINT STATEMENT

TOTAL FOOTPRINT

12.99 KG

SPECTRAL FOOD LIBRARY DRAG TO PLATE

2.36	2.36	0.15	0.15	0.15	0.65	0.65	0.65	0.65	0.08	0.08	0.08	0.08	0.08	0.08	0.08
CHICKEN	TURKEY	SALMON	SHRIMP	LOBSTER	MILK	EGG	CHEESE	BUTTER	ORANGE	APPLE	GRAPES	MELON	SPINACH	BROCCOLI	POTATO
1.5	£4.8	£6.0	£7.5	£15.0	£1.0	£0.5	£1.2	£0.3	£0.8	£0.9	£2.0	£1.5	£1.5	£1.2	£0.5

Claire
LUNCH SESSION

MEAL PROGRESS 87%

Magic Optimizer
AI SUSTAINABLE SWAP

Balance Radar
REALTIME NUTRIENTS

APPLE

SPINACH

LOBSTER

EGG

AVOCADO

SALMON

SHRIMP

£0.50 • 50g

IMPACT: 0.325 KG

Interactive Plate:
A stage for freely combining ingredients. Users drag food from the ingredient library at the bottom to this area, where they can customize ingredient weights and preview carbon emissions in real time.

TOTAL TRANSACTION

£ 16.90

PRINT STATEMENT

TOTAL FOOTPRINT

12.99 KG

SPECTRAL FOOD LIBRARY

BEAN	TURKEY	SALMON	SHRIMP	LOBSTER	MILK	EGG	CHEESE	BUTTER	ORANGE	APPLE	GRAPES	MELON	SPINACH	BROCCOLI	POTATO	AVOCADO
£2.34	£4.8	£6.0	£7.5	£15.0	£1.0	£0.5	£1.2	£0.3	£0.8	£0.9	£2.0	£1.5	£1.5	£1.2	£0.5	£2.0

Claire
LUNCH SESSION

MEAL PROGRESS 87%

Magic Optimizer
AI SUSTAINABLE SWAP

Balance Radar
REALTIME NUTRIENTS

MAGIC OPTIMIZER
RULE-BASED SUSTAINABILITY ENGINE

• SOURCE **Beef** (MEAT) → OPTIMIZED **Salmon** (FISH/SEAFOOD) -19.18 KG SWAP

• SOURCE **Quinoa** (GRAIN) → OPTIMIZED **Orange** (FRUIT) -1.64 KG SWAP

• SOURCE **Shrimp** (FISH/SEAFOOD) → OPTIMIZED **Orange** (FRUIT) -1.08 KG SWAP

PRIORITY: INTRA-CATEGORY TIERING

Magic Optimizer:
Upon pressing, the AI analyzes all ingredients on your current plate and automatically generates low-carb substitution suggestions.

TOTAL TRANSACTION
£ 16.90

TOTAL FOOTPRINT
12.99 KG

SPECTRAL FOOD LIBRARY

MEAT	TURKEY	SALMON	SHRIMP	LOBSTER	MILK	EGG	CHEESE	BUTTER	ORANGE	APPLE	GRAPES	MELON	SPINACH	BROCCOLI	POTATO	AVOCADO
£4.5	£4.8	£6.0	£7.5	£15.0	£1.0	£0.5	£1.2	£0.3	£0.8	£0.9	£2.0	£1.5	£1.5	£1.2	£0.5	£2.0

Claire
LUNCH SESSION

MEAL PROGRESS 87%

Magic Optimizer
AI SUSTAINABLE SWAP

Balance Radar
REALTIME NUTRIENTS

Nutrient Density

REALTIME BALANCE RADAR

93 BALANCE

DEFICIENCY ANALYSIS

✔ Nutrition looks perfectly balanced!

DIETARY OPTIMIZATION

💡 Maintain your current variety for optimal performance.

FULL AUDIT TRAY

- LOBSTER
- SHRIMP
- SALMON
- SPINACH
- AVOCADO
- APPLE

CALIBRATED TO WORLD HEALTH ORGANIZATION STANDARDS (2025) - ALGORITHMIC NUTRITIONAL ANALYSIS V2.4

Nutrition Radar:
Tap to view a comprehensive nutritional assessment of the ingredients on your current plate

TOTAL TRANSACTION

£ 16.90

TOTAL FOOTPRINT

12.99 KG

SPECTRAL FOOD LIBRARY

WHEAT	TURKEY	SALMON	SHRIMP	LOBSTER	MILK	EGG	CHEESE	BUTTER	ORANGE	APPLE	GRAPES	MELON	SPINACH	BROCCOLI	POTATO	AVOCADO
£2.34	£4.8	£6.0	£7.5	£15.0	£1.0	£0.5	£1.2	£0.3	£0.8	£0.9	£2.0	£1.5	£1.5	£1.2	£0.5	£2.0

