

The true cost of Australia's food system

Key points

- A renewed global focus on monitoring and managing sustainability is creating pressure for Australia to join international efforts to report on the true cost of food.
- Australia has a window of opportunity to join and lead global efforts to estimate and manage the hidden costs of food.
- The hidden costs of food vary from country to country, but are significant.
- Estimating and managing these hidden costs provides a practical pathway for governments and industry to work towards more sustainable, equitable and nutritious food systems.
- Estimates of the true cost of food in Australia are already being generated using international methodologies that poorly reflect the risks and opportunities in Australia's agrifood system.
- Food System Horizons – a joint initiative of CSIRO and The University of Queensland - is building a coalition of partners to help develop and adopt true cost methods appropriate for Australia's food system.

Practical pathways to sustainability

Australia's combined agriculture and food 'agrifood' system has been celebrated for its economic success in producing surplus food for the domestic economy, and efficiently exporting agricultural commodities to countries in need of food around the world. At the same time, a range of domestic sustainability and social challenges have been growing that are unintended consequences of meeting these economic goals. A raft of policies has been developed across all tiers of government to address sustainability and social challenges from natural resource management through to human health issues such as obesity. However, there are currently no metrics available for putting the scale of these challenges in context, or systematically assessing our ability to manage them across the whole food system.

The hidden costs of food vary from country to country. Contributing factors can include food waste, biodiversity loss, greenhouse gas emissions, water and air pollution, subsidies, acidification, blue water withdrawal, insufficient animal and human welfare, unfair wages, child labour, poor working conditions, antimicrobial resistance, zoonoses or malnutrition due to unhealthy diets, and food insecurity (Figure 1).

Emerging estimates suggest that these sustainability and social costs to society are much larger than previously thought. A recent global assessment by the FAO State of Food and Agriculture¹ found that the hidden cost of the global food system could equate to 10 trillion USD or more at 2020 purchasing power parity. Environmental costs, while not exhaustive, constituted over 20 percent of these hidden costs, and are equivalent to almost one-third of agricultural value added. In Australia, the cost of obesity is estimated to be AUD 11.8 billion, including \$5.4 billion in direct health costs and \$6.4 billion in indirect costs².

True Cost Accounting gaining international traction

True Cost Accounting (TCA) is an emerging field of science that supports the systemic measurement and economic valuation of environmental, social, health and economic costs and benefits, aimed at facilitating sustainable choices and investments by governments and food system stakeholders. Although the concept of externalities on which TCA methodologies are based was introduced in the 1920s³, the actual calculation and use of TCA has only been taken up in the last decade. This renewed

¹ FAO (2023). The State of Food and Agriculture 2023 – Revealing the true cost of food to transform agrifood systems. Rome. <https://doi.org/10.4060/cc7724en>

² Collective for Action on Obesity. (2019). Weighing in: Australia's growing obesity epidemic. <https://apo.org.au/node/227226>

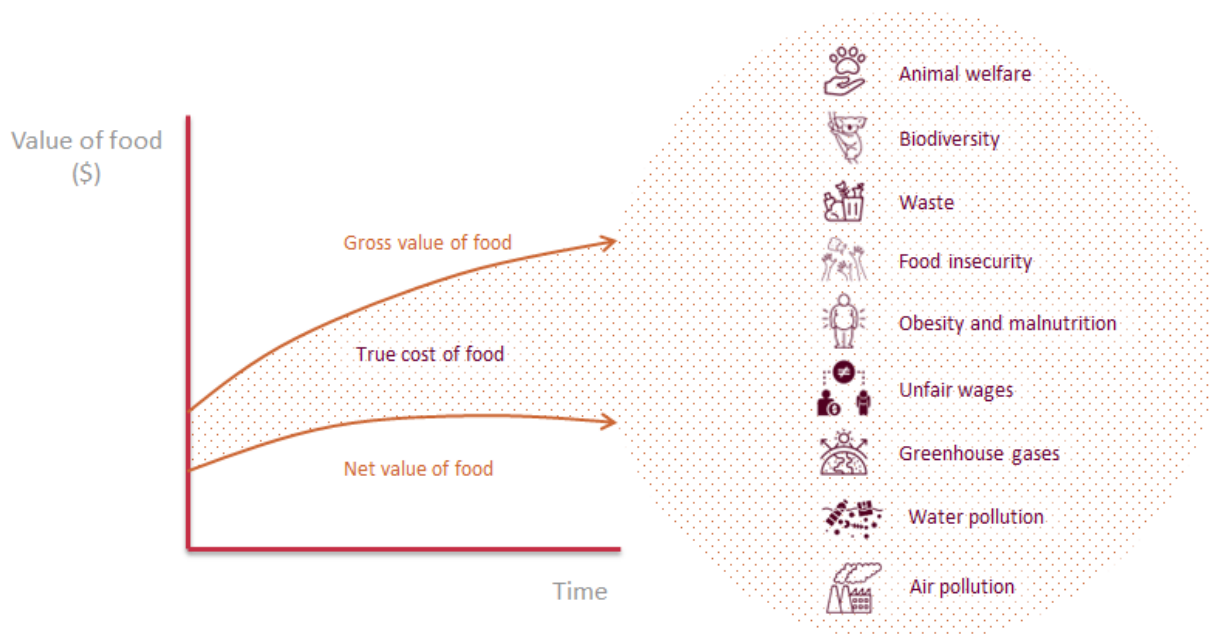
³ Marshall, A. (1920). Principles of economics; Pigou, A. (1920). The Economics of Welfare.

international interest, as well as the increased availability of high-quality data, offer an opportunity for major methodological advancements, their tailoring to the Australian context, and the mainstreaming of applications⁴.

