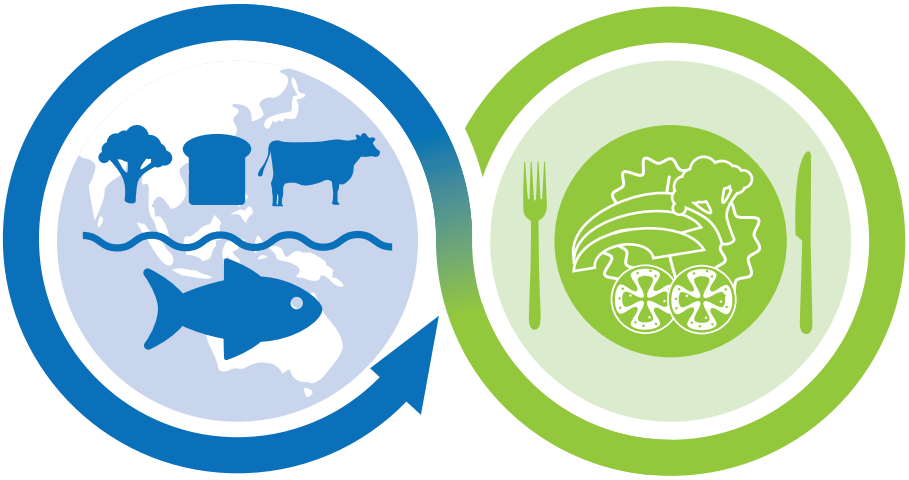
FOOD FOR HEALTHY PEOPLE, HEALTHY PLANET

FACT SHEET



The foundation of good health is a healthy diet.

Climate change, biodiversity loss, water pollution and soil loss are major and imminent threats to human and planetary health. Changing the type of foods that we eat, and the way that foods are produced, distributed, and marketed, is one of the most effective actions we can take to improve the health of individuals, and stave off environmental disaster.

Sufficient food is currently produced to feed all 7.5 billion people on earth, but it is unequally distributed. In 2017, some 820 million people went hungry and 2 billion suffered nutrient deficiencies. At the same time 2 billion people were overweight and 600 million were obese (Interacademy Partnership 2018).

The UN median projections have world population exceeding 11 billion by the end of this century (UN 2017).

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UNHEALTHY DIETS LEAD TO FOOD RELATED DISEASES

Food abundance, increases in national wealth and urbanised living also lead people to consume refined, processed and energy-dense foods in place of a healthier diet of mainly grains, legumes, vegetables, fruit and other sources of dietary fibre.

- In recent decades, marked increases in the consumption of foods high in fats and added sugars and decreases in physical activity have resulted in an increase in obesity, especially in sedentary urban populations (McMichael 2007).
- 67% of Australians are overweight or obese. This rate has increased over 3% since the 2015 ABS survey (ABS 2018).
- In 2017-18, just over half (51.3%) of adult Australians met the guidelines for the recommended daily intake of fruit (2 or more serves), and only 7.5% met the guidelines for 5 or more serves of vegetables (ABS 2018).
- An unhealthy diet is one of the major risk factors for a range of chronic diseases including cardiovascular diseases, depression, many types of cancer, type 2 diabetes and other conditions linked to obesity (WHO 2019). We are in the midst of a diabetes epidemic.
- The risk of colorectal cancer is increased 12% for each 100 g/day increase of red and processed meat intake. Risk decreases 17% for each 90 g/day increase of whole grains and 13% for each 400 g/day increase of dairy products intake (Vieira 2017).

UNSUSTAINABLE FOOD PRODUCTION

Current human demand on the natural world is not sustainable, with agriculture and food major contributors to production of greenhouse gases, deforestation, loss of biodiversity and use of water resources. Humans currently use up to one-third of earth's potential net primary production for food, feed, fibre, timber and energy (IPCC 2019). Humans now consume natural resources at 1.5 times the rate they can be regenerated (Global Footprint Network, 2018).

Food's contribution to climate change

- The food system – including growing, harvesting, transporting, consuming, and disposal - accounts for 24% of global greenhouse gas emissions (CSIRO 2019) that drive global warming, with livestock making up 14.5% (Gerber et al, 2013).
- Agriculture was responsible for 16% of Australia's greenhouse gas emissions in 2013, with two-thirds of these emissions coming from cattle and sheep (DPI, WA. 2018a).
- Other sources of emissions were from agricultural soils, burning of savannas and management of manure. Inputs such as fertiliser and fuel are not included in these figures (DPI, WA. 2018a).

Methane

- About 44% of livestock emissions are in the form of methane, with most of the remainder from nitrous oxide and carbon dioxide (Gerber et al. 2013).
- Methane and nitrous oxide are significant greenhouse gases. The warming potential of methane is 25 times, and nitrous oxide 298 times, more than carbon dioxide over a 100 year timescale. Methane has a shorter lifespan, so a more potent warming effect over each decade, about 86 times that of CO_2 (EPA 2019).
- Methane gas is a by-product of digestion in ruminant livestock. The type and quality of feed consumed has a significant impact on amount of methane produced (DPI, WA. 2018b).

