Insight

9 Hidden costs

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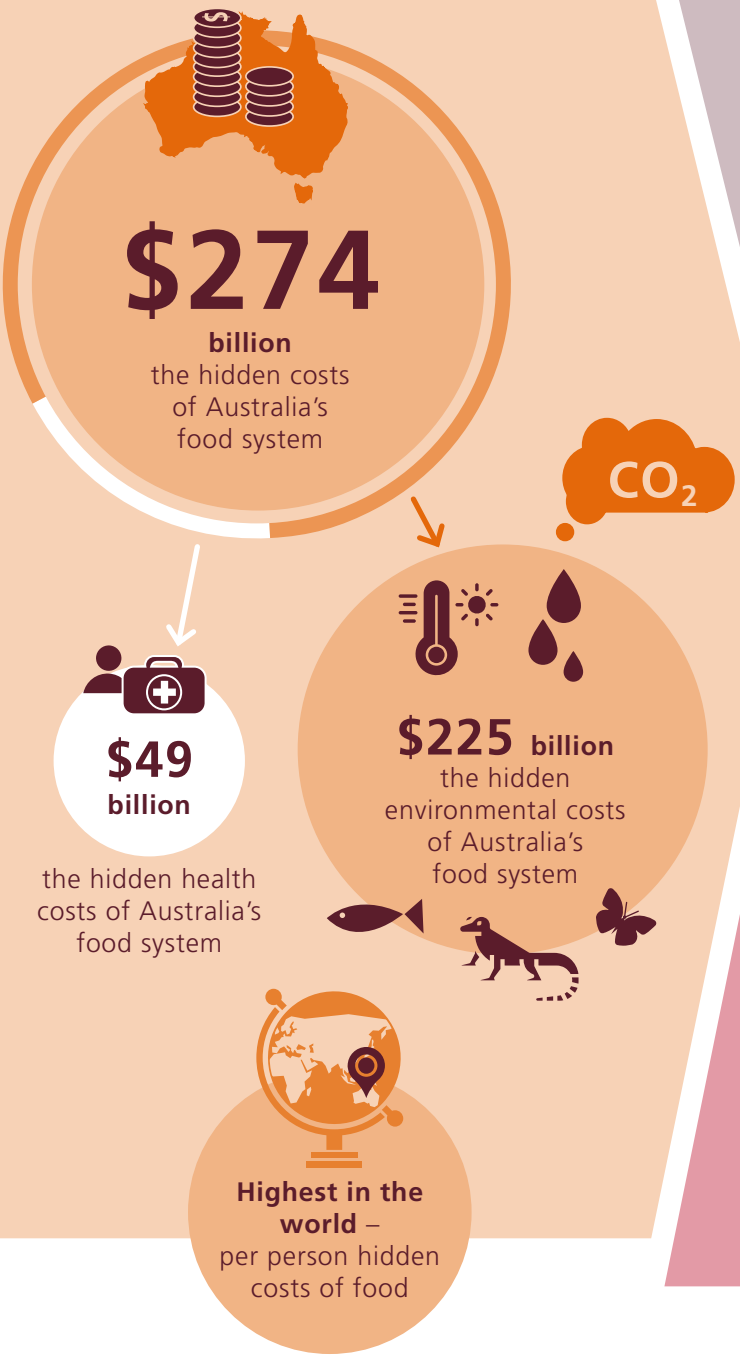
1 STATE OF HIDDEN COSTS



2 CHALLENGES

- **Impacts** Australia's food system has environmental and health impacts that are not counted against profits
- **Overstated** the value of a Australia's food system is overstated because hidden costs are ignored
- **Costs borne** Australia bears hidden costs on behalf of countries that import our commodities

3 OPPORTUNITIES

- **Avoid and manage** estimating hidden costs helps avoid or manage them
- **TCA – True Cost Accounting** is an emerging FAO-endorsed methodfor reporting hidden costs
- **Future benefits** avoiding or managing hidden costs increases the future value of Australia's food system

