AUSTRALIAN FOOD SOVEREIGNTY ALLIANCE

Australian Food Sovereignty Alliance

Submission to the Agriculture, land and emissions: discussion paper

Australian Government
Department of Agriculture, Fisheries and Forestry

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Prepared by:
Jessica Power, Tammi Jonas, Sári Komlos and Antoine Lenique

We thank the Australian Government Department of Climate Change, Energy, the Environment and Water for initiating discussions towards reducing fossil fuel emissions in agriculture and land. AFSA welcomes the opportunity to provide a written submission, as well as all further opportunities to participate in development and implementation of emissions reduction strategies. We hope the Australian Government will facilitate robust and meaningful stakeholder engagement across all aspects of the agricultural and food sector, prioritising the voices of First Peoples, rights holders and those with lived experience within our food system.

Table of Contents

About the Australian Food Sovereignty Alliance

The Australian Food Sovereignty Alliance (AFSA) is a farmer-led civil society organisation of people working towards socially-just and ecologically-sound food and agriculture systems. The democratic participation of First Peoples, small-scale food producers and local communities in decision-making processes is integral to these efforts.

AFSA provides a balanced voice to represent small-scale food producers and local communities' interests at all levels of government. We connect small-scale food producers for farmer-to-farmer knowledge sharing, assist local, state and the federal government in instituting scale-appropriate and consistent regulations and standards, and advocate for fair access for small-scale food producers to local value chain infrastructure and markets.

We are part of a robust global network of civil society organisations involved in food sovereignty and food security policy development and advocacy. We are members of the International Planning Committee for Food Sovereignty (IPC), La Via Campesina (the global movement of peasant farmers), and Urgenci: the International Network for Community-Supported Agriculture. We also support the Australasian representative on the Civil Society and Indigenous Peoples' Mechanism (CSIPM), which relates to the UN Committee on World Food Security (CFS).

Our vision is to enable agroecology-oriented farms to thrive. This has taken on an added salience in the face of the increasing impacts of the climate crisis, the ongoing COVID-19 pandemic and rising food prices as a result of ongoing droughts, fire, flood, and war. Australians care more than ever about the way their food is produced and how and where they can access it, with a growing awareness of its social, environmental, and economic impacts. Nutritious food produced and distributed in socially-just, ethical and ecologically-sound ways is increasingly in demand.

Governments must facilitate and encourage the emergence and viability of agroecology embedded in localised food systems with short and direct supply chains, thereby protecting the environment and human and animal health. Inextricable to this vision is the need to honestly and truthfully account for the land's needs. As such, AFSA works to increase understanding of and appreciation for Aboriginal and Torres Strait Islander Peoples' connection to and care for Country and the ongoing impacts of colonisation and development on Country. We aim to put First Peoples' knowledge first as best practice for healing Country and sustaining life, and as an organisation we are committed to decolonial futures for food and agriculture systems, and just relations between settlers and First Peoples.

We work extensively with primary food producers and eaters across every state and territory in Australia. The National Committee has consisted of farmers from every state, and local advocates and campaigners such as Open Food Network, Food Connect, Southern Harvest, Friends of the Earth, Fair Food Brisbane, and the Permaculture Network, as well as academics from the University of Melbourne, RMIT, Deakin University, University of Tasmania, University of Sydney, SCU, QUT, UQ and UWA.

Executive summary

Climate change is the largest existential threat to all living beings on Earth, and is unequivocally linked to the increasing greenhouse gas (GHG) emissions from burning fossil fuels since the rise of capitalism sparked the industrial revolution. The Paris Agreement in 2015 gained the support of governments to reduce GHG emissions to net zero by 2050. At COP27 in Sharm El-Sheik, the Australian Government endorsed the Glasgow Breakthrough Agenda on Agriculture (GBAA),[1] a goal to make 'climate-resilient, sustainable agriculture the most attractive and widely adopted option by farmers everywhere by 2030'. In line with COP27 commitments, the Australian Government has legislated targets to reach net zero emissions by 2050, and to reduce greenhouse gas emissions 43 percent below 2005 levels by 2030.

