**Supplementary material**

**Table S1** Association between GHGE of diets and all-cause, cardiovascular disease or cancer mortality outcomes

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **(Authors and date) [reference]** | **Results – GHGE** | **Health outcome** | **Results – health outcomes** | **Lower GHGE associated with better health outcomes?** |
| (Biesbroek et al. 2014) [17] | *CO2 equivalent per day*   1. **Low emissions: <3.26** 2. Med-low emissions: 3.26-3.87 3. Med-high emissions: 3.87-4.56 4. High emissions: >4.56 | CVD incidence | *Adjusted risk*   1. Low emissions: 1 2. Med-low emissions: 0.92 3. Med-high emissions: 0.83 4. High emissions: 0.9 | 2. NO  3. NO  4. NO |
|  |  | Cancer incidence | *Adjusted risk*   1. Low emissions: 1 2. Med-low emissions: 1.01 3. Med-high emissions: 0.93 4. High emissions: 1.01 | 2. YES  3.NO  4.YES |
|  |  | All-cause mortality | *Adjusted risk*   1. Low emissions: 1 2. Med-low emissions: 0.96 3. Med-high emissions: 0.87 4. High emissions: 0.95 | 2.NO  3. NO  4. NO |
| (Briggs et al. 2013) [18] | *Reduction in ktCO2*   1. Tax scenario A: 18683 2. Tax scenario B: 15228 | CVD incidence | *Deaths averted*   1. Tax scenario A: 5845 2. Tax scenario B: -1937 | 1. YES  2. NO |
| (Soret et al. 2014) [25] | *kg CO2 per day*   1. **Nonvegetarian: 3.05** 2. Semivegetarian: 2.39 3. Vegetarian: 2.16 | All-cause mortality | *Adjusted risk*   1. Nonvegetarian: 1 2. Semivegetarian: 0.86 3. Vegetarian: 0.91 | 2. YES  3. YES |
| (Tilman and Clark 2014) [27] | *gCO2 per kcal*   1. Mediterranean: 3.95 2. Pescetarian: 2.55 3. Vegetarian: 1.4 4. **Omnivorous: 5.1** | Cancer incidence | *Adjusted risk*   1. Mediterranean: 0.86 2. Pescetarian: 0.86 3. Vegetarian: 0.92 4. Omnivorous: 1 | 1. YES  2. YES  3. YES |
|  |  | All-cause mortality | *Adjusted risk*   1. Mediterranean: 0.88 2. Pescetarian: 0.85 3. Vegetarian: 1 4. Omnivorous: 1 | 1. YES  2. YES  3. NO |
| (Milner et al. 2015) [32] | *% GHG reduction*   1. 10% reduction (& meeting WHO recommendations) 2. 20% reduction (& meeting WHO recommendations) 3. 30% reduction (& meeting WHO recommendations) 4. 40% reduction (& meeting WHO recommendations) 5. 50% reduction (& meeting WHO recommendations) | Cancer | *Years of Life Lost (YLL) to cancer over 20 years*   1. -516 2. 1468 3. 2728 4. 2444 5. 4897 6. -11992 | 1. YES 2. NO 3. NO 4. NO 5. NO 6. YES |