KEY POINTS

- The hidden costs of Australia's food system range from $98 billion to $274 billion in net present value terms.
- Australia's food system has the highest per capita hidden costs in the world.
- Hidden costs include animal welfare and human health, loss of biodiversity and ecosystem services, greenhouse gas emissions, pollution and degradation of water, air and soil resources, as well as food waste, insecurity and malnutrition.
- Estimating the hidden costs of Australia's food system provides an opportunity to manage and avoid them.
- Taking ambitious steps to address the hidden costs of Australia's food system could reduce these costs significantly and help retain access to future true-cost sensitive global markets.

Hidden costs of Australia's food system include animal welfare and human health, loss of biodiversity and ecosystem services, greenhouse gas emissions, pollution and degradation of water, air and soil resources, as well as food waste, insecurity and malnutrition.

9.1 The cost of Australia's food system

Recent assessments estimate that the hidden costs of Australia's food system ranged from $98 billion to $274 billion in 2020.[2] These estimates were provided by the Food, Agriculture, Biodiversity, Land-Use and Energy Consortium (Navarro Garcia et al., 2024; lowest value), the FAO (FAO, 2024; highest value) and the Food System Economics Commission (Lord, 2024). These costs are an estimate of the net present value of GDP lost from the unintended effects of the food system, including greenhouse gas emissions, nitrogen pollution, land-use change and non-communicable diseases resulting from the consumption of unhealthy foods.

Environmental costs, while not exhaustive, accounted for between 35 and 82% of these hidden costs across the different estimates (Figure 11; Navarro Garcia et al., 2024; FAO 2024, respectively). Their impact on GDP was estimated through losses in agricultural production, labour productivity and ecosystem services. Estimates of the health costs arose from the effects of unhealthy diets on the proliferation of non-communicable diseases such as cancer, type II diabetes and cardiovascular disease and contributed 18 to 65% of the total cost. The impact of disease on GDP was asses-

2 To facilitate comparability across different studies, estimates provided in purchasing power parity were converted into Australian dollars (AUD) using the 2020 Purchasing Power Parity World Bank conversion factors (World Bank, 2025b).

