



GLOBAL FOOD AND LAND USE TRANSITIONS



Building local loops and linkages

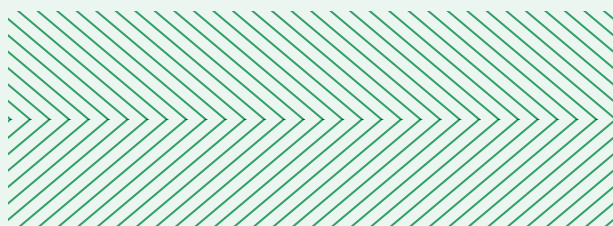
GLOBAL FOOD AND LAND USE TRANSITIONS |

Cities account for the vast majority of food demand, while producing large quantities of food and human waste. Building localⁱ food economies and closed loop systems to re-incorporate urban waste streams back into the food system offers the possibility of:

- **LOWER ENVIRONMENTAL COSTS** when paired with sustainable production practicesⁱⁱ, as a result of:
 - Less transportation and storage, resulting in lower associated food loss and waste.
 - Greater utilisation of urban waste streams for cycling nutrients back onto soils on farms, reducing the need for synthetic fertilisers.
- **IMPROVED FOOD SECURITY** and health outcomes due to:
 - Greater availability of fresh food with higher nutrient density for urban communities.
 - Expanded local food production and adaptability of local networks and shorter supply chains, which are less susceptible to shocks¹.
- **ECONOMIC OPPORTUNITIES**, including:
 - Potential for higher margins for farmers, through a reduced number of value chain intermediaries.

- Innovations in food products and services that create value from circular rather than linear practices.
- Local jobs in food production, processing and distribution², and agri-tourism.
- **SOCIAL BENEFITS** such as community-building. For example, reconnection of consumers with the production system, the farmers and the land from which their food comes, and of farmers with their customers³.
- **IMPROVED ANIMAL WELFARE** due to shorter travel to slaughterⁱⁱⁱ.

Demand from urban residents for locally sourced food is increasing, but local food economies remain immature, urban agriculture is nascent and small scale and peri-urban agriculture is threatened by urban development. Very little urban food and human waste is mined for nutrients to be recycled back into the food system. This transition would address barriers to, and accelerate the development of, local loops and linkages in food systems.



i 'Locally sourced' refers to a focus on preferencing food sourced closer to where it will be eaten. This includes food produced within cities ('urban agriculture'), in peri-urban agricultural areas, or in a local region.
 ii See the [Scaling Productive and Regenerative Agriculture](#) paper.
 iii Measures to increase local sourcing of food to meet urban demand can also help enable the development of local food economies in regional areas, with food security and accessibility, health, and broader community development benefits for regional communities who often find it hard to source food grown within their own regions.



AUSTRALIAN CONTEXT

There are a diversity of regional food economy initiatives across Australia, but these account for a small share of total food supply

- There are a range of local and regional food economy initiatives focused on connecting local producers with local consumers, often with a focus on sustainable produce and social and economic co-benefits. These initiatives are often led by local governments and non-profit organisations or social enterprises (see examples below).
- However, these initiatives account for a small share of total food supply⁴.

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Peri-urban agriculture is highly valuable but under threat from urban development, and urban agriculture remains niche

- Peri-urban agriculture accounts for less than 3 per cent of total land area, but represents around one quarter of the value of agricultural production⁵.
- A large share of fresh food is produced in peri-urban areas, for example Melbourne’s peri-urban region is able to supply 80 per cent of the city’s fresh vegetable demand⁶.

- Peri-urban agriculture is under threat from urban development, for example around 60 per cent of Sydney’s food production is projected to be lost by 2031, including 90 per cent of its fresh vegetable production. This would leave peri-urban food production able to supply only 6 per cent of Sydney’s food needs, down from 20 per cent today⁷.
- Urban agriculture experiments are occurring in many Australian cities, but they are difficult to quantify due to their diversity and small-scale.

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Very little of Australia’s urban waste is recycled into the food system, but innovations are beginning to emerge

- Local estimates of Australian urban waste recycling into the food system are not available, but globally this figure is less than two per cent⁸.
- There are a range of initiatives focused on recovering and repurposing urban food and human waste, often led by local government, non-profit organisations and social enterprises (see [Reducing Food Loss and Waste](#) paper).