**Table S2** Association between GHGE of diets and saturated fat, salt and sugar content of diet

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Authors and date** | **Results – GHGE** | **Nutrient outcome** | **Results – saturated fat, salt and sugar content of diet** | **Lower GHGE associated with better nutritional measure?** |
| (Berners-Lee, Hoolohan et al. 2012) [16] | *kgCo2e per person per day*   1. **Average per capita UK food supply: 7.4** 2. UK average diet with meat replaced by dairy: 5.79 3. US average vegetarian diet: 6.06 4. UK average diet with meat replaced by non-dairy 'healthy' alternatives: 5.54 5. UK average diet with meat and dairy replaced by plant foods: 5.14 6. US vegan diet: 5.68 7. UK average diet with meat and dairy replaced with 'healthy' plant foods: 5.55 | Added sugar | *g per person per day*   1. Average per capita UK food supply: 72 2. UK average diet with meat replaced by dairy: 76 3. US average vegetarian diet: 84 4. UK average diet with meat replaced by non-dairy 'healthy' alternatives: 73 5. UK average diet with meat and dairy replaced by plant foods: 104 6. US vegan diet: 79 7. UK average diet with meat and dairy replaced with 'healthy' plant foods: 67 | 2. NO  3. NO  4. NO  5. NO  6. NO  7. YES |
|  |  | Total sodium | *g per person per day*   1. Average per capita UK food supply: 2.63 2. UK average diet with meat replaced by dairy: 2.28 3. US average vegetarian diet: 2.35 4. UK average diet with meat replaced by non-dairy 'healthy' alternatives: 2.46 5. UK average diet with meat and dairy replaced by plant foods: 2.11 6. US vegan diet: 2.03 7. UK average diet with meat and dairy replaced with 'healthy' plant foods: 2.63 | 2. YES  3. YES  4. YES  5. YES  6. YES  7. NO |
| (Briggs et al. 2013) [18] | *Reduction in ktCO2*   1. Tax scenario A: 18683 2. **Tax scenario B: 15228** | Saturated fat | *g per person per day*   1. Tax scenario A: -0.9 2. Tax scenario B: -0.4 | 1. YES  2. YES |
|  |  | Salt | *g per person per day*   1. Tax scenario A: +0.1 2. Tax scenario B: 0 | 1. NO  2. NO |
| (Hallström, Röös et al. 2014) [19] | *tonnes of CO2 per person per year*   1. **REF - current average: 0.6** 2. NUTR1 - reduced meat intake: 0.4 3. NUTR2 - further reduced meat intake: 0.2 | Saturated fat | *g per person per day*   1. REF - current average: 9.6 2. NUTR1 - reduced meat intake: 3.9 3. NUTR2 - further reduced meat intake: 2.3 | 2. YES  3. YES |
| (Hendrie, Ridoutt et al. 2014) [20] | *kg CO2 per person per day*   1. **Average Australian diet (1995 NNS): 14.5** 2. Minimal non-core foods (e.g. snacks, processed meat, confectionary, etc): 11 3. Total diet (dietary pattern consistent with national guidelines): 11.1 4. Foundation diet (dietary pattern meeting minimum nutrient and energy needs): 10.9 | Saturated fat | *Percentage of total energy*   1. Average Australian diet (1995 NNS): 13 2. Minimal non-core foods (e.g. snacks, processed meat, confectionary, etc): 12 | 2. YES |
| (Hoolohan, Berners-Lee et al. 2013) [21] | *kg CO2 per person per day*   1. **Average food consumption: 8.81** 2. Maximum action taken: 4.16 3. Eliminate waste: 7.79 4. Eliminate meat: 5.76 5. Eliminate ruminants: 7.26 6. Eliminate air-freight and hot-housing: 8.36 7. Eliminate packaging: 8.52 8. Eliminate meat and packaging: 6.73 9. All actions that do not require dietary change: 7.15 10. All actions that do not require sourcing change: 4.84 11. All actions that do not require waste reduction: 4.7 | Added sugar | *g per person per day*   1. Average food consumption: 72 2. Maximum action taken: 64 3. Eliminate waste: 63 4. Eliminate meat: 73 5. Eliminate ruminants: 72 6. Eliminate air-freight and hot-housing: 72 7. Eliminate packaging: 72 8. Eliminate meat and packaging: 68 9. All actions that do not require dietary change: 63 10. All actions that do not require sourcing change: 64 11. All actions that do not require waste reduction: 73 | 2. YES  3. YES  4. NO  5. NO  6. NO  7. NO  8. YES  9. YES  10.YES  11. NO |
|  |  | Total sodium | *g per person per day*   1. Average food consumption: 2.61 2. Maximum action taken: 2.16 3. Eliminate waste: 2.31 4. Eliminate meat: 2.44 5. Eliminate ruminants: 2.85 6. Eliminate air-freight and hot-housing: 2.61 7. Eliminate packaging: 2.61 8. Eliminate meat and packaging: 2.38 9. All actions that do not require dietary change: 2.31 10. All actions that do not require sourcing change: 2.16 | 2. YES  3. YES  4. YES  5. NO  6. NO  7. NO  8. YES  9. YES  10. YES |