Doctors for the Environment Australia

Healthy planet, healthy people

UNSUSTAINABLE FOOD PRODUCTION

continued

Food miles

Current food systems involve transporting foods around the globe. Tropical fruit is shipped from northern parts of Australia and flown to the northern hemisphere and many consumers in Australia buy Californian oranges or grapes when the local product is out of season.

Overall, the production of food has a larger ecological footprint than its transport to the point of consumption. It is argued that reducing red meat intake can be a more effective means of lowering a household's climate footprint than "buying local" (Economic Investigations, 2016). However, buying local food may have other benefits such as increased freshness, taste and nutrition, as well as supporting local farmers.

Land, soil and water use

It is estimated that soil erosion is occurring with conventional tillage practices up to 100 times higher than new soil is formed (IPCC 2019). Globally, agriculture uses significant natural resources. It consumes 69% of all fresh water, 34% of land surface and about 50% of productive land. It has caused 30% of topsoil erosion. It is the major driver of biodiversity loss (WWF 2019).

LAND CLEARING AND DEFORESTATION

Agriculture is responsible for 75% of deforestation and is the largest driver of land use change, especially for cropland dedicated to soybean, palm oil and various biofuels (Dudleya 2017).

- Global forest area fell by 3% from 1990 to 2015. From 2010 to 2015, tropical forest area declined by 5.5 million hectares a year (Keenan 2015). Tropical forests contain at least half the Earth's species (WWF, 2019).
- Approximately 44% of Australian forests and woodlands have been cleared since European settlement (State of the Environment 2016).

SPECIES LOSS

Humans, especially their livestock, consume the majority of biomass on the planet (IPBES 2019). Of all mammals on earth, 96% are livestock and humans, only 4% are wild mammals (Bar-On 2018).

Recent attention has been drawn to dramatic loss of insect populations with 40% of the world's insect species headed for extinction over the next few decades. Habitat loss by conversion to intensive agriculture is the main driver of the declines. Agro-chemical pollutants, invasive species and climate change are additional causes (Sanchez-Bayo 2019).

LAND, ENERGY AND WATER USE FOR SPECIFIC FOOD GROUPS

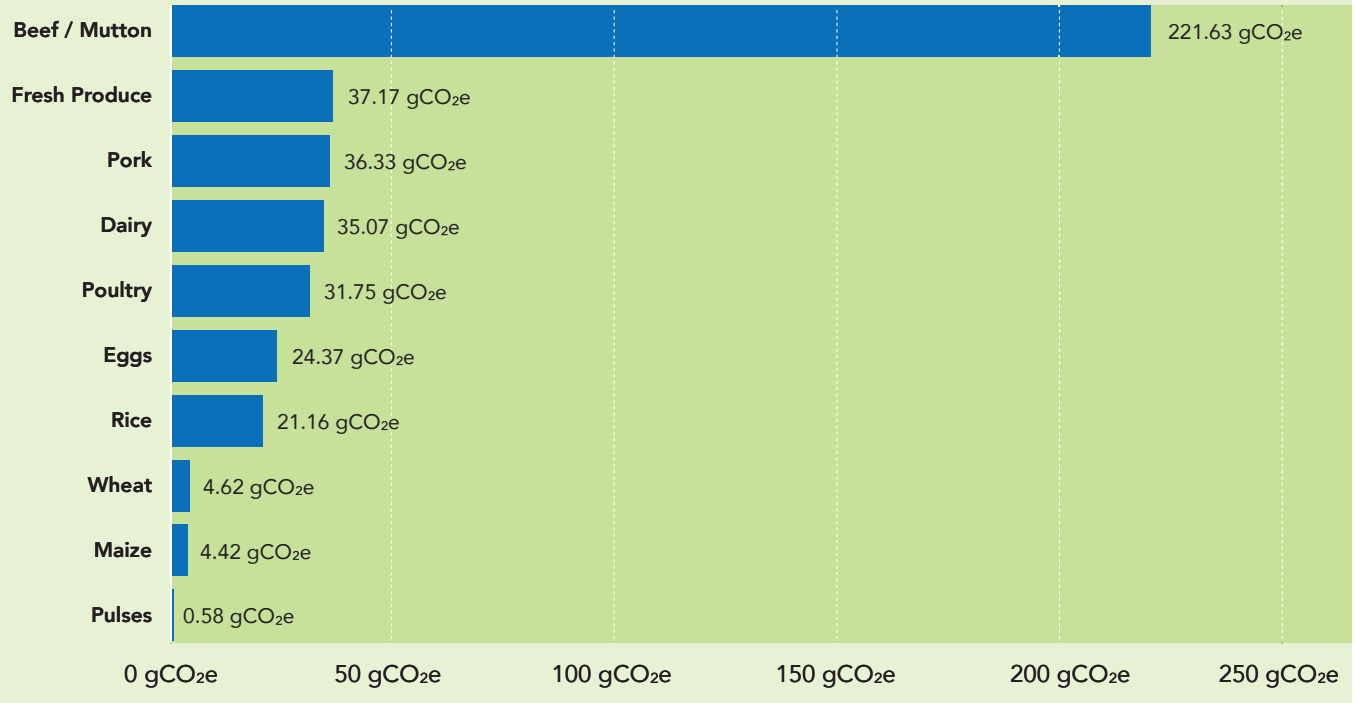
Beef production requires 28 times more land, 11 times more irrigation water and 6 times more nitrogen than the average for dairy, poultry, pork and egg production. Analysis of three staple plant foods shows two to six-fold lower land use, greenhouse gas, and nitrogen requirements than from the non-beef animal derived calories, with comparable irrigation requirements (Eshel 2014).

