FOOD SWITCH

STATE OF THE FOOD SUPPLY

PLANETARY HEALTH EDITION

The George Institute for Global Health

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ACKNOWLEDGEMENT OF COUNTRY

The George Institute for Global Health acknowledges the Gadigal People of the Eora Nation as the Traditional Custodians of the land on which our Australian office is built and this report is written. We pay our respect to Elders past, present and emerging.

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BACKGROUND

Climate change is undeniably a leading challenge for the planet and the global population, with human-generated greenhouse gas emissions (GHGe) recognised as the primary cause of the rise in land and sea temperatures.[1]

Globally, 30% of GHGe are generated from food production, which is the second largest contributor to the climate crisis behind the energy sector.[2]

When looking at food production, the farming of animals for human consumption contributes most of the greenhouse gases emitted whereas plant products like fruits and vegetables contribute less to emission rates.

Meat production and consumption – a key driver of GHGe – is expected to double between 2008 and 2050.[3] Australia is currently the second highest meat-eating country just behind the US, with Australians consuming an average 122kg of meat per person per year.[4] Diets across the globe are consisting of fewer plant-based products and more processed, pre-prepared products that generally contain higher levels of sugar, saturated fat and sodium, which are the nutrients associated with poorer health outcomes. Problematically, the greater processing requirements for these products contribute to larger volumes of greenhouse gases released into the atmosphere.[5]

Country-specific dietary guidelines, including Australia's, recommend reducing the intake of processed foods and beverages, and encourage the consumption of a variety of foods from the major food groups on the basis of human health.[6]

Recently, as international organisations such as the United Nations call for more sustainable food systems, there is recognition of the growing need to consume foods that are not only good for us but also for the planet.

To support this aim, researchers at The George Institute for Global Health have developed a method for estimating the GHGe of individual packaged food and beverage products and have used this method to create a rating system that converts these estimates into an easy-to-understand Planetary Health Rating (PHR) that works in a similar way to the Health Star Rating.[2] Products are rated from 0.5 stars (worse for the planet) to 5 stars (better for the planet) in relation to their impact on the environment. The PHR system has been integrated into a smartphone app called ***ecoSwitch*** that allows consumers to see how their foods rate and shows alternative products in the same category that are better for our planet.

This year's ***FoodSwitch***: State of the Food Supply Report focuses on planetary health and highlights the impact the current Australian food supply has on the environment when it comes to the GHGe generated by the production of packaged food and beverages. The report also demonstrates the types of product switches ***ecoSwitch*** provides to help consumers make more sustainable choices.

In Australia there is currently no information present on food and beverage packaging that communicates the impact a product has on planetary health and therefore no way of assisting consumers in making more sustainable purchases when at the supermarket.

WHAT WE DID

The 2024 Australian FoodSwitch database was used to conduct this analysis. This database contains food and beverage data from five major grocery retailers in Australia: ALDI, Coles, Harris Farm, Independent Grocers of Australia (IGA) and Woolworths. Data were collected in store and online between March and May 2024 as part of The George Institute's FoodSwitch program. The labels of all packaged, barcoded products available on the days of survey were captured and processed using the FoodSwitch Data Collection system.

Information about the nutrient composition, ingredients, barcode, product name, brand name, front of pack labelling, and claims were extracted into the FoodSwitch database. All products were quality checked and placed into a food or beverage category.

Single ingredient products without an ingredient statement had their ingredients derived from the product name, where possible, for example fresh eggs. Nutrition information for products that were not required to bear a nutrition label such as fresh meats, fruits and vegetables had their nutrition information derived from the Australian food composition database.[7] Products were excluded if they were missing nutrition information or carried multiple nutrition information panels.

They were also excluded if they were in the 'alcohol' or 'vitamins and supplements' categories. Extensive data cleaning was undertaken, and some products were also excluded for having an incomplete or non-standard ingredient statement.

GHGe values were then estimated for each product using the recently developed methodology.[2] This method assigns GHGe estimates to individual food and beverage products using primarily the ingredients and their proportion within a product. If ingredient weights were not provided on pack, an estimation was made using a linear programming algorithm. Additional adjustments were made for level of processing and distance of transportation. The PHR calculation was then applied.

Finally, the average PHR for the overall food supply in 2024 was calculated as well as the average ratings for each food and beverage category.