| (Scarborough, Appleby et al. 2014) [23] | *kg CO2 per 2000kcal*   1. **High meat eaters: 7.19** 2. Medium meat eaters: 5.63 3. Low meat eaters: 4.67 4. Fish eaters: 3.91 5. Vegetarians: 3.81 6. Vegans: 2.89 | Saturated fat | *Percentage of total energy*   1. High meat eaters: 12.4 2. Medium meat eaters: 11.5 3. Low meat eaters: 10.9 4. Fish eaters: 10.6 5. Vegetarians: 10.6 6. Vegans: 6.5 | 2. YES  3. YES  4. YES  5. YES  6. YES |
|  |  | Total sugar | *Percentage of total energy*   1. High meat eaters: 22.5 2. Medium meat eaters: 24.4 3. Low meat eaters: 25.8 4. Fish eaters: 25.1 5. Vegetarians: 25.4 6. Vegans: 24.7 | 2. NO  3. NO  4. NO  5. NO  6. NO |
| (Temme et al. 2013) [26] | *Percentage change compared to reference value*   1. Full replacement of meat/dairy foods: 50 2. Partial replacement of meat/dairy foods: 20 | Saturated fat | *Percentage change compared to reference value*   1. Full replacement of meat/dairy foods: -26 2. Partial replacement of meat/dairy foods: -9 | 1. YES  2. YES |
| (Tukker, Goldbohm et al. 2011) [28] | *kg CO2 equivalent per person per year (not including 1st and 2nd order effects)*   1. **Status quo: 2590** 2. Recommendations: 2630 3. Recommendations including red meat reduction: 2400 4. Mediterranean: 2440 | Saturated fat | *Percentage of total energy*   1. Status quo: 11.4 2. Recommendations: 9.8 3. Recommendations including red meat reduction: 8.9 4. Mediterranean: 8.4 | 2. YES  3. YES  4. YES |
| (van Dooren, Marinussen et al. 2014) [29] | *kg CO2 per person per day*   1. **Average Dutch consumption: 4.1** 2. Recommended Dutch Dietary Guideliens: 3.6 3. Semi-vegetarian based on dietary guidelines: 3.4 4. Vegetarian based on dietary guidelines: 3.2 5. Vegan based on dietary guidelines: 2.65 6. Mediterranean based on published dietary composition data: 3.4 | Saturated fat | *Percentage of total energy*   1. Average Dutch consumption: 8.3 2. Recommended Dutch Dietary Guideliens: 10.5 3. Semi-vegetarian based on dietary guidelines: 10.9 4. Vegetarian based on dietary guidelines: 11.4 5. Vegan based on dietary guidelines: 15.5 6. Mediterranean based on published dietary composition data: 13.1 | 2. NO  3. NO  4. NO  5. NO  6. NO |
|  |  | Free sugar | *Percentage of total energy*   1. Average Dutch consumption: 4.6 2. Recommended Dutch Dietary Guideliens: 10.4 3. Semi-vegetarian based on dietary guidelines: 10.4 4. Vegetarian based on dietary guidelines: 10.4 5. Vegan based on dietary guidelines: 13.5 6. Mediterranean based on published dietary composition data: 12.4 | 2. NO  3. NO  4. NO  5. NO  6. NO |
|  |  | Salt | *g per person per day*   1. Average Dutch consumption: 4.5 2. Recommended Dutch Dietary Guideliens: 5.1 3. Semi-vegetarian based on dietary guidelines: 5.58 4. Vegetarian based on dietary guidelines: 7.2 5. Vegan based on dietary guidelines: 7.02 6. Mediterranean based on published dietary composition data: 5.7 | 2. NO  3. NO  4. NO  5. NO  6. NO |
| (Vieux, Soler et al. 2013) [30] | *kg CO2 per person per day*   1. **High nutritional quality: 4.9** 2. **Intermediate+ nutritional quality: 4.9** 3. Intermediate- nutritional quality: 4.5 4. Low nutritional quality: 4.5 5. High nutritional quality: 3.9 6. Intermediate+ nutritional quality: 3.8 7. Intermediate- nutritional quality: 3.4 8. Low nutritional quality: 3.3 | Saturated fat | *Percentage of total energy*   1. High nutritional quality: 12.7 2. Intermediate+ nutritional quality: 14.4 3. Intermediate- nutritional quality: 15.1 4. Low nutritional quality: 16.9 5. High nutritional quality: 13.6 6. Intermediate+ nutritional quality: 15.1 7. Intermediate- nutritional quality: 16.3 8. Low nutritional quality: 16.8 | 3. NO  4. NO  5. NO  6. NO  7. NO  8. NO |
|  |  | Free sugar | *Percentage of total energy*   1. High nutritional quality: 6.7 2. Intermediate+ nutritional quality: 7.5 3. Intermediate- nutritional quality: 9.8 4. Low nutritional quality: 13.2 5. High nutritional quality: 8.2 6. Intermediate+ nutritional quality: 8.5 7. Intermediate- nutritional quality: 11.1 8. Low nutritional quality: 14.6 | 3. NO  4. NO  5. NO  6. NO  7. NO  8. NO |
|  |  | Salt | *mg per person per day*   1. High nutritional quality: 3328.8 2. Intermediate+ nutritional quality: 3381 3. Intermediate- nutritional quality: 3651 4. Low nutritional quality: 3206 5. High nutritional quality: 2447.3 6. Intermediate+ nutritional quality: 2452.6 7. Intermediate- nutritional quality: 2636.5 8. Low nutritional quality: 2573.4 | 3. NO  4. YES  5. YES  6. YES  7. YES  8. YES |