HIDDEN COSTS OF AUSTRALIA'S FOOD SYSTEM

BILLION, AUSTRALIAN DOLLARS

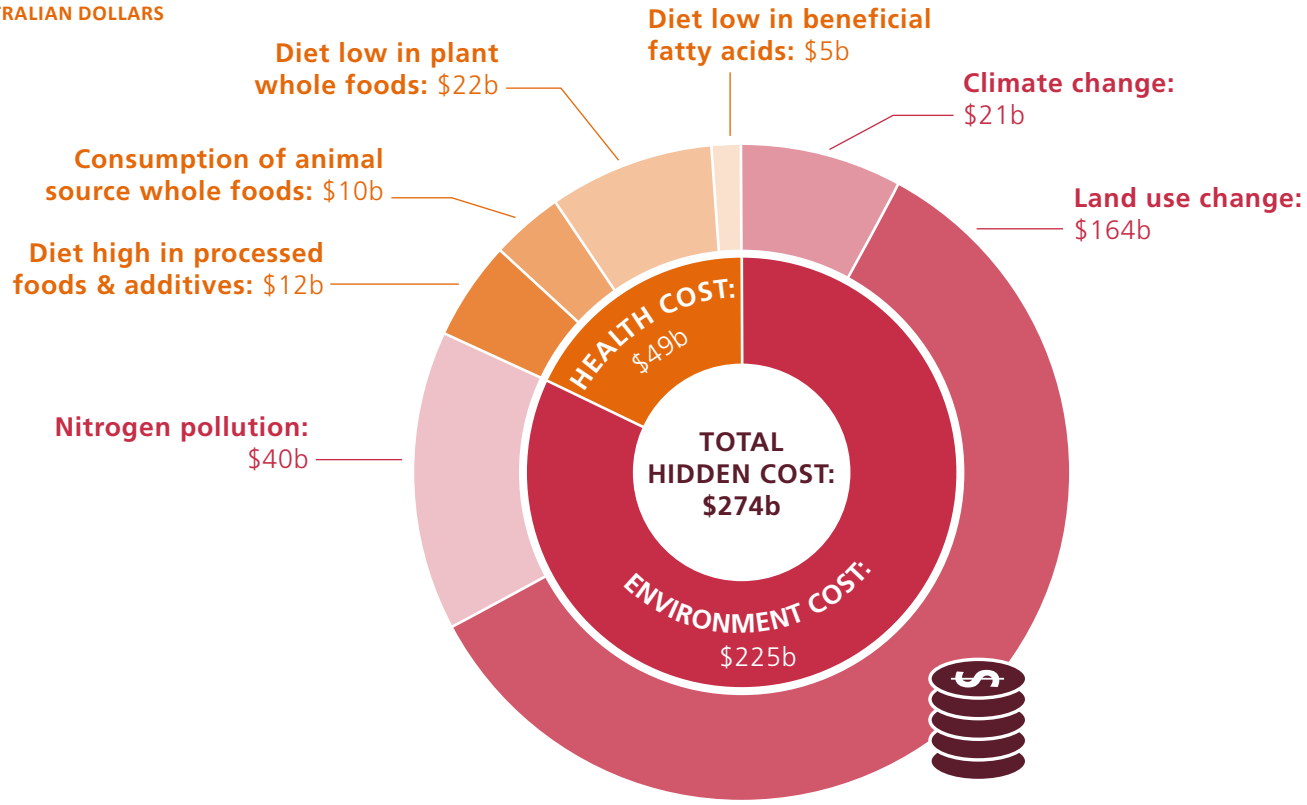


Figure 11: Environmental and health hidden costs of Australia's food system in 2020, by cost category and subcategory (billion dollars). Data from FAO (2024)

sed through labour productivity losses. As yet, available estimates do not adequately account for the social costs associated with Australia's food system and research to improve these estimates is ongoing.

Australia's food system generates the highest per capita hidden costs in the world, due in part to a large agricultural sector and small population. Australia had the 9th highest hidden food system costs globally – with the third highest costs among OECD countries (following the United States and Germany) – and contributed 1.6% to global food system costs (Figure 12). The hidden costs of the Australian food system were nearly ten, eight and seven times lower than that of more populous countries such as China (ranks 1st), the United States (ranks 2nd) and India (ranks 3rd). Australia contributed higher hidden costs compared to other industrialised countries, including France (ranked 14th), Italy (ranked 13th), the United Kingdom (ranked 16th) and Canada (ranked 27th). Australia ranks 8th when costs are normalised for the importance of food in the economy (World Bank, 2025a). Environmental costs are the largest cost in Australia, whereas health costs dominate in other industrial countries such as the United States, the United Kingdom, France, Germany, Italy, Japan and Canada.