WHAT WE FOUND

HOW HEALTHY ARE DIFFERENT FOOD AND BEVERAGE CATEGORIES FOR THE PLANET?

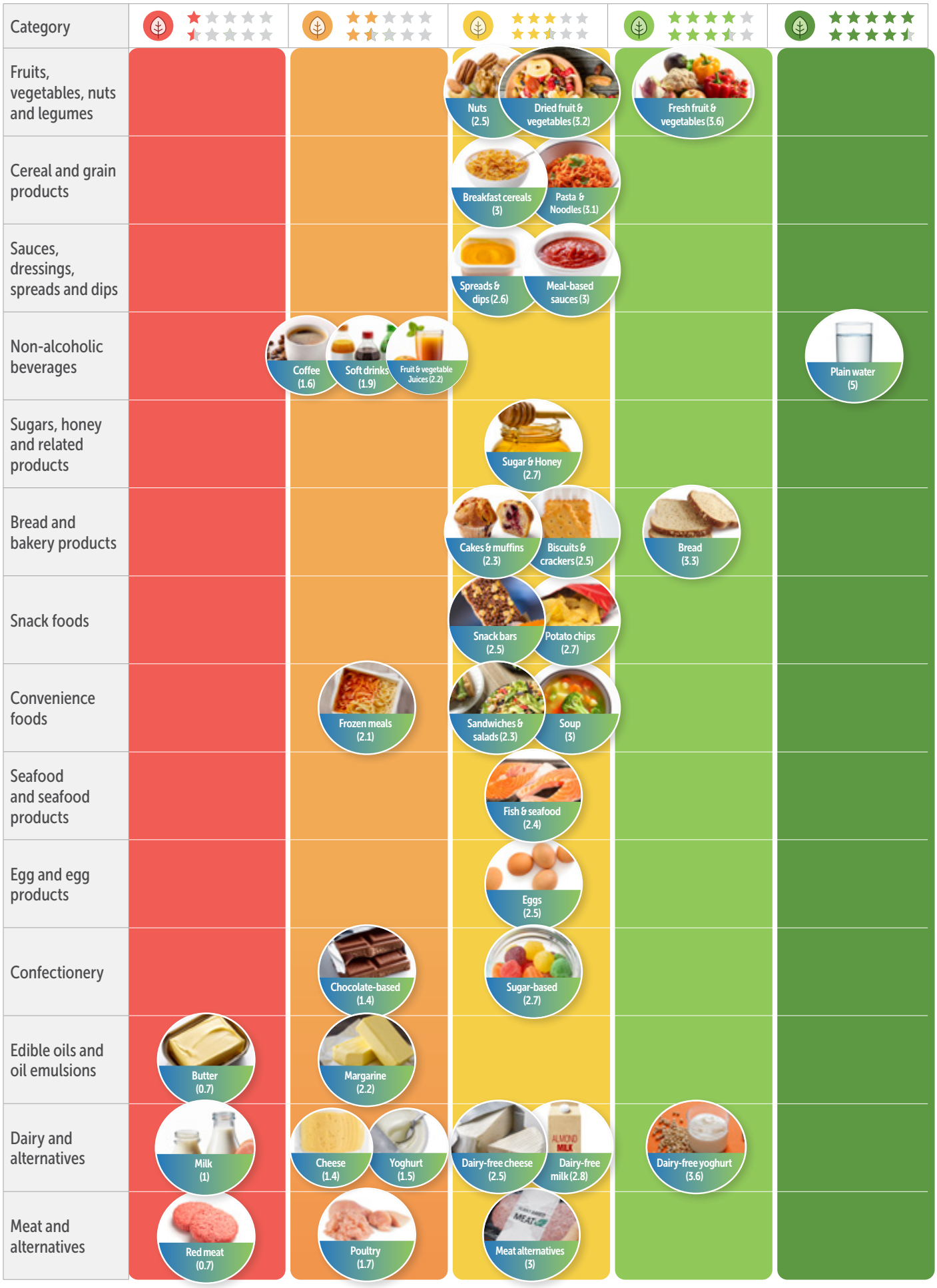
Healthiness of food and beverage categories based on average Planetary Health Ratings (PHR):

2.5

THE OVERALL AVERAGE PHR FOR THE FOOD SUPPLY

- Products coming from predominately non-animal sources made up the top five overall categories that were best for planetary health: 'Fruits, vegetables, nuts and legumes', 'Cereal and grain products', 'Meat alternatives', 'Dairy alternatives' and 'Sauces, dressings, spreads and dips'.
- The two categories that were rated worst for the planet were 'Meat products' and 'Dairy products' with an average PHR of 1.2 and 1.4, respectively.
- Less than half of the major categories examined scored an average PHR above 2.5.