| (Wilson, Nghiem et al. 2013) [31] | *kg CO2 per person per day*   1. C1 Minimizing cost: 2.72 2. C2 Minimizing cost, and including porridge and rotis: 2.64 3. C3 Minimizing cost and cooking skills: 2.2 4. C4 Minimizing cost and adding extra fruit and vegetables: 4.33 5. G1 Minimizing GHGEs at low cost: 1.67 6. G2 Minimising GHGEs at a higher cost: 1.31 7. G3 As G2 but including porridge: 1.56 8. G4 As G2 but fully vegan: 1.9 9. MED Mediterranean version of C1: 4.03 10. MED-G As MED, but minimising GHGEs: 3.29 11. ASIAN Asian version of C1: 4.68 12. ASIAN-G As ASIAN, but minimising GHGEs: 2.17 13. NZ-M NZ version of C1 (with mince): 5.25 14. NZ-S NZ version of C1 (with sausages): 4.54 15. NZ-F NZ version of C1 (with fish): 4.24 16. **NZ-P NZ version of C1 (with Pacific foods): 5.98** | Saturated fat | *g per person per day*   1. C1 Minimizing cost: 6 2. C2 Minimizing cost, and including porridge and rotis: 7 3. C3 Minimizing cost and cooking skills: 15 4. C4 Minimizing cost and adding extra fruit and vegetables: 8 5. G1 Minimizing GHGEs at low cost: 18 6. G2 Minimising GHGEs at a higher cost: 30 7. G3 As G2 but including porridge: 30 8. G4 As G2 but fully vegan: 14 9. MED Mediterranean version of C1: 5 10. MED-G As MED, but minimising GHGEs: 25 11. ASIAN Asian version of C1: 13 12. ASIAN-G As ASIAN, but minimising GHGEs: 30 13. NZ-M NZ version of C1 (with mince): 20 14. NZ-S NZ version of C1 (with sausages): 15 15. NZ-F NZ version of C1 (with fish): 10 16. **NZ-P NZ version of C1 (with Pacific foods): 26** | 1. YES  2. YES  3. YES  4. YES  5. YES  6. NO  7. NO  8. YES  9. YES  10. YES  11. YES  12. NO  13. YES  14. YES  15. YES |
|  |  | Total sugar | *g per person per day*   1. C1 Minimizing cost: 90 2. C2 Minimizing cost, and including porridge and rotis: 56 3. C3 Minimizing cost and cooking skills: 32 4. C4 Minimizing cost and adding extra fruit and vegetables: 93 5. G1 Minimizing GHGEs at low cost: 22 6. G2 Minimising GHGEs at a higher cost: 11 7. G3 As G2 but including porridge: 29 8. G4 As G2 but fully vegan: 27 9. MED Mediterranean version of C1: 43 10. MED-G As MED, but minimising GHGEs: 41 11. ASIAN Asian version of C1: 125 12. ASIAN-G As ASIAN, but minimising GHGEs: 103 13. NZ-M NZ version of C1 (with mince): 45 14. NZ-S NZ version of C1 (with sausages): 92 15. NZ-F NZ version of C1 (with fish): 45 16. **NZ-P NZ version of C1 (with Pacific foods): 44** | 1. NO  2. NO  3. YES  4. NO  5. YES  6. YES  7. YES  8. YES  9. YES  10. YES  11. NO  12. NO  13. NO  14. NO  15. NO |
|  |  | Salt | *mg per person per day*   1. C1 Minimizing cost: 1.21 2. C2 Minimizing cost, and including porridge and rotis: 5.55 3. C3 Minimizing cost and cooking skills: 0.849 4. C4 Minimizing cost and adding extra fruit and vegetables: 1.41 5. G1 Minimizing GHGEs at low cost: 0.606 6. G2 Minimising GHGEs at a higher cost: 1.29 7. G3 As G2 but including porrodge: 2.08 8. G4 As G2 but fully vegan: 4.83 9. MED Mediterranean version of C1: 3.9 10. MED-G As MED, but minimising GHGEs: 3.4 11. ASIAN Asian version of C1: 4.27 12. ASIAN-G As ASIAN, but minimising GHGEs: 3.58 13. NZ-M NZ version of C1 (with mince): 5.88 14. NZ-S NZ version of C1 (with sausages): 5.86 15. NZ-F NZ version of C1 (with fish): 5.88 16. **NZ-P NZ version of C1 (with Pacific foods): 5.88** | 1. YES  2. YES  3. YES  4. YES  5. YES  6. YES  7. YES  8. YES  9. YES  10. YES  11. YES  12. YES  13. NO  14. YES  15. NO |
| (Milner et al. 2015) [32] | *% GHG reduction*   1. 10% reduction (& meeting WHO recommendations, men only) 2. 20% reduction (& meeting WHO recommendations, men only) 3. 30% reduction (& meeting WHO recommendations, men only) 4. 40% reduction (& meeting WHO recommendations, men only) 5. 50% reduction (& meeting WHO recommendations, men only) 6. 60% reduction (& meeting WHO recommendations, men only) 7. 10% reduction (& meeting WHO recommendations, women only) 8. 20% reduction (& meeting WHO recommendations, women only) 9. 30% reduction (& meeting WHO recommendations, women only) 10. 40% reduction (& meeting WHO recommendations, women only) 11. 50% reduction (& meeting WHO recommendations, women only) 12. 60% reduction (& meeting WHO recommendations, women only) | Salt | *Change in g sodium*   1. -0.2 2. -0.2 3. -0.2 4. -0.2 5. -0.2 6. -0.2 7. 0.1 8. 0.1 9. 0 10. 0 11. 0 | 1. YES 2. YES 3. YES 4. YES 5. YES 6. YES 7. NO 8. NO 9. NO 10. NO 11. NO 12. NO |
| (Meier and Christen 2012) [33] | *Tons of CO2 per person per year*   1. D-A-CH (official recommendations of the German Nutrition Society) : 1.82 2. UGB (recommendations by the Federation for Independent Health Consultation): 1.81 3. Ovo-lacto-vegetarian: 1.56 4. Vegan: 0.96 5. Intake 1985-9: 2.28 6. Intake 2006 (men only): 2.13 7. Intake 2006 (women only): 1.98 | Sugar | *G per person per day*   1. 32 2. 32 3. 32 4. 32 5. 54 6. 70 7. 71 8. 69 | 1. NO 2. NO 3. NO 4. NO 5. YES 6. YES 7. YES 8. YES |