However, Australia's climate commitments are seriously undermined by its reliance on carbon credits to meet emissions reductions targets. The Safeguard Mechanism currently allows emitters to offset 100 percent of their emissions through the purchase of carbon credits, and according to the Australia Institute, as much as 80 percent of credits are 'junk', leading to very little or no real carbon sequestration at all.[2] The increasing financialisation of nature is worse than band-aids on cancer, it is fighting cancer *with* cancer. The current economic system is fundamentally inequitable - capitalism is built on the exploitation of land and labour and the endless pursuit of profit (as opposed to livelihood). Agroecology, on the other hand, mends the 'metabolic rift'[3] created by capitalism, by healing farmers and local communities' relations with land and each other.

AFSA promotes the application of agroecology to address the climate crisis. Agroecology is both a movement and a practice that works with nature to enhance biodiversity and restore agricultural land and water, sequestering carbon and producing systems that are more resilient in the face of escalating climate-change-induced natural disasters. Overwhelming evidence shows 'that a transition to an agriculture based on agroecological principles would not only provide rural families with significant social, economic, and environmental benefits, but would also feed the world, equitably and sustainably'.[4] The Food and Agriculture Organisation (FAO) has identified the ways that agroecology can bring solutions to several SDGs, including:

- SDG 2: Zero Hunger
- SDG 1: No Poverty
- SDG 3: Climate Action
- SDG 15: Biodiversity
- SDG 8: Decent Work and Economic Growth
- SDG 5: Gender Equality, and
- SDG 10: Reduced Inequalities.[5]

[1] DCCEEW, 2022
[2] The Australia Institute, 2023
[3] Foster 1999
[4] Nicholls and Altieri 2018 (pg. 1): FAO 2015; IAASTD 2009; IPES-Food 2016
[5] FAO, 2023

The evidence base is strong enough that agroecology is now embedded in the Kunming-Montreal Global Biodiversity Framework adopted by nearly 200 countries at COP15 in December 2022.[6]

To prepare this submission, AFSA conducted a survey of its members to get a clear picture of barriers to emissions reductions, building resilience and adaptive capacity in agriculture and land, with a total of 51 responses.

What do we mean by false solutions?

False solutions are measures that propose to address climate change, biodiversity loss, hunger, poverty, and other global crises that fail to address the economic, social and ecological roots of the crises caused by colonial capitalism. They may offer a short-term improvement, and are often framed in a way that deceives people with high tech and undemocratic approaches. These failures have the potential to create further social and ecological destruction, felt by marginalised communities first and foremost.

False solutions include technologies and policies at a global, national and sub-national level, that:

- Fail to reduce emissions or biodiversity-damaging practices where there's a continued focus on growth and exports;
- Allow countries, corporations and wealthy people most responsible for ecological damage to avoid their obligations and responsibilities to cut emissions and to halt and reverse biodiversity loss, while ensuring they retain control of food and agriculture systems;
- Transfer the responsibilities of emissions cuts and climate damage on communities that depend on land, forests, seas and oceans for survival; most of these communities have already been exploited for generations and face the brunt of catastrophic climate change and biodiversity loss that they did not cause;
- Generate environmental, social, economic and political problems and consequences, and result in the violations of human and collective rights;
- Promote privatisation and commodification of ecological resources and services, and generate private profits at the expense of people, communities and the environment; or
- Distract people and policy makers from real solutions; and direct public financing, infrastructure and institutional support away from the actions needed for systemic changes.

Examples of false solutions include: carbon and biodiversity markets; ultra-processed plant-based meat alternatives and lab meat; the digitalisation of agriculture; genetic engineering; Bioenergy and Carbon Capture and Storage (BECCS); geoengineering technologies; offset schemes such as REDD and Net Zero; Green Economy and Blue Economy.[7]

[6] Convention on Biological Diversity, 2022

[7] https://focusweb.org/false-solutions-instead-of-just-solutions/

1 The need for higher ambition

1.What are the opportunities to reduce emissions and build carbon stores in agriculture and the land? What are the main barriers to action?
2. How can we progress emission reduction efforts whilst also building resilience and adapting to climate change?

Section 1 of the discussion paper acknowledges the need for higher ambition to tackle climate change, and yet focuses on opportunities for increased trade and higher productivity, which are fundamentally incompatible with reducing emissions. For example, on page 6, the discussion paper notes the impacts of climate change will include:

> more frequent and severe natural disasters, localised changes to growing regions, and heightened biosecurity risks (IPCC 2023; ABARES 2022a).

