Supplementary Materials

Table S1:

<u>List of substitutions and decision notes for calculations using GWP* calculator:</u>

- Only one fish option available " fish – mixed species" therefore all fish intake was inputted using this.
- Only one "cheese' option, therefore all cheese intake was inputted the same.
- Only one pasta option – no gluten free option, gluten free pasta was broken down into components as per brand packaging.

Planetary Health Diet:

- No quinoa → brown rice
- No sweet potato → potato
- No red kidney beans → lentils
- No cannellini beans → chickpeas
- No coconut oil → palm oil
- No lard → butter
- No raw sugar → refined sugar

Current Australian Diet:

- No frozen peas → fresh peas
- No baked beans → lentils
- No canned meat and veg casserole → pastry with meat and vegetable
- No specific salad dressing → balsamic vinegar
- No instant noodles → pasta

Type 2 diabetes diet:

- No blackberry jam → raspberry jam

Gluten free diet:

- No sweet potato → potato
- No buckwheat →barley
- No tapioca → corn flour
- No quinoa → barley
- No maple syrup → honey
- No frozen vegetables → fresh vegetables
- No salmon → mixed fish species

Description of mixed meal analysis:
Current Australian Diet:

- Canned Fruit salad → equal parts pear, apricot and peach processed
- 4-bean mix → equal split between chickpea and lentil
- Frozen mixed veg – equal split between peas, corn, carrot
- Premade sandwich→ broke down to 2g bread, 1g chicken, 1g cheese, .35g lettuce and .35g tomato = 4.7g total
- No description on premixed nuts, broken down equally between cashew, almond, and peanuts

- Pizza → 3g flour, 2g cheese, 1g pork sausage, 1.4g tomato paste = 7.4g total
- Lasagne → 10g pasta, 4g meat, 10g cheese, 4g pasta sauce = 28g total.
- Hamburger → 4g meat, 7g bread, 1.5g lettuce, 1.5g tomato = 14g total
- Canned soup → 30g processed chicken, 43g water = 73g total

Gluten free diet:

- Gluten free seeded bread → 465g seeds, 198g rice flour, 198g tapioca flour
- Gluten free white bread → 18g corn flour, 18g rice flour
- Gluten free rice crackers → 4g rice flour, 1g quinoa flour, 1g tapioca flour
- Gluten free muesli → 14.6g sultana, 12g other seeds, 1.8g nuts, 31g rice flour
- Gluten free wrap → 26g corn flour
- Gluten free spaghetti → 83g corn flour, 4.4g rice flour
- Gluten free flour → 60g rice flour, 60g corn flour

Type 2 Diabetes Diet:

- Coles crumbed fish → 22g wheat flour, 36g mixed fish species
- Hummus → 55g chickpeas, 83g sesame seeds
- Sundried tomato pesto → 26g tomato puree, 4g sundried tomato, 4g capsicum, 1.4g cashews, 1.4g almonds
- French dressing → halved between vinegar and olive oil

Table S2. Food quantities for the Australian Adapted Planetary Health Diet per day

Whole grains	Amount	Amount for male 71years
Rice, brown, uncooked	g	85
Bread, mixed grain & seeds, wholemeal, extra grainy, other seeds, fresh	g	11.8
Rolled oats, uncooked, plain, unfortified	g	76.6
Pasta, wholemeal, dry	g	76.6
Barley, uncooked	g	68
Quinoa, uncooked	g	76.6
Tubers or starchy vegetables		
Potato, plain, other, other, unpeeled, raw	g	85
Vegetables - dark green		
Broccoli, fresh, raw	g	35.9
Kale, raw	g	30.6
Baby spinach, raw	g	20.4
Cabbage, savoy, raw	g	25.6
Lettuce, cos	g	13.6
Capsicum, green, fresh, raw	g	25.4
Zucchini, green, fresh, unpeeled, raw	g	17
Cucumber, common, unpeeled	g	13.6
Vegetables - red and orange		
Capsicum, red, fresh, raw	g	25.4
Carrot, regular, fresh, unpeeled, raw	g	37.4
Pumpkin, butternut, fresh, raw	g	34
Sweet potato, orange, plain, unpeeled, fresh, raw	g	8.4
Tomato, common, raw	g	73.1
Vegetables - other		
Mushroom, fresh, common, fresh	g	120
Onion, mature, brown, raw	g	45.9
Garlic, fresh, raw	g	3.4
Fruits		
Banana, fresh, cavendish	g	85
Apple, fresh, pink lady, unpeeled	g	85
Kiwifruit, green (hayward), unpeeled	g	51
Mandarin, fresh	g	76.5
Strawberries, fresh	g	33.9
Avocado, raw	g	8.4
Dairy foods		
Milk, cow, ready to drink, regular fat, regular	mL	412.6
Protein sources - animal		
Beef, diced, untrimmed, raw	g	11.9
Pork, diced, raw	g	11.9
Eggs, chicken, whole, raw, regular	g	22.2
Fish, salmon, raw, Atlantic	g	47.6
Chicken, breast, with skin, raw	g	49.2
Protein sources - plant		