As a global average, annual per capita meat consumption has increased 20 kilograms since 1961. The global average annual meat consumption in 2014 was 43 kilograms. Meat consumption is highest across high-income countries - with Australians topping the chart, consuming around 116 kilograms per person in 2013. Meat consumption is increasing with rising affluence in developing countries (Ritchie 2017).

GREENHOUSE GAS EMISSIONS PER GRAM OF PROTEIN, BY FOOD TYPE

Our World in Data

Average greenhouse gas emissions per unit protein, by food type measured in grams of carbon dioxide equivalents (CO_2e) per gram of protein. Average values are based on a meta-analysis of studies across 742 agricultural sysytems and over 90 unique foods.



Source: Clark & Tilman (2017)

FOOD WASTE

- Roughly one-third of the food produced in the world for human consumption every year, approximately 1.3 billion tonnes, is lost or wasted.
- Per capita waste by consumers is between 95-115 kg a year in Europe and North America. In Australia, food waste makes up 35% of household and council waste.
- Food waste squanders resources and capital and produces unproductive greenhouse gas emissions.
- In developed countries the food waste tends to occur at the consumer stage as opposed to developing countries where the food waste tends to occur at the production and transport stage (FAO 2019).

WHAT CAN BE DONE?

The EAT Lancet Commission on Food, Planet and Health landmark report proposed a number of strategies to achieve healthy diets for everyone from a sustainable food system (The Lancet 2019). The report recommended reducing unhealthy foods such as red meat and added sugars by over 50% and increasing healthy plant - based foods. The dietary changes alone are projected to reduce diet related deaths by about 11 million annually.

Vegetarian and vegan diets are two healthy options within the planet health diet but are personal choices.
If all animal products are removed from the diet, additional attention to meal planning is required to ensure adequate nutritional intake.

Strategies for a healthy, sustainable diet

- A sustainable diet doesn't just mean environmentally sustainable – aim for dietary changes that are achievable, affordable, and enjoyable – eating patterns that can become part of your lifestyle long-term.
- Experiment with ways to cook and eat a wide variety of fresh vegetables, fruit, grains and nuts.
- Aim to fill up half your plate with vegetables.
- Aim to reduce your meat intake, especially red meats and processed meats. Reduce portion sizes, have meat-free days, and use alternatives such as legumes, nuts and seeds and seafood from sustainable sources.
- When eating meat, choose smaller amounts of high quality, sustainably-sourced meat.
- Limit your intake of processed foods, added fats, salt and sugars, and avoid ultra-processed foods altogether.

SOCIETAL LEVEL STRATEGIES FOR A HEALTHY, SUSTAINABLE FOOD SYSTEM

- Investment in research into the positive and negative environmental effects of agriculture; financial and practical assistance to help farmers adopt sustainable or regenerative farming methods; legislating against environmentally destructive agricultural practices.
- Research into and adoption of strategies to protect food systems from the effects of climate change.
- Strategies to ensure equitable food distribution locally and globally.
- Research into new foods, for example indigenous foods, artificial meats, and seaweed.
- Accounting for the associated costs of agriculture, such as pollution and biodiversity destruction, may need to be introduced (McMichael 2007).
- Strategies to reduce food waste.
- Research into the barriers and enablers of consumption of healthy and sustainable food at the individual level, leading to evidence - based action.
- Labelling systems which allow consumers to make choices based on health and sustainability profiles of foods.
- Support for urban food networks, urban farms and farmers markets, school kitchen gardens, community gardens, nutrition education in schools and for students of health sciences.
- Incorporate sustainability considerations into national dietary guidelines.

MORE INFORMATION

https://eatforum.org/planetary-health-recipes/

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FURTHER READING

This Fact Sheet is one of a series which summarise the salient facts on environmental issues that affect human health which can be found at https://www.dea.org.au/fact-sheets/