If we parse these three impacts out, it is easy to see that:

- **More frequent and severe natural disasters** will continue to severely impact on the functioning of long supply chains, elucidating the **need to localise food systems** rather than increasing commodity trade and exports;
- **Localised changes to growing regions** will make monocultures even more vulnerable, elucidating the **need for diversified production models** rather than more intensive ones; and
- **Heightened biosecurity risks** lead to devastating losses of livestock and crops, and increased risk to human health from zoonotic diseases, elucidating the **need for greater diversity of genetic resources for food and agriculture** rather than merely greater monitoring and surveillance as is common in industrial biosecurity ideology.

These examples show the category mistake made throughout the discussion paper - the notion that it is possible to increase productivity *and* reduce emissions. The most obvious example of this magical thinking is the acknowledgement that livestock contribute two thirds of agricultural GHG emissions, but that we should increase production of livestock. We address this in more detail in Section 3. The notion is underpinned by the common sense insistence that there is not enough food in the world for a growing global population, which is false. There is already enough food produced to feed an estimated 11 billion people, and 70 percent of this is produced by smallholders with just 30 percent of agricultural land. By contrast, industrial agriculture produces just 30 percent of the world's food with a staggering 70 percent of land.[8] Rather than promoting technocratic false solutions to problems in the food system, we should instead: reduce waste by producing food closer to where it is consumed; promote diversity in food production, processing and distribution; decentralise and move away from chemical-intensive farming; and address governance barriers to equitable distribution of food.

[8] Alliance for Food Sovereignty in Africa, A Growing Culture, ETC Group, GRAIN, Groundswell Inter- national, Institute for Agriculture and Trade Policy, Landworkers Alliance, *GRAIN*, The Oakland Institute. 2022. Peasants still feed the world, even if FAO claims otherwise, 2 February, https://grain.org/en/article/6790-peasants-still-feed-the-world- even-if-fao-claims-otherwise, Accessed 4 October 2023.

Productivism has underpinned Australian agricultural policy since the rise of neoliberalism in the 1980s, placing increasing pressure on farmers to compete on price and volume of production to the detriment of social and ecological welfare.[9] Farmers who cannot afford high-tech equipment to keep up with increased domestic and export demands are being forced out of farming as large-scale agribusiness monopolises the market. The Australian Government's plan to grow agriculture to a $100 billion industry is built on decades of social and ecological exploitation of agricultural workers, land and water. Scaling up agriculture for productivity and exports further encourages monocultures as a threat to biosecurity, and overproduction where land and water is degraded.

Small-scale farmers have been historically left out of policy processes in Australia, while big agribusinesses have always had a seat at the table. Transparency of decision-making processes is lacking. One result is that small-scale food producers are bound to unnecessary regulatory burdens and financial risk despite their ability to effectively feed communities in transparent, participatory and safe local food systems. They receive very little financial support for decentralised value chain infrastructure or business development, as the Australian Government's focus on productivity and exports promotes major inequities in resource allocation, diverting vast sums of money to multinationals and the export industry instead of local and regional food economies.

> *Private agribusiness seeks to organise production and distribution of food on a global scale by influencing the structures and institutions of governance.*[10]

This skewed representation has led to regulations that favour industrial food and agriculture systems over small-scale local food production, including in the formation of trade regimes.[11] In some of the worst examples, industry controls decision making directly, with serious conflicts of interest in board constitution (e.g. the Australian Pesticides and Veterinary Medicine Authority[12] and the Climate Change Authority,[13] examples of regulatory capture).