**Table S3** Association between GHGE of diets and micronutrient content of diet

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Authors and date** | **Results – GHGE** | **Nutrient outcome** | **Results – Micronutrient content of diet** | **Lower GHGE associated with better nutritional measure?** |
| (Briggs et al. 2013) [18] | *Reduction in ktCO2*   1. Tax scenario A: 18683 2. **Tax scenario B: 15228** | Iron | *mg per day*   1. Tax scenario A: 10.4 2. Tax scenario B: 10.6 | 1. NO |
|  |  | Zinc | *mg per day*   1. Tax scenario A: 8 2. Tax scenario B: 8.2 | 1. NO |
|  |  | Vitamin A | *µg per day*   1. Tax scenario A: 778.4 2. Tax scenario B: 793.7 | 1. NO |
|  |  | Calcium | *mg per day*   1. Tax scenario A: 884.3 2. Tax scenario B: 915.1 | 1. NO |
|  |  | Vitamin B12 | *µg per day*   1. Tax scenario A: 5.6 2. Tax scenario B: 5.8 | 1. NO |
| (Hallström, Röös et al. 2014) [15] | *tonnes of CO2 per person per year*   1. **REF - current average: 0.6** 2. NUTR1 - reduced meat intake: 0.4 3. NUTR2 - further reduced meat intake: 0.2 | Iron | *mg per person per day*   1. REF - current average: 3.8 2. NUTR1 - reduced meat intake: 1.8 3. NUTR2 - further reduced meat intake: 1.4 | 2. NO  3. NO |
|  |  | Zinc | *mg per person per day*   1. REF - current average: 5.2 2. NUTR1 - reduced meat intake: 3 3. NUTR2 - further reduced meat intake: 2.3 | 2. NO  3. NO |
| (Hendrie, Ridoutt et al. 2014) [20] | *kg CO2 per person per day*   1. **Average Australian diet (1995 NNS): 14.5** 2. Minimal non-core foods (e.g. snacks, processed meat, confectionary, etc): 11 3. Total diet (dietary pattern consistent with national guidelines): 11.1 4. Foundation diet (dietary pattern meeting minimum nutrient and energy needs): 10.9 | Zinc | *Percentage RDI (Recommended Daily Intake)*   1. Average Australian diet (1995 NNS): 113 2. Minimal non-core foods (e.g. snacks, processed meat, confectionary, etc): 94 | 2. NO |
|  |  | Vitamin A | *Percentage RDI (Recommended Daily Intake)*   1. Average Australian diet (1995 NNS): 79 2. Minimal non-core foods (e.g. snacks, processed meat, confectionary, etc): 61 | 2. NO |
|  |  | Calcium | *Percentage RDI (Recommended Daily Intake)*   1. Average Australian diet (1995 NNS): 76 2. Minimal non-core foods (e.g. snacks, processed meat, confectionary, etc): 63 | 2. NO |
| (Vieux, Soler et al. 2013) [30] | *kg CO2 per person per day*   1. **High nutritional quality: 4.9** 2. **Intermediate+ nutritional quality: 4.9** 3. Intermediate- nutritional quality: 4.5 4. Low nutritional quality: 4.5 5. High nutritional quality: 3.9 6. Intermediate+ nutritional quality: 3.8 7. Intermediate- nutritional quality: 3.4 8. Low nutritional quality: 3.3 | Iron | *mg per person per day*   1. High nutritional quality: 14.9 2. Intermediate+ nutritional quality: 14.9 3. Intermediate- nutritional quality: 15.3 4. Low nutritional quality: 14 5. High nutritional quality: 12.6 6. Intermediate+ nutritional quality: 11.2 7. Intermediate- nutritional quality: 11.8 8. Low nutritional quality: 10.4 | 3. YES  4. NO  5. NO  6. NO  7. NO  8. NO |
|  |  | Zinc | *mg per person per day*   1. High nutritional quality: 12 2. Intermediate+ nutritional quality: 11.9 3. Intermediate- nutritional quality: 13.2 4. Low nutritional quality: 12.3 5. High nutritional quality: 19.4 6. Intermediate+ nutritional quality: 8.8 7. Intermediate- nutritional quality: 9.4 8. Low nutritional quality: 8.8 | 3. YES  4. YES  5. YES  6. NO  7. NO  8. NO |
|  |  | Vitamin A (retinol equivalent) | *ug per person per day*   1. High nutritional quality: 1536.4 2. Intermediate+ nutritional quality: 1440.2 3. Intermediate- nutritional quality: 1297.4 4. Low nutritional quality: 937.5 5. High nutritional quality: 1298.4 6. Intermediate+ nutritional quality: 1343.8 7. Intermediate- nutritional quality: 1127.1 8. Low nutritional quality: 898.4 | 3. NO  4. NO  5. NO  6. NO  7. NO  8. NO |
|  |  | Calcium | *mg per person per day*   1. High nutritional quality: 1033.9 2. Intermediate+ nutritional quality: 945.5 3. Intermediate- nutritional quality: 1031.1 4. Low nutritional quality: 916.5 5. High nutritional quality: 948.5 6. Intermediate+ nutritional quality: 850.5 7. Intermediate- nutritional quality: 838.5 8. Low nutritional quality: 770.1 | 3. NO  4. NO  5. NO  6. NO  7. NO  8. NO |
|  |  | Vitamin B12 | *ug per person per day*   1. High nutritional quality: 6.7 2. Intermediate+ nutritional quality: 6.6 3. Intermediate- nutritional quality: 6.8 4. Low nutritional quality: 5.6 5. High nutritional quality: 5.2 6. Intermediate+ nutritional quality: 5.4 7. Intermediate- nutritional quality: 5.2 8. Low nutritional quality: 4.3 | 3. YES  4. NO  5. NO  6. NO  7. NO  8. NO |
|  |  | Iodine | *mg per person per day*   1. High nutritional quality: 142.2 2. Intermediate+ nutritional quality: 130.9 3. Intermediate- nutritional quality: 142.2 4. Low nutritional quality: 126.8 5. High nutritional quality: 131.5 6. Intermediate+ nutritional quality: 119.9 7. Intermediate- nutritional quality: 115.3 8. Low nutritional quality: 98.7 | 3. NO  4. NO  5. NO  6. NO  7. NO  8. NO |
|  |  | Riboflavin | *mg per person per day*   1. High nutritional quality: 2.1 2. Intermediate+ nutritional quality: 2 3. Intermediate- nutritional quality: 2.1 4. Low nutritional quality: 1.9 5. High nutritional quality: 1.9 6. Intermediate+ nutritional quality: 1.7 7. Intermediate- nutritional quality: 1.7 8. Low nutritional quality: 1.5 | 3. NO  4. NO  5. NO  6. NO  7. NO  8. NO |