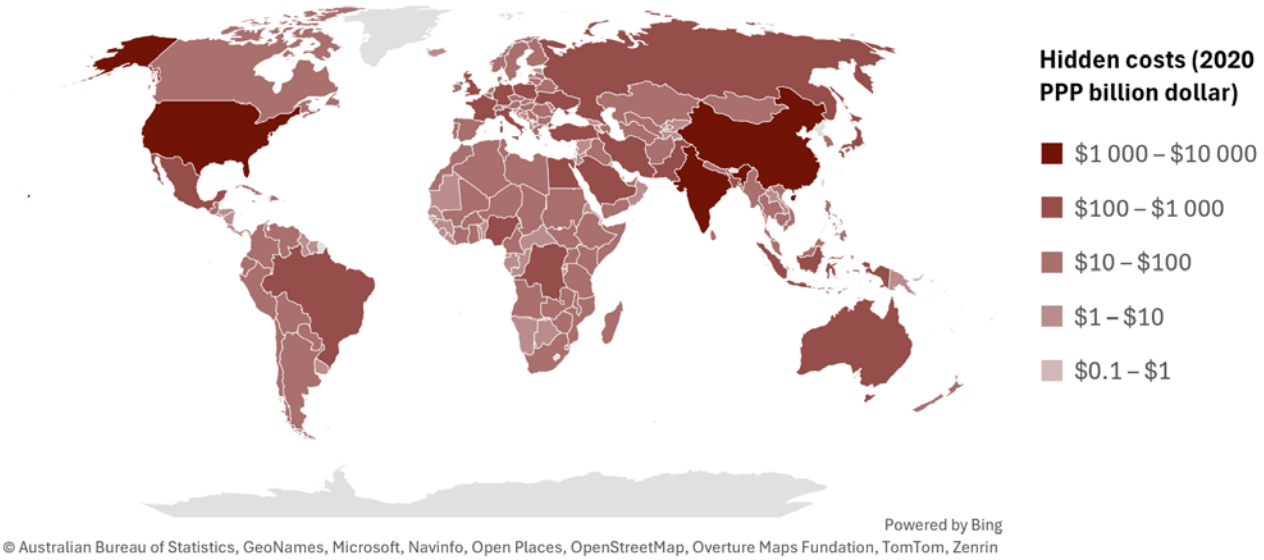


Figure 12: Total hidden costs in global food systems (in billion 2020-purchasing-power-parity dollars). Data from FAO (2024)

9.2 What is the true cost of food?

Estimates of the hidden costs of food attempt to quantify the non-market impacts of the food system, to complement economic performance measures. When we can't account for environmental and social challenges, it reduces market incentives to manage them. As a result, these impacts have tended to grow as economic goals for Australia's food system have been pursued. The non-market impacts of Australia's food system include animal welfare and human health, loss of biodiversity and ecosystem services, greenhouse gas emissions, pollution and degradation of water, air and soil resources, as well as food waste, insecurity and malnutrition, among others (Figure 13).

These costs are borne by people, communities and industries who may or may not be directly involved in the food system. For example, the public healthcare system bears the medical expenses arising from unhealthy diets, while farmers face climate change impacts and the loss of vital species such as pollinators and soil microbes. While individual choice influences socio-economic and health outcomes, costs also arise from broader system failures such as investment in advertising for unhealthy food and limited access to information for food system actors.

As an export-oriented country, Australia absorbs many of these costs domestically while providing agricultural outputs to other nations. In effect, other countries export costs associated with their food systems to be borne by Australians.

Estimating the hidden costs of Australia's food system provides an opportunity to manage and avoid them.

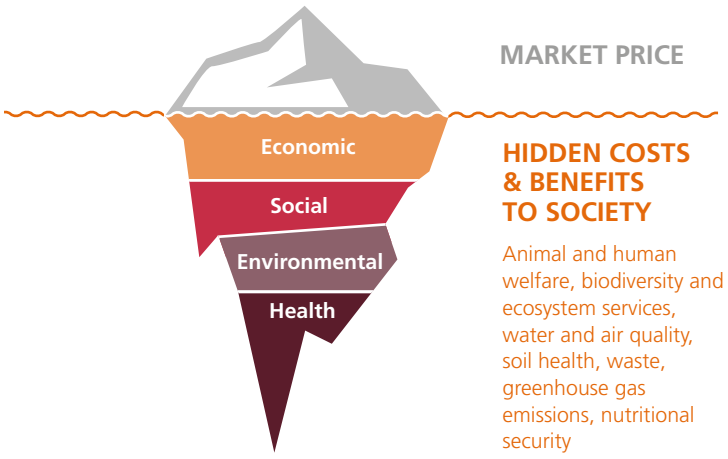


Figure 13: The true cost of food goes beyond market value to capturing other costs and benefits to individuals or society

True cost accounting

Estimates of the true cost of Australia's food system are derived from true cost accounting (TCA), a set of evolving methods used to value the environmental, social and health costs and benefits of the food system.

