

**Valuation of the health and climate-change benefits of healthy diets**  
**Background paper for The State of Food Security and Nutrition in the World 2020**  
**GHG emissions footprints in 2030 (kgCO<sub>2</sub>-eq per kg of product) by food commodity and regions**

	Global (p.7)	High-Income (p. 7) The nearly identical regional emissions for all foods but beef and milk are not adequately explained.	Upper-Middle-Income Countries	Lower-Middle Income Countries	Low-Income Countries	FAO Estimated Daily Intake Baseline/Benchmark diets (page 3)	grams per day	Calculated Total GHG emissions per day (global)	Percent of global total GHG from food group	Calculated Total GHG emissions per day (high-income countries) even assuming same amount consumed/day which underestimates meat, but and over-estimates rice in Europe & North America for )**	Percent of global total GHG from food group high income countries
Wheat	0.37	0.37	0.39	0.37	0.37	Wheat	117	43	2%	43	3%
Rice	1.55	1.49	1.44	1.63	1.51	Rice	126	195	8%	188	13%
Maize	0.36	0.36	0.38	0.36	0.36	Maize	33	12	0%	12	1%
Other grains	0.36	0.34	0.37	0.36	0.37	Other grains	22	8	0%	7	1%
Roots	0.11	0.11	0.11	0.11	0.11	Roots	134	15	1%	15	1%
Legumes	0.29	0.29	0.28	0.31	0.29	Legumes	17	5	0%	5	0%
Soybeans	0.27	0.27	0.28	0.27	0.27	Soybeans	5	1	0%	1	0%
Nuts and seeds	0.54	0.57	0.53	0.53	0.51	Nuts and seeds	13	7	0%	7	1%
Vegetables	0.3	0.3	0.3	0.3	0.3	Vegetables	227	68	3%	68	5%
Fruits (temperate)	0.24	0.24	0.24	0.24	0.24	Fruits (temp)	37	9	0%	9	1%
Fruits (tropical)	0.25	0.25	0.25	0.25	0.25	Fruits (trop)	62	16	1%	16	1%
Fruits (starch)	0.55	0.55	0.55	0.55	0.55	Fruits (starch)	28	15	1%	15	1%
Sugar	0.57	0.57	0.57	0.57	0.57	Sugar	51	29	1%	29	2%
Palm oil	4.92	4.92	4.93	4.92	4.92	Oil (palm)	6	30	1%	30	2%
Vegetable oil	2.06	1.65	1.74	2.16	2.75	Oil (veg)	22	45	2%	36	2%
Beef	36.82	16.18	43.61	38.69	41.85	Beef	25	921	38%	405	28%
Lamb	20.12	15.95	21.39	20.42	22.06	Lamb	5	101	4%	80	5%
Pork	3.16	2.77	3.68	3.11	2.97	Pork	38	120	5%	105	7%
Poultry	2.16	1.89	2.26	2.24	2.01	Poultry	31	67	3%	59	4%
Eggs	1.82	1.54	1.89	1.75	2.32	Eggs	22	40	2%	34	2%
Milk	3.07	1.31	3.21	3.01	5.28	Milk	221	678	28%	290	20%
Shellfish	1.55	0.39	2.36	1.61	1.28	Shellfish	6	9	0%	2	0%
Fish (freshwater)	1.95	1.34	1.88	2.42	0.72	Fish (freshwater)	8	16	1%	11	1%
Fish (pelagic)	0.01	0.01	0	0.01	0	Fish (pelagic)	3	0	0%	0	0%
Fish (demersal)	0.53	0.78	0.43	0.75	0.06	Fish (demersal)	5	3	0%	4	0%
						<b>Total GHG emissions per</b>		<b>2452</b>	<b>100%</b>	1470	100%

High income countries consume far less rice, but it is a staple in many developing countries and recommended diets model consuming 30% less.

Health benefits justify GHG emissions

All four recommended diets model little or no meat.  
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Recommended diets model 30% less milk or none.

\*\* According to the FAO Statistical Yearbook (at page 287) Europe and the Americas consume double the amount of meat per capita as Asia and quadruple the meat consumption of Africa.

See: <https://www.fao.org/3/cc8166en/cc8166en.pdf>

See also: <https://landgeist.com/2021/10/05/meat-consumption-in-europe/>