“As both a radical mindset shift and a methodology, True Cost Accounting is one of the most powerful levers of change, applicable to policy and practice to facilitate breaking away from the status quo and transforming food systems” – Ruth Richardson, Nature Food Focus Issue⁵

It is likely that future global data and reporting systems operated by multi-lateral institutions such as the Organisation for Economic Cooperation and Development (OECD), and the Food and Agriculture Organisation of the United Nations (FAO) will adopt true cost accounting standards and impose them on member countries. In the last 4 years, international calls for scientific advancements and implementation of TCA have increased⁶. There have been recent attempts to estimate the hidden costs associated with global food systems, in particular by the Food and Land Use Coalition, UN Food Systems Summit 2021, and FAO State of Food and Agriculture 2023⁷.

Figure 1 – Some of the factors contributing to the true cost of food.



At the national level, the United Kingdom and United States have released estimates of the true cost of their national food systems⁸. Several other countries are also already leveraging TCA to design food policy and budgeting (e.g., TEERAgri-Food framework). TCA can also support businesses, financial institutions, farmers and consumers with reporting, impact investment, risk assessment and other decision making. Opportunities exist to integrate the holistic TCA approach in natural capital accounting, life-cycle assessments, national outlooks and other national reporting systems.

⁴ de Adelhart Toorop, R., Yates, J., Watkins, M., Bernard, J., & de Groot Ruiz, A. (2021). Methodologies for true cost accounting in the food sector. *Nature Food*, 2(9), 655-663.

⁵ Richardson, R. (2021). We know how to act. *Nature Food*, 2(9), 635-636.

⁶ Nature Food Focus Issue 2021: True cost accounting of food. *Nature Food*, 2, 629 (2021). <https://doi.org/10.1038/s43016-021-00379-6>.

⁷ Food and Land Use Coalition. (2019). Growing Better: Ten Critical Transitions to Transform Food and Land Use; Hendriks, S., de Groot Ruiz, A., Acosta, M.H., Baumers, H., Galgani, P., Mason-D’Croz, D., Godde, C., Waha, K., Kanidou, D., von Braun, J. and Benitez, M.. (2021). The True Cost and True Price of Food. United Nations Food Systems Summit 2021; FAO (2023). The State of Food and Agriculture 2023 – Revealing the true cost of food to transform agrifood systems. Rome. <https://doi.org/10.4060/cc7724en>.

⁸ Sustainable Food Trust (2019). The hidden cost of UK food. https://sustainablefoodtrust.org/wp-content/uploads/2022/01/Website-Version-The-Hidden-Cost-of-UK-Food_compressed.pdf; The Rockefeller Foundation (2021). True Cost of Food. Measuring What Matters to Transform the U.S. Food System. <https://www.rockefellerfoundation.org/report/true-cost-of-food-measuring-what-matters-to-transform-the-u-s-food-system/>.

Factoring true cost into decision making

Regular and reliable estimates of true cost could help decision-makers understand and manage the hidden costs of Australia's food system more effectively and avoid sub-optimal choices that could arise from overlooking them. More explicit and quantified trade-offs between economic, social and environmental goals would help to identify 'win win' and 'no regret' options. As a system-wide metric, decision makers in government and industry will be able to track overall progress towards economic, social and environmental goals.

Developing true cost methods appropriate to Australia's unique operating environment is essential to ensure the quality of true cost estimates for Australia. For example, emissions with eutrophying or acidifying effects get considerable attention in overseas policy frameworks but are less relevant to Australia's drier conditions and soils. Without information on the actual external costs associated with such emissions in the Australian context, inappropriate ("tier 1") greenhouse gas emission factors may be adopted.

The project

A new research project funded by CSIRO aims to refine TCA methods to estimate the true costs of negative externalities in the Australian food system. This will guide the management of Australia's food system, and help to avoid the sovereign risk associated with inappropriate estimates of True Cost imposed by international processes.

Revealing hidden costs and benefits of food is a necessary step, though insufficient by itself for behavioural change¹⁰.

Ultimately, TCA transformative power will depend on our collective willingness to address the full range of costs associated with food, and actively manage them. The project team will work closely with policy colleagues to introduce the idea, and explore how it can be used to complement existing economic metrics currently used to support policy.

New institutions are likely to be required to develop and test this kind of holistic approach to managing Australia's agrifood system. The University Queensland and CSIRO have invested in a joint initiative, **Food System Horizons**, to support the transformation of Australia's food system. Food System Horizons is seeking to implement the findings of the extensive consultation undertaken in building the **Reshaping Australian Food Systems** roadmap. This includes the development of more holistic and insightful policy metrics that reveal more accurately the overall performance of the food system.

"True Cost Accounting is about supporting the right investment decisions by countries and the private sector, to reduce existing costs instead of perpetuating them" – Qu Dongyu, FAO Director-General⁹


Contact

Cecile Godde, True Cost of Food Project Lead, cecile.godde@csiro.au

Fentahun Abebe, Postdoctoral Researcher, True Cost of Food Project, Fentahun.abebe@csiro.au

⁹ FAO (2023). The State of Food and Agriculture 2023 – Revealing the true cost of food to transform agrifood systems. Rome. <https://doi.org/10.4060/cc7724en>

¹⁰ Nature Food Focus Issue 2021: True cost accounting of food. *Nature Food*, 2, 629 (2021). <https://doi.org/10.1038/s43016-021-00379-6>.



Food System Horizons – Catalysing a sustainable, nutritious, and equitable food system future

Food System Horizons is a collaborative initiative between The University of Queensland and CSIRO.

foodsystemhorizons.org

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