Supplementary Materials:

Section S1—Food Balance Sheet Construction

Table S1. Food balance sheet (FBS) for Spain in 2015 All values in 1000 tons.

Food category	Domestic Supply						Domestic Utilization			
	Production	Import	Stock	Export	Waste [1]	Total	Food (p.) [2]	Food (f.) [3]	Feed	Seed and Other Use
Cereals	19,699	16,871	3908	1418	104	38,956	7925	0	27,694	3337
Roots and tubers	2284	1016	113	373	111	2928	1739	641	111	437
Sugar	512	1978	−53	456	0	1981	1966	0	0	15
Vegetable oils	3912	1987	−601	1024	0	4273	1944	0	0	2328
Vegetables	12788	1213	78	6226	1153	6701	3805	2536	360	0
Fruits	12548	1618	−205	7095	1357	5509	3461	2023	11	14
Pulses	503	373	30	112	41	753	236	157	293	66
Meat and animal fat	6053	479	0	658	0	5874	5874	0	0	0
Fish, Seafood	1258	51	6	40	0	1275	1230	44	0	1
Dairy	8105	945	0	519	0	8531	6342	0	1695	494
Eggs	2040	31	13	167	42	1875	1734	0	3	139

[1] Refers to the amounts of commodity lost during handling, storage, and transport between supply and utilization, i.e., post-harvest and storage stage. Losses occurring during the pre-harvest and harvesting stages are excluded from this table; [2] Refers to the part of the commodity intended for human consumption after processing and/or packaging. It is, thus, the input for the processing and packaging stage; [3] Refers to the part of the commodity used directly fresh. This flow is directly addressed to distribution stage.

Allocation factors were used to determine the part of the agricultural product intended for human consumption. It is only used for estimating food losses in agricultural production and post-harvest stages, since the rest of losses are calculated once the food addressed to human consumption is derived from Equation (2) in the manuscript. These factors were calculated from Table S3. For food categories not reported in Table S4, allocation factors equal to unity were assumed.

Table S2. Allocation factors.

Food category	Cereals	Roots and tubers	Vegetable oils	Vegetables	Fruits	Pulses
Allocation factor	0.20	0.78	0.51	0.81	0.83	0.50

Section S2—Avoidable and Unavoidable Food Loss Calculation

Table S3. Unavoidable food losses and waste percentages for each food category in each supply chain stage.

Food category	Agricultural production	Post harvest, handling, and storage	Processing and packaging	Distribution	Consumption
Cereals (%)	4.60	1.00	10.00	2.00	25.00
Roots and tubers (%)	26.1	4.50	14.7	7.00	17.00
Sugar (%)	25.00	0.00	2.00	2.00	15.00
Vegetable oils (%)	22.00	0.00	5.00	1.00	4.00
Vegetables (%)	26.10	12.30	2.00	8.70	18.30
Fruits (%)	20.80	5.30	2.00	2.00	15.00
Pulses (%)	25.00	7.50	5.00	10.00	19.00
Meat (%)	2.18	1.00	6.30	4.00	11.00
Fish and seafood (%)	9.40	0.00	6.00	7.13	10.53
Dairy (%)	3.50	0.00	1.20	0.50	7.00
Eggs (%)	6.00	0.00	0.50	2.00	8.00

Section S3. Nutritional Food Loss Calculation

Table S4. Proteins, carbohydrates, and energetic content for the food categories under study.

Food category	Proteins (%)	Carbohydrates (%)	Kcal (per 100 g)
Cereals	10	84	362
Roots and tubers	12	85	73
Sugar	0	0	408
Vegetable Oils	0	0	887
Vegetables	18	80	22
Fruits	4	95	51
Pulses	29	65	303
Meat	50	0	164
Fish and seafood	89	0	83
Dairy	19	29	65
Eggs	34	0	150

Section S4. Example of Calculations According to the Methodologies Presented in Section 2

Table S5. Primary energy demand (PED) and global warming potential (GWP) of egg category distributed by stages.

Food category	Agricultural Production	Post harvest/Slaughtering	Processing and packaging	Distribution	Consumption
PED (MJ/FU)	3.776	0.000	0.070	0.083	0.498
GWP (kg CO_2 eq./FU)	0.200	0.000	0.000	0.010	0.022

$$FLW_{EE,egg} = (3.776 \times 0.06) + [(3.776 + 0.070) \times 0.005] + [(3.776 + 0.070 + 0.083) \times 0.02] + [(3.776 + 0.070 + 0.083 + 0.498) \cdot 0.08] = \mathbf{0.679\ MJ/FU} = \mathbf{162.3\ kcal\ /FU}.$$

$$FLW_{GWP,egg} = (0.200 \times 0.06) + [(0.200 + 0.010) \times 0.02] + [(0.200 + 0.010 + 0.022) \times 0.08] = \mathbf{0.035\ kg\ CO_2eq/FU}.$$