Lentils, red, dried	g	59.5
Beans, red kidney, dried, uncooked	g	8.5
Beans, cannellini, dried	g	8.5
Peas, split, uncooked	g	17
Tofu, firm	g	8.5
Nuts, peanut, raw, unsalted	g	68
Tree nuts		
Nuts, almonds, raw, with skin	g	17
Nuts, cashews, raw	g	17
Seeds, sunflower	g	22
Added fats		
Oil, coconut	mL	12.6
Oil, olive, extra virgin	mL	73.8
Lard	g	8.4
Added sweeteners		
Sugar, raw, regular	g	53

Source: Goulding T, Lindberg R, Russell CG. The affordability of a healthy and sustainable diet: an Australian case study. Nutr J. 2020;19(1):109.

Table S3. Approximate amounts per day for the Current Australian Diet

Food item	Males 71yo+ (g)
Water	
Water, bottled	35.0
FRUIT	
Apples	47.2
Bananas	23.7
Oranges	31.4
Fruit salad, canned in juice	78.8
VEGETABLES AND LEGUMES	
Potato, loose	52.9
Sweetcorn, canned	4.5
Broccoli, loose	7.0
White cabbage, loose	7.1
Iceberg lettuce, whole	13.1
Carrot, loose	17.4
Pumpkin	8.9
Four bean mix, canned	1.8
Diced tomatoes, canned	3.7
Onion, loose	6.4
Tomatoes, loose	17.7
Frozen mixed vegetables	23.2
Frozen peas	7.6
Baked Beans, canned	10.6
Grain (Cereal) Foods – Wholegrain and Refined	
Weetbix	12.5
Wholemeal bread, pre-packaged	41.5
Rolled oats	29.3
White bread, pre-packaged	47.1
Cornflakes	14.8
White pasta	14.9
White rice	11.8
Dry wheat crackers, water crackers	1.7
Lean Meats and Poultry, Fish, Eggs, Nuts and Seeds	
Beef mince, lean	6.0
Lamb loin chops	7.4
Beef rump steak	21.1
Tuna, canned in oil	18.6
Chicken, cooked whole	30.2
Eggs	18.4
Canned meat and vegetable casserole	27.9
Milk, Yoghurt, Cheese, and Alternatives	
Cheddar cheese, full fat	9.6
Milk, full fat	79.5

Cheddar cheese, reduced fat	0.4
Milk, reduced fat	85.2
Yoghurt, full fat, plain	3.3
Yoghurt, flavoured reduced fat	10. 0
Unsaturated Oils and Spreads (or foods from which these are derived)	
Canola margarine	5.3
Sunflower oil	0.28
Olive oil	0.2
Pre-prepared mixed foods	
Sandwich, pre-made, white bread, chicken, salad, cheese	4.8
Discretionary Choices	
Beer, full strength	144.2
White wine, sparkling	28.0
Whisky	5.4
Red wine	47.2
Butter	7.8
Muffin, commercial	32.19
Cream-filled sweet biscuit, pre-packaged	14.79
Muesli bar, pre-packaged	1.9
Nuts, mixed, salted	5.4
Pizza, commercial	7.53
Savoury flavoured biscuits	2.7
Confectionary	4.8
Chocolate	4.3
Sugar-sweetened beverages (Coca Cola)	65.6
Artificially sweetened beverages	28.4
Flavoured milk	25.3
Meat pie, commercial	22.4
Frozen lasagne, pre-packaged	28.4
Hamburger, commercial	14.2
Beef sausages	23.6
Ham	3.9
Potato crisps, pre-packaged	1.9
Potato chips, commercial	5.2
Ice cream	37.0
White sugar	19.2
Salad dressing	2.6
Tomato sauce	6.8
Chicken soup, canned	72.8
Orange fruit juice	67.3
Fish fillet crumbed, pre-packaged	9.5
Instant noodles, wheat based	0.60

Source: Lee AJ, Kane S, Lewis M, Good E, Pollard CM, Landrigan TJ, et al. Healthy diets ASAP – Australian Standardised Affordability and Pricing methods protocol. Nutrition Journal. 2018;17(1).