Some TCA methods, like the FAO's, express these impacts in monetary terms, enabling the aggregation of outcomes with physical units such as CO_2-equivalent metric tonnes of emissions, burden of disease in disability-adjusted life years and land-use change in hectares. While monetisation can be a limited proxy for the deeper values involved, it does enable comparison with the economic metrics in common use, such as market prices or the costs of addressing specific impacts of the food system.

FAO estimates of hidden costs are not intended for inclusion in producer input or consumer product prices. They provide an estimate of the cost of the food system to the economy, highlighting the priority costs and benefits so that these can be managed and avoided.

There can be an equity dimension to TCA if these costs are disproportionately borne by the rest of society rather than by individuals and organisations generating them.

TCA has evolved due to growing international recognition of the need to reveal and address the non-market impacts of the food system.

The FAO featured TCA in two consecutive editions of its flagship State of Food and Agriculture report (FAO, 2023, 2024). The FAO's methodologies are shared with the Food System Economics Commission (Ruggeri Laderchi et al., 2024). Other global efforts to quantify food system costs, though not specific to Australia, include the UN Food Systems Summit 2021 (Hendriks et al., 2023) and the Food and Land Use Coalition (2019).

Country-specific assessments have also been released for the United States (Rockefeller Foundation, 2021) and the United Kingdom (Sustainable Food Trust, 2019), while countries like Switzerland (via the TRUE-COST-CH project funded by the Swiss Government) and Australia (Godde et al., 2024) are in the process of doing so.

9.3 Reporting for better food futures

To date, many of the costs and benefits associated with Australia's food system have been overlooked in decision-making. Understanding these impacts is a crucial first step in driving action.

A key challenge is that not all food system costs and benefits have been identified, and for many, we still lack the data and methods necessary to understand and monitor them effectively. This is partly due to a past focus on economic measures and the greater ease of observing capital transacted through market mechanisms (e.g. produced capital, labour and wages). In contrast, impacts on natural, social and human capital—such as cultural knowledge, social networks, natural resources and working conditions—have received far less attention and are often difficult to measure objectively (FAO, 2023).

Another challenge lies in developing cost estimates that account for Australia's unique context. The FAO and the Food System Economics Commission have generated internationally consistent cost estimates, facilitating recognition of burden-sharing in international trade between exporting and importing countries. We are leading efforts to tailor FAO estimates to Australia's operating conditions while ensuring alignment with global initiatives. In particular, estimating hidden costs and benefits across Australia's geographically and climatically diverse food system presents theoretical and data challenges. Large discrepancies also remain in Australia's land-use-change data – a key driver of environmental hidden costs. Challenges also remain in identifying and communicating effective approaches to contextualising these hidden costs through comparisons with other economic measures. See FAO (2023, 2024) and Navarro Garcia (2024) for further discussion on methodological priorities.

Reorienting food systems to manage the hidden costs of food and avoid negative impacts is likely to be a slow process, requiring concerted government leadership to address deficiencies in the food system that markets can create. However, the benefits are deep and broad for the whole of Australian society because every Australian is dependent on our food system. Equity in food systems fosters social welfare; nutrition promotes health; sustainability benefits the environment; and diversification supports economic growth. While the financial benefits of addressing hidden costs are not in hand now, they represent an avoided future liability, boosting the potential of the future economy. The insurance sector already factors climate change into sovereign risk assessments, highlighting its growing economic relevance. Labour conditions including health and air quality, as well as the ability of natural capital to sustain environmental and economic systems, are critical to future prosperity. Recognising Australia's strengths, such as low water use and efficient production, in terms of greenhouse gas and nitrogen emissions can also further support trade.

Taking proactive steps to address the hidden costs of Australia's food system through ambitious sustainability policies has the potential to significantly reduce these costs. TCA provides an opportunity to understand and manage the costs and benefits of Australia's food system, enabling a stronger, more sustainable and more equitable economy for current and future Australians.