CURRENT STATE OF PLAY

Key action areas^{iv} for building local loops and linkages include:

- Businesses and governments **COMMIT TO INCREASE THE SHARE OF LOCAL PROCUREMENT** of sustainably produced food, fibre and other bio-materials.
- **LIMIT COMPETITION FOR LAND IN PERI-URBAN AREAS** from urban encroachment through zoning and planning protections for agricultural land, and support for urban farming.
- **INVEST IN SYSTEMS AND INFRASTRUCTURE TO SUPPORT LOCAL LOOPS**, including local food supply chain infrastructure (e.g. food processing, aggregation/packing, distribution and digital platforms to connect local consumers and producers), circular waste management infrastructure (e.g. sorting facilities,

platforms to connect waste streams with end users), and standards for recycling of urban waste streams on farms.

- **BUILD DEMAND FOR HEALTHY AND SUSTAINABLE LOCAL FOOD**, including by building consumer awareness of the availability and benefits of local food and supporting redesign of food service offerings and products.
- **DESIGN OUT POLLUTION AND CLOSE THE LOOP** to ensure all food by-products including food processing side-streams, packaging and human waste are able to be recycled into the soil or otherwise returned into the food system.

The table below outlines the current state-of-play for each action area, including major current and proposed initiatives.

KEY ACTION AREA	PROGRESS TO DATE
COMMIT TO INCREASE THE SHARE OF LOCAL PROCUREMENT	<ul style="list-style-type: none"> • Many large retailers, food providers and governments have ‘buy local’ requirements, e.g. Victoria’s initiative to procure local food for public hospitals and aged care facilities, due for implementation mid-2020⁹. • However, the impact of these initiatives is often limited due to a lack of local food supply chain capability. • Non-profit initiatives are working to advocate for local food procurement, e.g. Eat Well Tasmania has called for the government to demonstrate leadership, strengthen government procurement rules, and provide additional resourcing for organisations working towards this goal¹⁰.
LIMIT COMPETITION FOR LAND IN PERI-URBAN AREAS	<ul style="list-style-type: none"> • State governments have established policies and/or processes that address management of peri-urban land (e.g. current Victorian review of Melbourne’s ‘green wedge’ peri-urban zone), but this remains an ongoing issue.

CONT. →



^{iv} Based on the *Growing Better* report.

KEY ACTION AREA	PROGRESS TO DATE
<p>INVEST IN LOCAL INFRASTRUCTURE TO SUPPORT LOCAL LOOPS</p>	<ul style="list-style-type: none"> ● Wholesale and retail food markets, hubs, networks and digital platforms focussed on moving local food to local people operate in many regions (e.g. farmers markets, the Open Food Network, FoodConnect and CERES Fair Food) but these types of initiatives remain fragmented. ● A number of local governments and social enterprises have established or supported urban agriculture programs to incentivise urban agriculture and support non-profit initiatives, but these remain small scale e.g. Pocket City Farms, 3000 Acres, The Moving Feast. ● Infrastructure Australia has identified 'National Waste and Recycling Management' as a high priority initiative, and recommended a coordinated strategy to identify a program of investment in recovery and reprocessing¹¹. ● For waste recovery and repurposing infrastructure initiatives, see the Reducing Food Loss and Waste paper.
<p>BUILD DEMAND FOR SUSTAINABLE LOCAL FOOD</p>	<ul style="list-style-type: none"> ● A small number of government initiatives target consumer awareness of the benefits of local food (e.g. WA's Buy West Eat Best labelling scheme¹² and 'Good Choice' campaign¹³). ● Some food services and products have been designed with a view to building demand for local produce (e.g. restaurants and cafes with a strong focus on sourcing local produce or growing on site, such as Acre Eatery in Melbourne and Sydney). ● A number of non-profit organisations focus on building local, sustainable and just food economies and providing tools and resources to enable and encourage consumer demand, e.g. Sustain, Australian Food Sovereignty Alliance, Sustainable Table, Eat Well Tasmania's We Eat Local app¹⁴, FoodWise consumer information¹⁵ and the Seasonal Food Guide¹⁶.
<p>DESIGN OUT POLLUTION AND CLOSE THE LOOP</p>	<ul style="list-style-type: none"> ● See the Reducing Food Loss and Waste paper for a range of relevant initiatives.



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FOR MORE INFORMATION

The Land Use Futures program is working to adapt the global transitions to reflect Australia's unique national and regional circumstances, and identify key actions to accelerate the transition. This paper is the first step in that process.

Find out more about Land Use Futures by visiting our website: www.climateworksaustralia.org/project/land-use-futures

The Land Use Futures program is led by ClimateWorks Australia (working within the Monash Sustainable Development Institute), Deakin University and CSIRO.

For further information, please contact:

HALEY LAMBERT

Project Manager
ClimateWorks Australia
haley.lambert@climateworksaustralia.org

ClimateWorks Australia
Level 27, 35 Collins Street
Melbourne Victoria 3000

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