Table S4. Type 2 Diabetes Diet: 7 day meal plan

Meal plan	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast	2 Weet-bix biscuits + milk (250ml)	1 cup of porridge + 1 cup milk + 1 medium banana	½ cup muesli + 1 cup milk	Strawberry yoghurt (200g) + 1 mandarin	2 Weet-bix biscuits + milk (250ml)	1 large mandarin	2 Weet-bix biscuits + milk (250ml)
Morning tea	1 Apple 4 Vita Weat biscuits + 2 teaspoon blackberry jam	2 toasted crumpets + 2 tsp blackberry jam	1 cup canned pineapple + 10 rice crackers + 50g hummus	4 slices Ryvita crackers + 50g hummus	1 apple 4 Vita Weat biscuits + 2 teaspoon blackberry jam	4 slices Ryvita crackers + 50g hummus + 40 g cheese	1 apple 4 Vita Weat biscuits + 40g cheddar cheese
Lunch	Salad sandwich 2 slices of bread (i.e. analysis used Burgen Wholegrains and oat bread) + 2 tbsp margarine + 1 cup salad (lettuce, capsicum, cucumber, tomato)	Salad sandwich: 2 slices of bread (analysis used Burgen Wholegrains and oat bread) + 2 tbsp margarine + 1 cup salad (lettuce, capsicum, cucumber, tomato)	Salad sandwich: 2 slices of bread (analysis used Burgen Wholegrains and oat bread) + 3 tbsp margarine + 1 cup salad (lettuce, capsicum, cucumber, tomato) + 1 tsp French dressing	Salad sandwich: 2 slices of bread (analysis used Burgen Wholegrains and oat bread) + 3 tbsp margarine + 40g cheddar + 1 cup salad (lettuce, capsicum, cucumber, tomato) + 1 tsp French dressing	Salad sandwich: 2 slices of bread (analysis used Burgen Wholegrains and oat bread) + 3 tbsp margarine + 1 cup salad (lettuce, capsicum, cucumber, tomato)	Salad sandwich: 2 slices of bread (analysis used Burgen Wholegrains and oat bread) + 4 tbsp margarine + 1 cup salad (lettuce, capsicum, cucumber	Salad sandwich: 2 slices of bread (analysis used Burgen Wholegrains and oat bread) + 2 tbsp margarine + 1 cup salad (lettuce, capsicum, cucumber + 1 tsp French dressing
Afternoon tea	1 cup peaches juice drained	1 pear	1 orange	½ cup red grapes	1 cup peaches juice drained	½ cup red grapes	1 cup peaches juice drained

Dinner	Vegetable and lentil stir fry with rice: 1 cup white rice + ½ cup brown lentils + 1 cup mixed vegetables (broccoli, cauliflower, and carrot) + 60g zucchini + 60g green beans + 2 teaspoon margarine + 3 tbsp canola oil	Salmon and vegetable pasta: 1 cup penne pasta + 100g salmon + 1 cup mixed vegetables (broccoli, cauliflower & carrot) + 60g zucchini + 60g green beans + 2 tsp margarine + 1 tbsp canola oil	Baked chicken with baked potato and steamed vegetables: 90g chicken breast + 1 medium potato + 1 cup mixed vegetables (broccoli, cauliflower & carrot) + 60g zucchini + 60g green beans + 2 tsp margarine + 3 tbsp canola oil	Baked chicken with vegetables: 90g chicken breast + 1 small sweet potato baked + 1 cup mixed vegetables (broccoli, cauliflower & carrot) + 60g zucchini + 60g green beans + 2 tsp margarine + 3 tbsp canola oil	Penne marinara: 1 cup penne pasta + 1 cup seafood marinara mix + 1 cup mixed vegetables (broccoli, cauliflower & carrot) + ½ cup canned tomato + 3 tbsp canola oil + 2 tbsp margarine	Roast lamb with vegetables: 100g roast lamb + 1 small sweet potato baked + 1 cup mixed vegetables (broccoli, cauliflower & carrot) + 60g zucchini + 60g green beans + 2 tsp margarine + 2 tsp canola oil	Crumbed fish with vegetables: 70g crumbed fish fillets + 1 medium boiled potato + 1 cup mixed vegetables (broccoli, cauliflower & carrot) + 60g zucchini + 60g green beans + 2 tsp margarine + 3 tbsp canola oil
Supper	200g strawberry yoghurt	1 cup vanilla custard	1 cup fruit salad in light syrup (syrup drained)		200g strawberry yoghurt	1 cup vanilla custard	200g strawberry yoghurt

