

Supplementary information

Table S1. Weighted and normalised life cycle impact assessments (LCIA) in resource depletion, climate change, ecosystem quality and human health of food choices (in millipoints per kg) using IMPACT 2002+ V2.12 LCIA methodology [29,30]. “The unit “points” is assigned to the results of the multiplication of the weighted damage factors with the inventory flows.” “Alloc Def, S” indicates allocation of the whole system at the point of substitution. “GLO” stands for global datasets. “market for” includes all stages of life cycle including product logistics before the use phase.

Damage category	Apple {GLO} market for Alloc Def, S	Aubergine {GLO} market for Alloc Def, S	Avocado {GLO} market for Alloc Def, S	Banana {GLO} market for Alloc Def, S	Barley grain {GLO} market for Alloc Def, S	Broccoli {GLO} market for Alloc Def, S	Butter, from cow milk {GLO} market for Alloc Def, S	Buttermilk, from cow milk {GLO} market for Alloc Def, S	Cabbage red {GLO} market for Alloc Def, S	Cabbage white {GLO} market for Alloc Def, S	Carrot {GLO} market for Alloc Def, S	Cauliflower {GLO} market for Alloc Def, S	Celery {GLO} market for Alloc Def, S
Total	0.2205	1.3956	0.4809	0.1219	0.3721	0.1971	2.1386	0.9349	0.3343	0.3295	0.2168	0.1885	0.5424
Resources	0.0389	0.2909	0.0654	0.0252	0.0376	0.0375	0.2930	0.1272	0.0358	0.0354	0.0435	0.0347	0.0498
Climate change	0.0409	0.4842	0.0745	0.0290	0.0512	0.0420	0.4969	0.2171	0.0384	0.0378	0.0471	0.0395	0.0531
Ecosystem quality	0.0401	0.1643	0.1386	0.0091	0.1625	0.0338	0.3319	0.1454	0.1722	0.1630	0.0148	0.0329	0.3165
Human health	0.1005	0.4563	0.2024	0.0586	0.1209	0.0839	1.0168	0.4452	0.0879	0.0932	0.1114		0.1231

Damage category	Cheese, from cow milk, fresh, unripened {GLO} market for Alloc Def, S	Citrus {GLO} market for Alloc Def, S	Coconut, husked {GLO} market for Alloc Def, S	Cow milk {GLO} market for Alloc Def, S	Cream, from cow milk {GLO} market for Alloc Def, S	Cucumber {GLO} market for Alloc Def, S	Fava bean, organic {GLO} market for Alloc Def, S	Fennel {GLO} market for Alloc Def, S	Grape {GLO} market for Alloc Def, S	Green asparagus {GLO} market for Alloc Def, S	Iceberg lettuce {GLO} market for Alloc Def, S	Kiwi {GLO} market for Alloc Def, S	Lettuce {GLO} market for Alloc Def, S
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	for Alloc Def, S				Alloc Def, S		Alloc Def, S						
Total	3.5166	0.8201	0.4857	0.4356	0.8527	0.9244	0.8915	0.1977	0.1781	0.7800	0.1126	0.3102	1.0067
Resources	0.5482	0.0257	0.0321	0.0576	0.1104	0.2084	0.0278	0.0393	0.0307	0.0805	0.0239	0.0526	0.2277
Climate change	0.8769	0.0271	0.0327	0.1095	0.1781	0.3572	0.0543	0.0400	0.0326	0.0940	0.0235	0.0576	0.3797
Ecosystem quality	0.5486	0.6951	0.3153	0.0780	0.1226	0.0613	0.5829	0.0388	0.0342	0.4245	0.0194	0.0538	0.0729
Human health	1.5430	0.0722	0.1056	0.1905	0.4416	0.2975	0.2265	0.0795	0.0806	0.1810	0.0457	0.1461	0.3265