| (Wilson, Nghiem et al. 2013) [31] | *kg CO2 per person per day*   1. C1 Minimizing cost: 2.72 2. C2 Minimizing cost, and including porridge and rotis: 2.64 3. C3 Minimizing cost and cooking skills: 2.2 4. C4 Minimizing cost and adding extra fruit and vegetables: 4.33 5. G1 Minimizing GHGEs at low cost: 1.67 6. G2 Minimising GHGEs at a higher cost: 1.31 7. G3 As G2 but including porrodge: 1.56 8. G4 As G2 but fully vegan: 1.9 9. MED Medietrranean version of C1: 4.03 10. MED-G As MED, but minimising GHGEs: 3.29 11. ASIAN Asian version of C1: 4.68 12. ASIAN-G As ASIAN, but minimising GHGEs: 2.17 13. NZ-M NZ version of C1 (with mince): 5.25 14. NZ-S NZ version of C1 (with sausages): 4.54 15. NZ-F NZ version of C1 (with fish): 4.24 16. **NZ-P NZ version of C1 (with Pacific foods): 5.98** | Iron | *mg per person per day*   1. C1 Minimizing cost: 23 2. C2 Minimizing cost, and including porridge and rotis: 25 3. C3 Minimizing cost and cooking skills: 23 4. C4 Minimizing cost and adding extra fruit and vegetables: 25 5. G1 Minimizing GHGEs at low cost: 33 6. G2 Minimising GHGEs at a higher cost: 26 7. G3 As G2 but including porrodge: 21 8. G4 As G2 but fully vegan: 34 9. MED Medietrranean version of C1: 19 10. MED-G As MED, but minimising GHGEs: 18 11. ASIAN Asian version of C1: 24 12. ASIAN-G As ASIAN, but minimising GHGEs: 19 13. NZ-M NZ version of C1 (with mince): 31 14. NZ-S NZ version of C1 (with sausages): 21 15. NZ-F NZ version of C1 (with fish): 28 16. NZ-P NZ version of C1 (with Pacific foods): 25 | 1. NO  2. NO  3. NO  4. NO  5. YES  6. YES  7. NO  8. YES  9. NO  10. NO  11. NO  12. NO  13. YES  14. NO  15. YES |
|  |  | Zinc | *mg per person per day*   1. C1 Minimizing cost: 18 2. C2 Minimizing cost, and including porridge and rotis: 19 3. C3 Minimizing cost and cooking skills: 15 4. C4 Minimizing cost and adding extra fruit and vegetables: 18 5. G1 Minimizing GHGEs at low cost: 21 6. G2 Minimising GHGEs at a higher cost: 21 7. G3 As G2 but including porrodge: 19 8. G4 As G2 but fully vegan: 21 9. MED Medietrranean version of C1: 15 10. MED-G As MED, but minimising GHGEs: 15 11. ASIAN Asian version of C1: 15 12. ASIAN-G As ASIAN, but minimising GHGEs: 15 13. NZ-M NZ version of C1 (with mince): 24 14. NZ-S NZ version of C1 (with sausages): 15 15. NZ-F NZ version of C1 (with fish): 19 16. NZ-P NZ version of C1 (with Pacific foods): 21 | 1. NO  2. NO  3. NO  4. NO  5. NO  6. NO  7. NO  8. NO  9. NO  10. NO  11. NO  12. NO  13. YES  14. NO  15. NO |
|  |  | Vitamin A (retinol equivalent) | *ug per person per day*   1. C1 Minimizing cost: 625 2. C2 Minimizing cost, and including porridge and rotis: 625 3. C3 Minimizing cost and cooking skills: 625 4. C4 Minimizing cost and adding extra fruit and vegetables: 625 5. G1 Minimizing GHGEs at low cost: 625 6. G2 Minimising GHGEs at a higher cost: 625 7. G3 As G2 but including porrodge: 625 8. G4 As G2 but fully vegan: 625 9. MED Medietrranean version of C1: 1700 10. MED-G As MED, but minimising GHGEs: 808 11. ASIAN Asian version of C1: 625 12. ASIAN-G As ASIAN, but minimising GHGEs: 2149 13. NZ-M NZ version of C1 (with mince): 625 14. NZ-S NZ version of C1 (with sausages): 1385 15. NZ-F NZ version of C1 (with fish): 625 16. NZ-P NZ version of C1 (with Pacific foods): 625 | 1. NO  2. NO  3. NO  4. NO  5. NO  6. NO  7. NO  8. NO  9. YES  10. YES  11. NO  12. YES  13. NO  14. YES  15. NO |
|  |  | Calcium | *mg per person per day*   1. C1 Minimizing cost: 840 2. C2 Minimizing cost, and including porridge and rotis: 840 3. C3 Minimizing cost and cooking skills: 840 4. C4 Minimizing cost and adding extra fruit and vegetables: 840 5. G1 Minimizing GHGEs at low cost: 840 6. G2 Minimising GHGEs at a higher cost: 840 7. G3 As G2 but including porrodge: 840 8. G4 As G2 but fully vegan: 840 9. MED Medietrranean version of C1: 840 10. MED-G As MED, but minimising GHGEs: 840 11. ASIAN Asian version of C1: 840 12. ASIAN-G As ASIAN, but minimising GHGEs: 840 13. NZ-M NZ version of C1 (with mince): 840 14. NZ-S NZ version of C1 (with sausages): 840 15. NZ-F NZ version of C1 (with fish): 840 16. NZ-P NZ version of C1 (with Pacific foods): 840 | 1. NO  2. NO  3. NO  4. NO  5. NO  6. NO  7. NO  8. NO  9. NO  10. NO  11. NO  12. NO  13. NO  14. NO  15. NO |
| (Milner et al. 2015) [32] | *% GHG reduction*   1. 10% reduction (& meeting WHO recommendations, men only) 2. 20% reduction (& meeting WHO recommendations, men only) 3. 30% reduction (& meeting WHO recommendations, men only) 4. 40% reduction (& meeting WHO recommendations, men only) 5. 50% reduction (& meeting WHO recommendations, men only) 6. 60% reduction (& meeting WHO recommendations, men only) 7. 10% reduction (& meeting WHO recommendations, women only) 8. 20% reduction (& meeting WHO recommendations, women only) 9. 30% reduction (& meeting WHO recommendations, women only) 10. 40% reduction (& meeting WHO recommendations, women only) 11. 50% reduction (& meeting WHO recommendations, women only)   60% reduction (& meeting WHO recommendations, women only) | Iron | *Change in mg per day*   1. 1 2. 0.9 3. 1 4. 1 5. 1 6. 1.9 7. 3.9 8. 0.6 9. 0.7 10. 0.7 11. 0.8 12. 1.2 13. 1.4 14. 2.6 | 1. YES 2. YES 3. YES 4. YES 5. YES 6. YES 7. YES 8. YES 9. YES 10. YES 11. YES 12. YES 13. YES 14. YES |
|  |  | Calcium | *Change in mg per day*   1. -110.1 2. -95.8 3. -112.1 4. -115.3 5. -141.4 6. -187.3 7. -155.4 8. -76.2 9. -72.1 10. -66.6 11. -59.7 12. -97.6 13. -161.6 14. -133.9 | 1. NO 2. NO 3. NO 4. NO 5. NO 6. NO 7. NO 8. NO 9. NO 10. NO 11. NO 12. NO 13. NO 14. NO |
|  |  | B12 | *Change in ug per day*   1. -1.1 2. -1.1 3. -1.1 4. -1.2 5. -1.5 6. -2.2 7. -2.8 8. -0.6 9. -0.5 10. -0.6 11. -0.7 12. -1.1 13. -1.9 14. -2. | 1. NO 2. NO 3. NO 4. NO 5. NO 6. NO 7. NO 8. NO 9. NO 10. NO 11. NO 12. NO 13. NO 14. NO |