Composition:	9290 kJ, 55 g protein, 249 g carbohydrate, 35 g fibre, 932 mg sodium, 910 mg calcium, 9 mg iron	9882 kJ, 87 g protein, 247 g carbohydrate, 40 g fibre, 1835 mg sodium, 1252 mg calcium, 11 mg iron	9347 kJ, 69 g protein, 168 g carbohydrate, 38 g fibre, 1247 mg sodium, 576 mg calcium, 9 mg iron	9381 kJ, 78 g protein, 162 g carbohydrate, 34 g fibre, 1805 mg sodium, 1092 mg calcium, 9 mg iron	10728 kJ, 93 g protein, 243 g carbohydrate, 31 g fibre, 1513 mg sodium, 971 mg calcium, 9 mg iron	8928 kJ, 80 g protein, 173 g carbohydrate, 34 g fibre, 1918 mg sodium, 986 mg calcium, 10 mg iron	9030 kJ, 59 g protein, 187 g carbohydrate, 33 g fibre, 1625 mg sodium, 1210 mg calcium, 7 mg iron

Table S5. Gluten Free Diet: 7 day meal plan

Meal plan	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast	2 slices of toast (gluten free mixed grain) + baked beans in tomato sauce (salt reduced) (220 g) + 40g cheddar cheese	2 slices of toast (gluten free mixed grain) + 2 eggs (88g) + tomato (76g) + avocado (40g) + Feta cheese (60g)	Gluten free muesli ½ cup (analysis used Carman's deluxe gluten free muesli) + milk (250ml) + 2 tsp psyllium husk + 1 tsp honey	Buckwheat porridge: (280 g) 130 g milk + 45 g buckwheat groats + 6 g linseed, sunflower, and almond mix + 5 g psyllium husk + 7 g chia seeds + 27 g maple syrup + ¼ tsp cinnamon	2 slices of toast (gluten free mixed grain) + 1 banana + 1 tsp honey + 125 g natural yoghurt	Whole egg omelette with bacon, cheese, and vegetables (162 g) + 2 slices of toast (gluten free mixed grain)	Fruit smoothie: (411 g) 206 g milk + 65 g banana + 65 g blueberries + 63 g Greek yoghurt + 7 g honey + 6 g linseed, sunflower, and almond mix
Morning tea	125 g natural yoghurt	1 Apple Cappuccino (280 ml, using full cream milk)	½ cup peach in pear juice drained 125 g natural yoghurt	Nestle hot chocolate powder (22 g) + milk (250ml)	Nestle hot chocolate powder (22 g) + milk (250ml)	125 g natural yoghurt	2 slices of toast (gluten free mixed grain) + cheddar cheese (20 g) + tomato (76 g)
Lunch	Zucchini slice: (428 g) 60 g zucchini + 60g carrot + 35 g onion + 1 egg (44 g) + 60g Gluten free self raising flour + 30 ml olive oil + 45 g bacon + 22 g corn kernels + 67.5 g capsicum	Ham and salad wrap: 1 gluten free wrap (analysis used Freedom Foods free from gluten wraps) + 25g leg ham + cheddar cheese (40g) + avocado (40g) +	Vegetarian soup: (688 g) 68 g capsicum + 23 g + 5 g butter + 200 g diced tomatoes + 28 g gluten free pasta + 33 g onion + 78 g zucchini + 42 g carrot + 25 g gluten free bread + 100 g canned chickpeas +	Chicken pasta salad: (866g) 85 g gluten free buckwheat pasta spirals + 120 g chicken breast + 228 g tomato + 168 g capsicum + 112 g canned chickpeas + 60 g cheddar cheese + 60 g avocado + 34 g baby spinach	Homemade crumbed chicken and vegetable chips: (660 g) 20 g eggs + 8 g milk + 150 g chicken breast + 8 g gluten free plain flour + 57 g gluten	Tuna salad sandwich: 2 slices of toast (gluten free mixed grain) + tuna in water (90 g) + cheddar cheese (40 g) + avocado (60 g) + tomato (76 g) + 1 tbsp margarine	2 slices of toast (gluten free mixed grain) + 2 poached eggs (98 g) + baked beans in tomato sauce (salt reduced) (220 g) + baby spinach (½ cup)