Damage category	Maize grain {GLO} market for Alloc Def, S	Melon {GLO} market for Alloc Def, S	Oat grain {GLO} market for Alloc Def, S	Onion {GLO} market for Alloc Def, S	Papaya {GLO} market for Alloc Def, S	Pear {GLO} market for Alloc Def, S	Pineapple {GLO} market for Alloc Def, S	Potato {GLO} market for Alloc Def, S	Radish {GLO} market for Alloc Def, S	Red meat (Livestock), live weight {GLO} market for Alloc Def, S	Rice {GLO} market for Alloc Def, S	Rye grain {GLO} market for Alloc Def, S	Skimmed milk, from cow milk {GLO} market for Alloc Def, S
Total	0.2328	0.0872	-0.0823	0.2576	0.1000	0.2445	0.0885	0.1967	2.1190	3.3125	0.5845	0.6271	0.2991
Resources	0.0383	0.0191	0.0329	0.0483	0.0208	0.0433	0.0162	0.0253	0.4792	0.3358	0.0787	0.0429	0.0407
Climate change	0.0514	0.0197	0.0591	0.0530	0.0238	0.0461	0.0171	0.0283	0.8395	0.7404	0.1158	0.0595	0.0719
Ecosystem quality	0.0456	0.0104	-0.1831	0.0298	0.0124	0.0429	0.0243	0.0687	0.1408	0.8325	0.1530	0.3637	0.0486
Human health	0.0975	0.0380	0.0089	0.1266	0.0429	0.1122	0.0309	0.0744	0.6595	1.4038	0.2371	0.1610	0.1379

Damage category	Soybean beverage {GLO} market for Alloc Def, S	Spinach {GLO} market for Alloc Def, S	Strawberry {GLO} market for Alloc Def, S	Sugar, from sugar beet {GLO} market for	Sugar, from sugarcane {GLO} market for Alloc Def, S	Tofu {GLO} market for Alloc Def, S	Tomato {GLO} market for Alloc Def, S	Vine tomato {GLO} market for Alloc Def, S	Wheat grain {GLO} market for Alloc Def, S	Whey {GLO} market for Alloc Def, S	White asparagus {GLO} market for Alloc Def, S	Yogurt, from cow milk {GLO} market for	Zucchini {GLO} market for Alloc Def, S
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				Alloc Def, S								Alloc Def, S	
Total	0.1476	0.0683	0.1406	0.1651	4.3495	0.4702	0.5233	0.4986	0.5737	0.0386	0.5798	0.6347	0.1420
Resources	0.0252	0.0141	0.0262	0.0402	0.0309	0.0787	0.1068	0.1019	0.0468	0.0061	0.0686	0.0844	0.0248
Climate change	0.0275	0.0169	0.0261	0.0473	0.0350	0.0909	0.1714	0.1632	0.0655	0.0096	0.0783	0.1332	0.0265
Ecosystem quality	0.0499	0.0082	0.0466	-0.0019	0.2858	0.1666	0.0747	0.0708	0.2996	0.0060	0.2673	0.0908	0.0303
Human health	0.0451	0.0291	0.0418	0.0795	3.9978	0.1339	0.1704	0.1626	0.1618	0.0168	0.1656	0.3263	0.0604

Table S2. Daily recommendations of food choices [30].

Daily recommendations	kg
Apple	0.085
Aubergine	0.00249963
Avocado	0.085
Banana	0.185
Barley grain	0.25
Broccoli	0.036
Butter from cow milk	0.015
Buttermilk from cow milk	0.12
Cabbage red	0.085
Cabbage white	0.085
Carrot	0.06
Cauliflower	0.085
Celery	0.025
Cheese from cow milk	0.025
Citrus	0.09
Coconut	0.144
Cow milk	0.12
Cream from cow milk	0.01
Cucumber	0.032
Dairy	0.16
Fava bean	0.00007788
Fennel	0.005
Grape	0.09056
Green asparagus	0.01
Iceberg lettuce	0.0044
Kiwi	0.075
Lettuce	0.0044
Maize grain	0.25
Melon	0.18112
Oat grain	0.25
Onion	0.106125
Papaya	0.1
Pear	0.15
Pineapple	0.09
Potato	0.15
Radish	0.005
Red meat	0.1
Rice	0.25
Rye grain	0.25
Skimmed milk from cow milk	0.12

Soybean	0.025
Spinach	0.03
Strawberry	0.14
Sugar from sugarbeet	0.025
Sugar from sugarcane	0.025
Tofu	0.025
Tomato	0.12169
Vine tomato	0.12169
Wheat grain	0.25
Whey	0.5
White asparagus	0.01698
Yoghurt from cow milk	0.12
Zucchini	0.1415