

Solving the Trilemma - Climate-Friendly, Healthy, and Popular Meals for Retirement Homes and Canteens

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Project overview



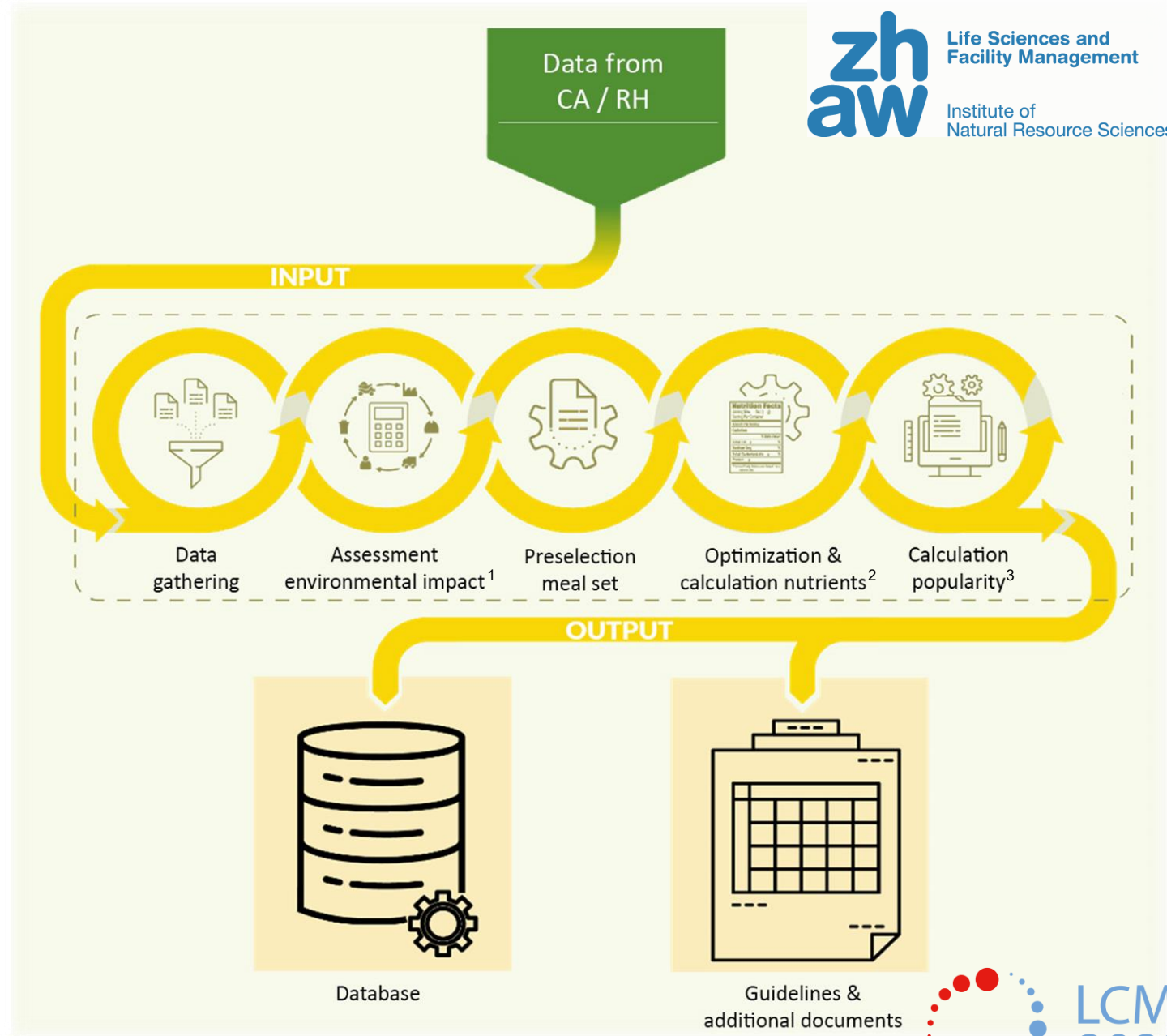
Reduction of energy consumption and greenhouse gas emissions in city catering establishments with a focus on canteens (CA) and retirement homes (RH)