	+ 25 g salad (leafy greens, cucumber, and tomato)	tomato (23g)	18 g peanut butter + 4 g egg + 1 slice of gluten free bread		free bread crumbs + 115 g potato + 158 g sweet potato + 145 g zucchini		
Afternoon tea	1 apple ½ cup vanilla custard	1 banana 200g natural yoghurt	Gluten free multigrain crackers (12 g) + cheddar cheese (40 g)	1 Gluten free fruit muffin: (44g) 10g gluten free self raising flour + 4 g brown sugar + 10 g milk + 5 g vegetable oil + 2 g egg + 11 g apple + milk (250 ml)	1 apple 125 g natural yoghurt	Cappuccino (280 ml, using full cream milk)	½ cup Stewed fruit + 150 g vanilla custard
Dinner	Masala chicken pie: (909 g) 280 g potato + 60 g coconut milk + 15 ml lemon juice + 10 g spring onion + 7 g vegetable oil + 186 g chicken breast + 53 g onion + 7 g ginger + 2 g garlic + 7 g masala mixed spices (turmeric, curry	Chicken and white bean stew: (954 g) 14 g sunflower oil + 150 g chicken thigh + 62 g onion + 190 g carrot + 8 g celery + 230 g chicken stock + 300 g cannellini white beans	Spaghetti with red onion tuna and sundried tomato pesto: (309 g) 88 g gluten free spaghetti + 38 g onion + 2 g garlic + 2 g chilli flakes + 50 g tuna in Italian style oil + 20 g capers + 63 g white wine + 47 g Lego's sundried	Spaghetti Bolognese: (409 g) 2 g olive oil + 28 g onion +100 g beef mince + 82 g passata + 4 g tomato paste + 60 g carrot + 62 g zucchini + 50 g gluten free buckwheat pasta + 20 g broccoli + 2 g parmesan	Lemon chicken salad: (420 g) 30 g mayonnaise + 30 g sour cream + 3 g lemon juice + 185 g chicken breast + 56 g apple + 25 g walnuts + 24 g celery + 4 g onion +	Salmon fish cakes with sesame crust: (498 g) + 1.5 cups of salad with Asian style dressing 187 g canned salmon in water + 225 g sweet potato +8 g lime juice + 2 g ginger + 22 g spring onion + 8 g	Potato meat pies: (346 g) 240 g potato + 2 g olive oil + 9 g onion + 16 g carrot + 10 g mushroom + 50 g beef mince + 1.5 g spice mix (cinnamon, nutmeg) + 16 g beef stock

	powder, coriander, cumin, brown mustard seeds) + 2 g red wine vinegar + 2 g caster sugar + 150 g canned tomato + 120 g capsicum		tomato pesto		52 g lettuce + 2 g parsley	parsley + 20 g egg + 26 g sesame seeds	
Supper		Peaches and ice cream: ½ cup peaches in pear juice (drained) + ½ cup vanilla ice cream		1 Gluten free fruit muffin: (44g) 10g gluten free self-raising flour + 4 g brown sugar + 10 g milk + 5 g vegetable oil + 2 g egg + 11 g apple			Lemon, ricotta, and poppy seed steamed pudding: (180 g) 30 g butter + 30 g caster sugar + 25 g ricotta + 30 g egg + 13 g lemon juice + 7 g milk + 6 g poppy seeds + 38 g gluten free plain flour + 2 g baking powder
Composition:	9270kJ, 119 g protein, 207 g carbohydrate, 38 g fibre, 2786 mg sodium, 1388 mg calcium, 13 mg iron	9511kJ, 120 g protein, 216 g carbohydrate, 48 g fibre, 3622 mg sodium, 1436 mg calcium, 12 mg iron	9556 kJ, 78 g protein, 248 g carbohydrate, 32 g fibre, 2797 mg sodium, 1142 mg calcium, 13 mg iron	9602 kJ, 143 g protein, 250 g carbohydrate, 45 g fibre, 1539 mg sodium, 1624 mg calcium, 13 mg iron	9326 kJ, 133 g protein, 217 g carbohydrate, 24 g fibre, 1367 mg sodium, 1005 mg calcium, 8 mg iron	8961 kJ, 150 g protein, 123 g carbohydrate, 25 g fibre, 2909 mg sodium, 1531 mg calcium, 12 mg iron	9211 kJ, 84 g protein, 260 g carbohydrate, 36 g fibre, 2397 mg sodium, 1149 mg calcium, 11 mg iron