AVERAGE PLANETARY HEALTH RATINGS FOR POPULAR FOOD AND BEVERAGE CATEGORIES:



- The categories that had the highest mean PHR and hence were better for planetary health were 'Plain water' scoring 5 out of 5 and 'Fresh fruit and vegetables' and 'Dairy-free yoghurts' both scoring 3.6.
- Breakfast cereals scored relatively well and received an average PHR of 3 out of 5.
- Bread also scored well with a PHR of 3.3. The greater processing requirements for 'Biscuits and crackers' and 'Cakes and muffins' brought down the average PHR of these categories, scoring 2.5 and 2.3, respectively.
- In the 'Convenience foods' category, 'Soups' and 'Salads and sandwiches' performed better than 'Frozen meals' which contains products with a higher level of processing.
- The worst impact category was 'Red meat' - the lowest overall with a score of 0.7.
- 'Poultry' and 'Seafood and seafood products' had less of an impact than red meat, scoring 1.7 and 2.4 respectively, while 'Eggs' scored the highest PHR (2.5) out of all animal source categories.
- Interestingly, 'Confectionery' showed mixed results, with 'Chocolate-based' products scoring worse (1.4) than 'Sugar-based' products (2.7), mainly due to greater carbon emissions from the production of cacao. Similarly, 'Coffee' products performed worst in the beverage category scoring a PHR of 1.6.
- Popular dairy products scored poorly for planetary health. 'Milk' scored the lowest out of the dairy categories (1.0) and 'Cheese' and 'Yoghurt' scored similar planetary health ratings of 1.4 and 1.5.
- Plant-based alternatives have a significantly lower impact on the planet in terms of carbon emissions compared to animal-sources. This can be seen with the higher PHR of 'Dairy-free yoghurts' (3.6), 'Meat-alternatives' (3.0), 'Dairy-free milks' (2.8) and 'Dairy-free cheese' (2.5) in comparison to the animal-derived varieties.

ecoSwitch MAKES IT EASY TO SHOP MORE SUSTAINABLY

Similar to the way FoodSwitch offers recommendations for healthier alternative food and beverage items based on their healthiness, ***ecoSwitch*** is a new system developed by The George Institute that compares the relative impact of individual food items based on their GHGe and aims to inform consumers of how they can lower the environmental impact of their food choices.

ecoSwitch recommends alternative food and beverage items that shoppers can switch to based on the scores underpinning the PHR – suggesting similar items with a lower GHGe than their original choice.

Research has shown that by making simple and realistic switches within similar categories, consumers can contribute to the reduction of total greenhouse gas emissions within their regular grocery purchases.[8] We have estimated the GHGe and PHR of some everyday products and have suggested lower impact alternatives to help Australian consumers choose foods and beverages that are better for planetary health.

MILK

Switch from full cream dairy milk to plain almond milk to remove over 1600kg of GHGe from your shopping basket each year. Acknowledging the higher price of plant-based milks, even if you reduced your dairy milk purchases by half and switched for almond milk, you could still remove roughly 800kg of GHGe.*

*Based on purchasing 4 litres of milk per week for one year.

Dairy milk

Almond milk

MINCE MEAT

Switch from beef mince to chicken mince to remove over 2170kg of GHGe from your shopping basket each year. Remove even more GHGe by switching to a meat-alternative to remove nearly 2500kg of GHGe from your shopping basket.*

*Based on purchasing 1kg pack of mince per week for one year

Beef mince

Chicken mince

Meat-alternative mince

YOGHURT

Switch from dairy-based yoghurt to soy-based yoghurt to remove over 515kg of GHGe from your shopping basket each year.*

*Based on purchasing one 900g tub of yoghurt per week for one year

Natural dairy yoghurt

Soy-based yoghurt

SAUSAGES

Switch from beef sausages to chicken sausages to remove over 815kg of GHGe from your shopping basket each year. Remove even more GHGe by switching to plant-based sausages to remove over 930kg of GHGe from your shopping basket.*

*Based on purchasing one 450g pack of sausages per week for one year

Beef sausages

Chicken sausages

Plant-based sausages

Cream-based pasta sauce

Tomato and vegetable-based sauce

PASTA SAUCE

Switch from cream-based pasta sauce to a tomato and vegetable-based pasta sauce to remove over 270kg of GHGe from your shopping basket each year.*

*Based on purchasing one 500g jar of pasta sauce per week for one year.