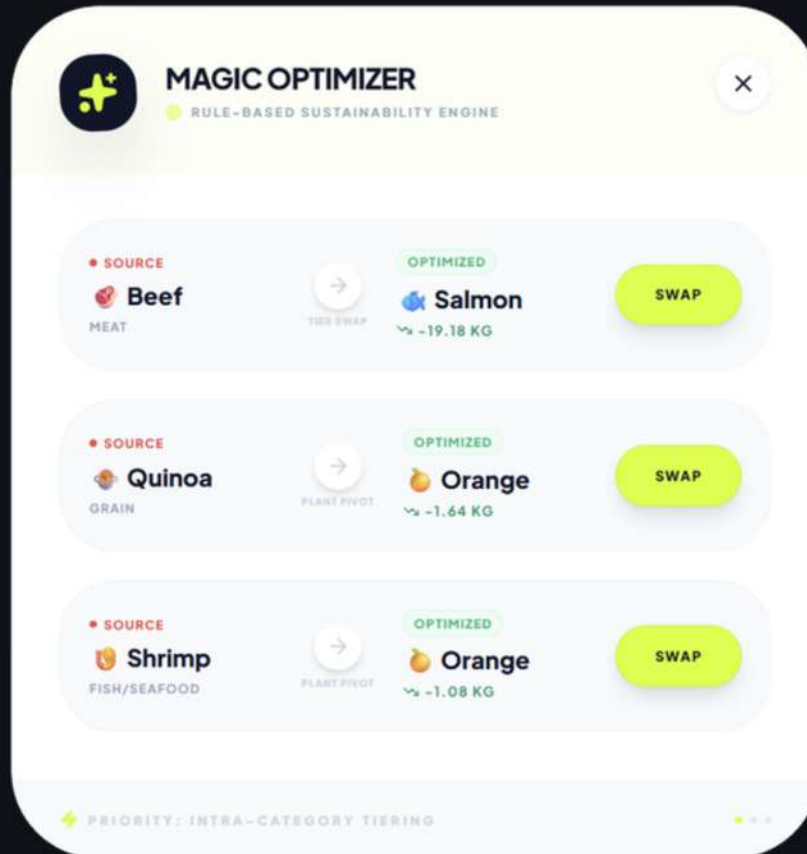
DECISION SUPPORT

 **Magic Optimizer**
AI SUSTAINABLE SWAP

One-click diagnosis of high-carbon items with low-carbon substitute suggestions.

 **Balance Radar**
REALTIME NUTRIENTS

Real-time monitoring of nutritional balance to ensure sustainability doesn't compromise health.



MAGIC OPTIMIZER
RULE-BASED SUSTAINABILITY ENGINE

SOURCE **OPTIMIZED** **SWAP**

Beef **Salmon**
MEAT **SEAFOOD**
-19.18 KG

Quinoa **Orange**
GRAIN **FRUIT**
-1.64 KG

Shrimp **Orange**
FISH/SEAFOOD **FRUIT**
-1.08 KG

PRIORITY: INTRA-CATEGORY TIERING

Optimization Strategy:
Sort by carbon emissions reduction and prioritize displaying the most effective substitutions
Prioritize same-category substitutions:
Meat → Low-carbon meat → Fish;
Whole milk → Low-fat milk
Cross-category substitution suggestions:
Meat → Legumes/vegetable protein



Nutrient Density
REALTIME BALANCE RADAR

93 BALANCE

DEFICIENCY ANALYSIS
Nutrition looks perfectly balanced!

DIETARY OPTIMIZATION
Maintain your current variety for optimal performance.

FULL AUDIT TRAY
LOBSTER SHRIMP SALMON
SPINACH AVOCADO APPLE

CALIBRATED TO WORLD HEALTH ORGANIZATION STANDARDS (2025) + ALGORITHMIC NUTRITIONAL ANALYSIS V2.4

Radar Chart Dimensions (6 Axes):
Protein
Carbohydrates
Fat
Dietary Fiber
Vitamins
Minerals

Claire
LUNCH SESSION

MEAL PROGRESS 87%

Magic Optimizer
AI SUSTAINABLE SWAP

Balance Radar
REALTIME NUTRIENTS

← CLAIRE • LUNCH

MEAL STATEMENT

▲ MODERATE FOOTPRINT

INGREDIENT LEDGER	IMPACT (KG)
Salmon £6.00 • 1 FILLET	0.912
Shrimp £7.50 • 6 PIECES	1.140
Cheese	0.779

"Equivalent to 23.8km of driving."
NOTICEABLE IMPACT, BUT MANAGEABLE FOR A SINGLE MEAL.

TOTAL IMPACT
6.10 £37.20

KG CO2E EQUIVALENTS

Carbon Receipt:
At checkout, a "meal statement" is generated. Abstract carbon emission figures are translated into tangible concepts like "vehicle mileage" or "tree absorption cycles," creating a tangible sense of carbon footprint.

TOTAL TRANSACTION
£ **16.90**

TOTAL FOOTPRINT
12.99 KG

SPECTRAL FOOD LIBRARY

CHICKEN £4.5	TURKEY £4.8	SALMON £6.0	SHRIMP £7.5	LOBSTER £15.0	MILK £1.0	EGG £0.5	CHEESE £1.2	BUTTER £0.3	ORANGE £0.8	APPLE £0.9	GRAPES £2.0	MELON £1.5	SPINACH £1.5	BROCCOLI £1.2	POTATO £0.5	AVOCADO £2.0
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Next Steps