**References**

1. Krueger, J., P. Biedrzycki, and S.P. Hoverter, *Human Health Impacts of Climate Change: Implications for the Practice and Law of Public Health.* The Journal of Law, Medicine & Ethics, 2015. **43**(s1): p. 79-82.

2. Solomon, S., et al., *Irreversible climate change due to carbon dioxide emissions.* Proceedings of the national academy of sciences, 2009. **106**(6): p. 1704-1709.

3. Garnett, T., *Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)?* Food Policy, 2011. **36**: p. S23-S32.

4. Godfray, H.C.J., et al., *Food Security: The Challenge of Feeding 9 Billion People.* Science, 2010. **327**(5967): p. 812-818.

5. Rayner, M., *Front-of-pack and point-of-purchase labelling schemes designed for obesity prevention.* Managing and Preventing Obesity: Behavioural Factors and Dietary Interventions, 2014: p. 325.

6. Vallgårda, S., L. Holm, and J.D. Jensen, *The Danish tax on saturated fat: why it did not survive.* European journal of clinical nutrition, 2014.

7. Scarborough, P., et al., *How important is the choice of the nutrient profile model used to regulate broadcast advertising of foods to children&quest; A comparison using a targeted data set.* European journal of clinical nutrition, 2013. **67**(8): p. 815-820.