Developing of a database of environmentally friendly, healthy and popular meals



Approach for meal assessment



Database - overview

Meal name	Meal type	Balance (1-5)	Popularity (1-5)	Eco-friendliness (1-5)
Eggplant gratin with polenta and salad	Vegetarian	3	5	4
Baked Potatoes with herb curd & ratatouille	Vegetarian	3	3	5
Farmer pasta with bacon & leaf salad	Meat	4	5	3
Farmer ham with mustard & potato salad	Meat	3	3	3
Cauliflower cheese medallion with fried potatoes & peperonicoulis	Vegetarian	4	5	5
Gratinated spinach ricotta cannelloni	Vegetarian	4	5	4
Caribbean tofu & snow peas in curry sauce with rice	Vegan	4	5	4

EBP*	Balance category	
10 to 20	5	Very balanced
0 to 9	4	Balanced
-12 to -1	3	Acceptable
-22 to -13	2	Unbalanced
-40 to -23	1	Very unbalanced

Popularity category	
5	Very popular
4	Popular
3	Rather popular
2	Rather not popular
1	Not popular

Eco-Points	Environmental impact category	
0 to 1799	5	Very low impact
1800 to 2099	4	Low impact
2100 to 2999	3	Medium impact
higher than 3000	2	High impact
	1	Very high impact

*EBP = «Ernährungsphysiologische Balancepunkte» → Nutritional balance points

Database – customization of the input values

Dropdown lists

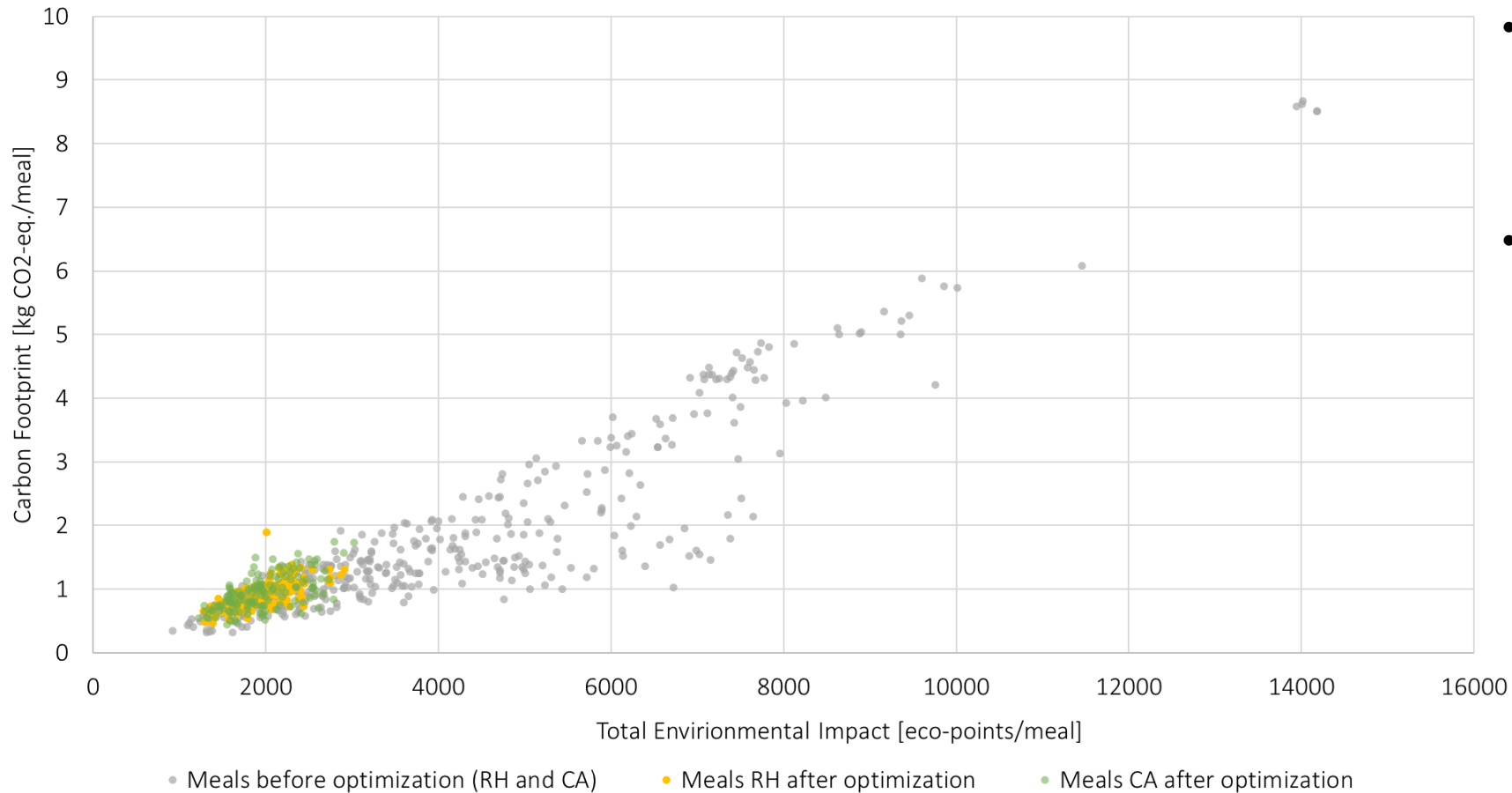
Adjust the origin, processing, packaging and season and see how the environmental impact changes