CEREAL AND NUT BARS

Switch from chocolate-coated cereal bars to uncoated cereal bars to remove over 57kg of GHGe from your shopping basket each year.*

*Based on purchasing two 180g 5-packs of bars per week for one year.

Chocolate-coated cereal bar

Uncoated cereal bar

Cacao granola

Low sugar fruit-based granola

GRANOLA

Switch from cacao granola to fruit-based granola to remove over 36kg of GHGe from your shopping basket each year.*

*Based on purchasing one 350g pack of granola per week for one year.

BAKERY ITEMS

Switch from sweet fruit-based muffins to fruit toast for your morning tea. This switch will remove over 110kg of GHGe from your shopping basket each year.*

*Based on purchasing two 420g boxes of sweet muffins per week and one 560g loaf of fruit toast per week for one year.

Sweet fruit-based muffin

Fruit toast

Making all these switches could remove over 6 tonnes of GHGe from your shopping basket each year. This is roughly equivalent to:

The emissions from driving a car for around

24,000 kilometres

or driving from Sydney to Perth and back again 3 times!

or the emissions generated from the electricity needed to power the average Australian household for a whole year.

Calculated using the Greenhouse Gas Equivalencies Calculator (EPA). www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

ecoSWITCH APP

Currently, the only way for consumers to identify these switches and make efforts to reduce their environmental impact is through the ***ecoSwitch*** app.

ecoSwitch will give shoppers the PHR of packaged products and identify switches that are less harmful for the planet and at least as healthy for human health based on the Health Star Rating.

To provide consumers with even more information, ***ecoSwitch*** has product pages that show sustainability related information such as sustainability claims, the NOVA Level of Processing score and country of origin information as well as product health and nutrition information.

WHAT'S NEXT FOR *ecoSwitch*?

While the data used in this report is focused on GHGe, a limitation of the current methodology is that the data only estimates carbon emissions generated to 'the-farm-gate' for each product.

The George Institute is working on an enhanced methodology that will increase the number of variables used to assess the overall environmental impact of a food item, for example; land and water use, and will also estimate the environmental impact associated with activities from the farm gate to the consumer plate.

In the future it is hoped that the data and ratings used within ***ecoSwitch*** could be used to develop and implement a national front-of-pack labelling system that shows the Planetary Health Rating of products to provide more transparency to consumers, and to incentivise industry and supermarkets to meet consumer demand for more sustainable foods.

RECOMMENDATIONS

INDIVIDUALS

The single strongest action individuals can take to reduce food-related impact on the planet is to reduce their intake of animal-based products – particularly meat – and incorporate more plant-based alternatives into shopping habits. Reductions can also be achieved if fewer processed products were consumed.

Undoubtedly less welcome news, but shoppers should also consider reducing consumption of two of Australia's favourite products – coffee and chocolate – because not only are these discretionary food choices under national nutrition guidelines, but cacao and coffee bean production are high contributors to carbon emissions.

Australians can use ***ecoSwitch*** when shopping so they can make better choices for their health and the health of the planet when it comes to food and beverages.

GOVERNMENT AND INDUSTRY

Government should create a national data system using product-specific data to provide transparency around the impact food and beverage production has on the planet.

They should also develop interventions that benefit planetary health in a similar way to those developed for food and nutrition.

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Questions

For more information about ecoSwitch and answers to commonly asked questions, visit ***www.ecoswitch.org.au***

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At The George Institute, we believe everyone has the right to a healthy life, so we're finding evidence-based solutions to some of the world's biggest health challenges.

From pioneering clinical trials to transformative digital health innovations, we're translating evidence into scalable solutions that deliver real-world impact and our ongoing dedication to rigorous, high-quality research makes this a reality.

With major centres in Australia, China, India and the UK, and over 245 active projects in more than 50 countries, we're focused on a future where health equity isn't just an aspiration, but where everyone has the opportunity to achieve good health.