8. Wyness, L.A., J.L. Butriss, and S.A. Stanner, *Reducing the population's sodium intake: the UK Food Standards Agency's salt reduction programme.* Public health nutrition, 2012. **15**(02): p. 254-261.

9. Jeffries, E., *Changing course.* Nature Climate Change, 2015. **5**(5): p. 405-407.

10. Green, R., et al., *The potential to reduce greenhouse gas emissions in the UK through healthy and realistic dietary change.* Climatic Change, 2015. **129**(1-2): p. 253-265.

11. Joyce, A., et al., *The impact of nutritional choices on global warming and policy implications: examining the link between dietary choices and greenhouse gas emissions.* Clinical Ophthalmology, 2014. **8**: p. 2501-2506.

12. Hallström, E., A. Carlsson-Kanyama, and P. Börjesson, *Environmental impact of dietary change: a systematic review.* Journal of Cleaner Production, 2014.

13. Black, R.E., *Global distribution and disease burden related to micronutrient deficiencies.* International Nutrition: Achieving Millennium Goals and Beyond, 2014. **78**: p. 21-28.

14. Joyce, A., et al., *The impact of nutritional choices on global warming and policy implications: examining the link between dietary choices and greenhouse gas emissions.* Energy and Emission Control Technologies, 2014. **2**: p. 33-43.

15. Hallstrom, E., A. Carlsson-Kanyama, and P. Borjesson, *Environmental impact of dietary change: a systematic review.* Journal of Cleaner Production, 2015. **91**: p. 1-11.

16. Berners-Lee, M., et al., *The relative greenhouse gas impacts of realistic dietary choices.* Energy Policy, 2012. **43**: p. 184-190.

17. Biesbroek, S., et al., *Reducing our environmental footprint and improving our health: greenhouse gas emission and land use of usual diet and mortality in EPIC-NL: a prospective cohort study.* Environmental Health, 2014. **13**(1): p. 27.

18. Briggs, A.D., et al., *Assessing the impact on chronic disease of incorporating the societal cost of greenhouse gases into the price of food: an econometric and comparative risk assessment modelling study.* BMJ open, 2013. **3**(10): p. e003543.

19. Hallström, E., E. Röös, and P. Börjesson, *Sustainable meat consumption: a quantitative analysis of nutritional intake, greenhouse gas emissions and land use from a Swedish perspective.* Food Policy, 2014. **47**: p. 81-90 %@ 0306-9192.

20. Hendrie, G.A., et al., *Greenhouse Gas Emissions and the Australian Diet—Comparing Dietary Recommendations with Average Intakes.* Nutrients, 2014. **6**(1): p. 289-303.

21. Hoolohan, C., et al., *Mitigating the greenhouse gas emissions embodied in food through realistic consumer choices.* Energy Policy, 2013. **63**: p. 1065-1074 %@ 0301-4215.

22. World Health Organization. *Healthy diets. Fact sheet No. 394.* WHO: Geneva, 2015. <http://www.who.int/mediacentre/factsheets/fs394/en/>

23. Scarborough, P., et al., *Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK.* Climatic Change, 2014. **125**(2): p. 179-192 %@ 0165-0009.

24. Millward, J. D., & Garnett, T. Food and the planet: nutritional dilemmas of greenhouse gas emission reductions through reduced intakes of meat and dairy foods. *Proceedings of the nutrition society*, 2010. *69*(01), 103-118.

25. Soret, S., et al., *Climate change mitigation and health effects of varied dietary patterns in real-life settings throughout North America.* Am J Clin Nutr, 2014. **100**(Supplement 1): p. 490S-495S.

26. Temme, E., et al., *Environmental and nutritional impact of diets with less meat and dairy–Modeling studies in Dutch children.* Proceedings of the Nutrition Society, 2013. **72**(OCE5): p. E321.

27. Tilman, D. and M. Clark, *Global diets link environmental sustainability and human health.* Nature, 2014. **515**(7528): p. 518-+.

28. Tukker, A., et al., *Environmental impacts of changes to healthier diets in Europe.* Ecological Economics, 2011. **70**(10): p. 1776-1788 %@ 0921-8009.

29. van Dooren, C., et al., *Exploring dietary guidelines based on ecological and nutritional values: A comparison of six dietary patterns.* Food Policy, 2014. **44**: p. 36-46 %@ 0306-9192.

30. Vieux, F., et al., *Greenhouse gas emissions of self-selected individual diets in France: Changing the diet structure or consuming less?* Ecological Economics, 2012. **75**: p. 91-101.

31. Wilson, N., et al., *Foods and dietary patterns that are healthy, low-cost, and environmentally sustainable: a case study of optimization modeling for New Zealand.* PLoS One, 2013. **8**(3): p. e59648 %@ 1932-6203.

32. Milner, J., Green, R., Dangour, A. D., Haines, A., Chalabi, Z., Spadaro, J., ... & Wilkinson, P. Health effects of adopting low greenhouse gas emission diets in the UK. *BMJ open*, 2015. *5*(4), e007364.

33. Meier, T., & Christen, O. Environmental impacts of dietary recommendations and dietary styles: Germany as an example. *Environmental science & technology*, 2012. *47*(2), 877-888.