Meal name	Component name	Origin	Processing	Packaging	Season	Total Environmental Impact	Global Warming Potential	Cumulative Energy Demand
						EP/component resp. meal	CO ₂ eq/component resp. meal	MJ/component resp. meal
Caribbean tofu & snow peas in curry sauce with rice	Dry rice	Overseas	Unrefrigerated	Plastic	Not relevant		265	2.08
	Snow peas	Europe	Refrigerated	Plastic	Not relevant		706	2.70
	Tofu cubes	Overseas	Refrigerated	Plastic	Not relevant		491	5.39
	Curry sauce Zanzibar	Europe	Preserved	Plastic	Not relevant		554	2.82
Total: Chosen option						2016	0.66	13.00
Total: Standard						2016	0.66	13.00

Environmental impact of the chosen option

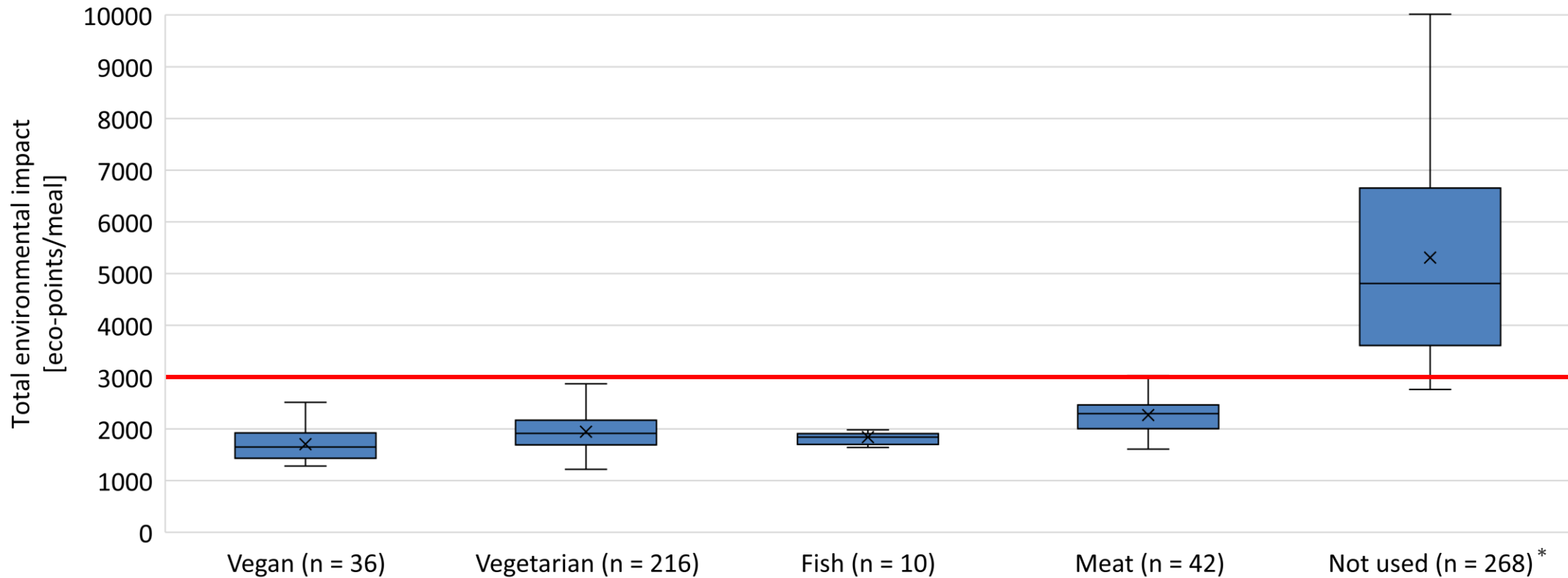
Environmental impact of the standard option

Environmental impacts: Before & after optimization



- Reduction of average **total environmental impact** (eco-points) per meal by **52%**
- Reduction of average **carbon footprint** per meal (CO₂-eq.) by **48%**

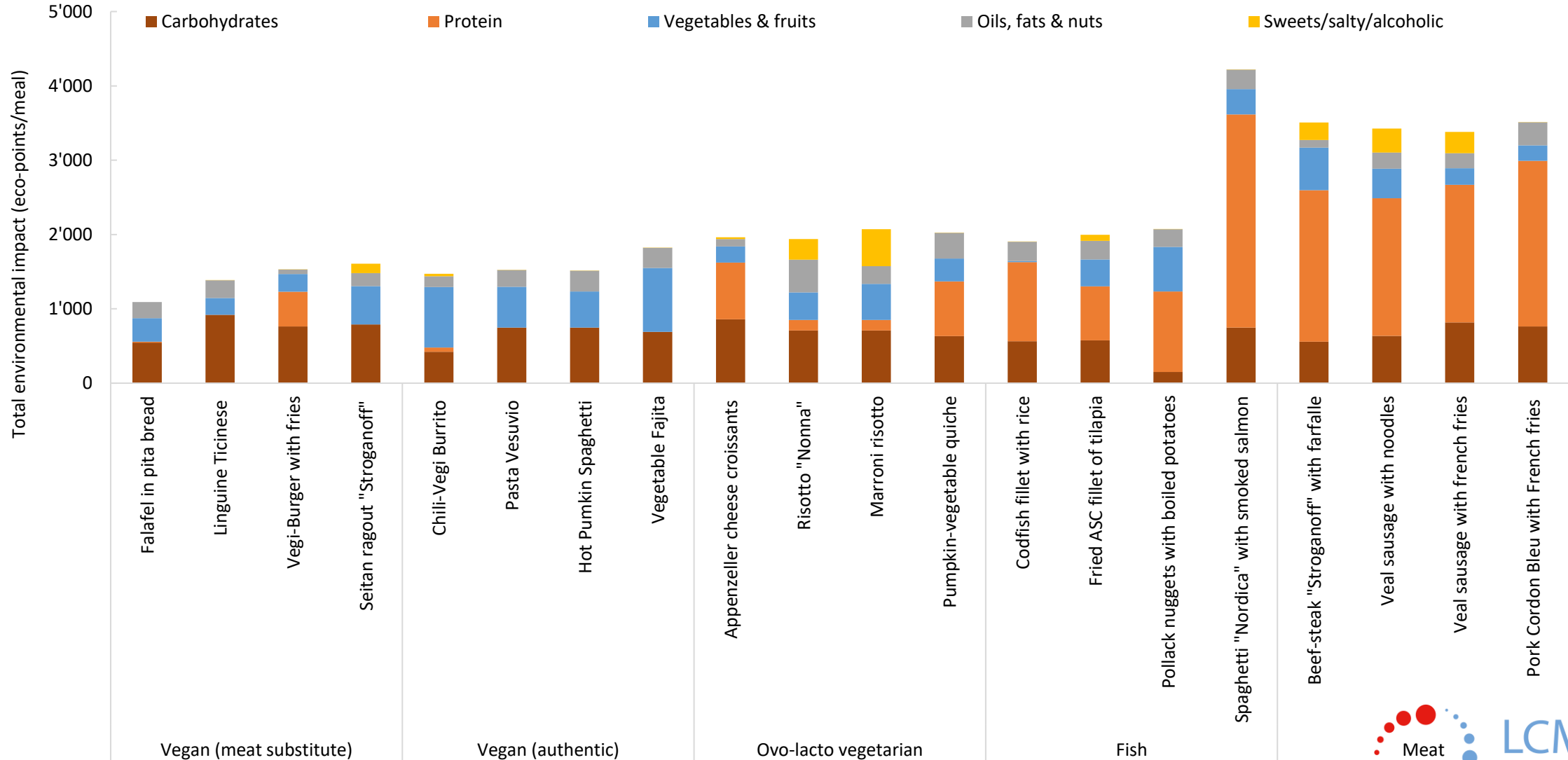
Eco-points: Comparison of meal categories



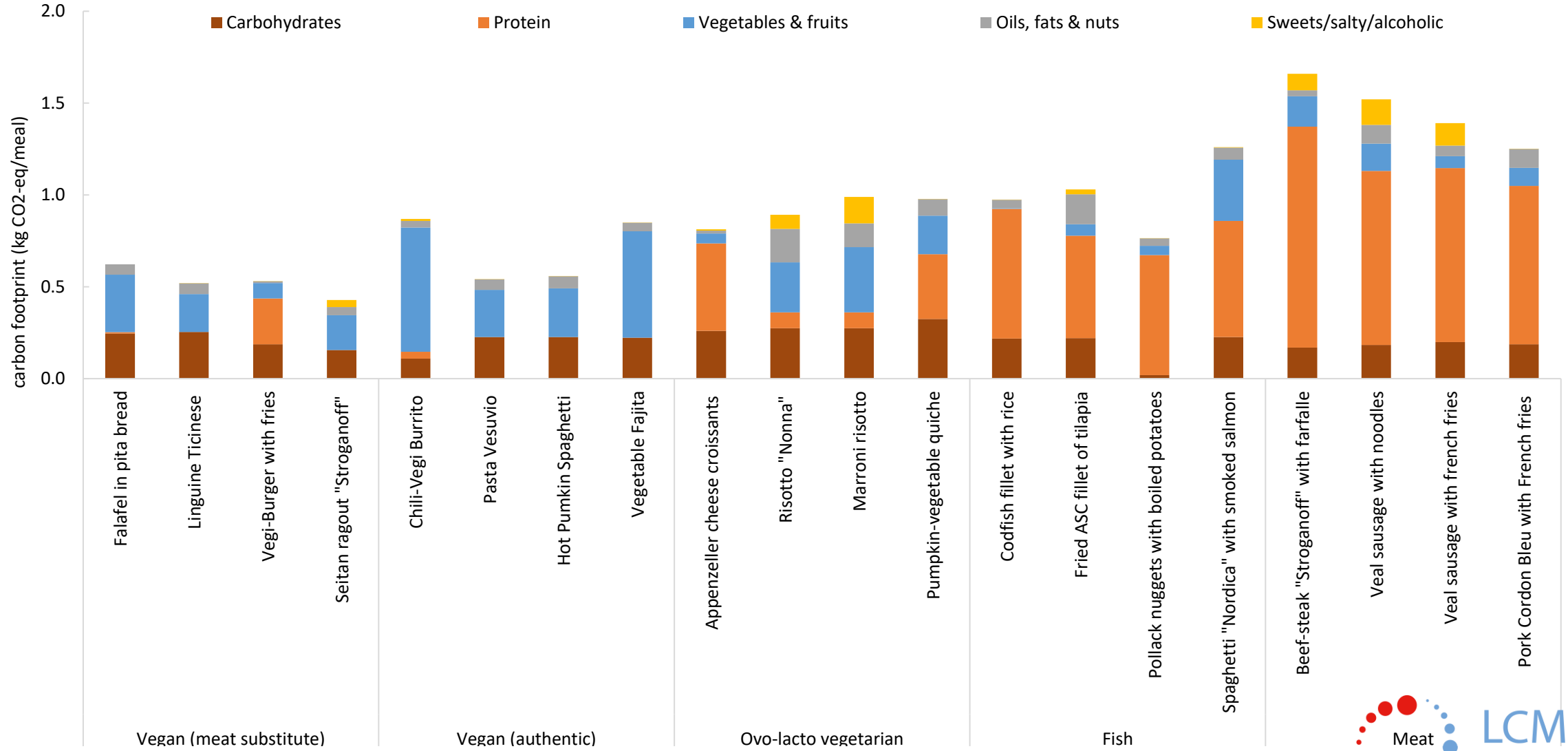
— = Eco-Points treshold optimized meals

* Meals which have not been integrated into the database due to their high total environmental impact

Eco-points per meal in detail



Carbon Footprint per meal in detail



Rules of thumb for an environmentally friendly catering offer



Avoid food waste



Reduce meat and fish offer



Reduce milk and egg products



Avoid flown in products



Seasonal food

Thanks for your attention

Any questions?

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Life Cycle Assessment

Rohtstoffabbau ► Herstellung ► Nutzung ► Entsorgung | Recycling