> *Post-invasion Australian farms have swung between very large operations owned by squatters to smaller family farms encouraged by government land acts to increase food production for export. Australian governments, big agribusiness and many farming advocates have been singing the productivity song for a long time. These messages accelerated in the financial deregulation of the 1980's. Get big or get out. Produce more with less. Buy bigger machinery. Grow more tonnes. Trade in futures. Trade in water. Get rid of your collectives, cooperatives and single-desk trading platforms.*[14]

Growth and exports are the enduring focus of Australian policymakers and large-scale farmers, and they are also at the root of the environmental, social, and economic issues we face. Meat producers are among

[9] Lawrence, Richards & Lyons, 2013
[10] Friel et al., 2016
[11] Ibid.
[12] Australian Pesticides and Veterinary Medicines Authority, 2023
[13] Feik, 2023
[14] Chan, 2021 (p.15)

the largest exporters, with on average 75 percent of beef and veal, and 73 per cent of lamb and mutton, sent offshore.[15] As governments call for higher productivity and more exports, we should ask:

> ***Why should a highly productive, net-exporting country seek to export more of our precious soil and water in the form of commodities for the profit of a few?***

Meanwhile, concerns about future food security are rising, particularly in Australia where climate change impacts are already leading to degraded and increasingly inhospitable conditions to grow food. While Australia currently produces enough food per year to feed 80 million people, one in six Australians (17%) were considered severely food insecure in 2021.[16] It is estimated that Australia's population will grow to 50 million by 2050 – if farmers were to keep producing food at the current rate, we'd still have surplus to feed an extra 30 million people by then. So why do we keep hearing about the promise of technology and 'nature-based solutions' (code for environmental markets) to increase agricultural yields?

The productivist and export focus is often framed within a moralising discourse that Australian agriculture is 'feeding the world'. Yet, the reality is that exports are directed not to countries suffering widespread food insecurity, but rather the 'highest value markets in developed economies and to the middle classes in developing countries'.[17] To take but one example of the ways in which our precious soil and water are used and shipped overseas, 26 percent of Australian agricultural water is used to irrigate cotton[18], 99 percent of which is exported[19] by 1500 farmers.[20] This means that .006 percent of the population use 26 percent of agricultural water for their own benefit, water that is increasingly needed to keep ailing rivers and ecosystems alive.

An example of our concerns about the prioritising of productivity, profits, and growth in a fundamentally incompatible way with climate action is provided in the discussion paper by the National Farmers' Federation (NFF), who seek to achieve economy wide net zero emissions by 2050 'provided it is economically viable, there are no unnecessary regulatory impediments or sector specific targets, and global food security is taken into consideration.' We find it especially distressing to see exhortations over the predatory opportunities afforded by climate change to grow Australia's agricultural sector and even 'displace' international 'competitors'. AFSA stands in solidarity with all the farmers of the world and their right to livelihood, not only Australian farmers.

Finally, AFSA asserts that 'net zero' is a fundamentally low ambition, designed to allow emitters to continue emitting. The Nature Repair Market (NPM) is a deeply flawed approach to heal nature. Nature-based solutions such as those embedded in the NPM are more accurately described by the food sovereignty movement as 'nature-based dispossessions' as they enable agribusiness to claim large amounts of land, forest and water from smallholders and Indigenous Peoples, particularly in the Global South.[21] In addition, concepts such as 'nature-positive' and 'net zero' are a weak measure for reducing emissions and

[15] ibid.
[16] Foodbank, 2021
[17] Muir, 2014 (p. 5)
[18] Reading, 2017
[19] Trend Economy, 2023
[20] Cotton Australia, 2023
[21] Local Futures Economics of Happiness, 2022

halting biodiversity loss, where viewing nature through the lens of economics assumes that fossil fuel emissions can be permanently absorbed in equal amounts in forests, soil and oceans.

Transition to Agroecology

Instead of false solutions peddled by corporates and investors, AFSA calls for agroecology as the *real* solution to reducing emissions, while also addressing social, political and economic inequities in food systems. The UN Food and Agriculture Organisation (FAO) provides a clear definition of agroecology as both a science and a social movement:

> *Agroecology is a holistic and integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of sustainable agriculture and food systems. It seeks to optimise the interactions between plants, animals, humans and the environment while also addressing the need for socially equitable food systems within which people can exercise choice over what they eat and how and where it is produced. Agroecology is concurrently a science, a set of practices and a social movement and has evolved as a concept over recent decades to expand in scope from a focus on fields and farms to encompass the entirety of agriculture and food systems. It now represents a transdisciplinary field that includes the ecological, socio-cultural, technological, economic and political dimensions of food systems, from production to consumption.*[22]

Given that agroecology presents viable solutions to social, ecological, political and economic crises caused by industrial agriculture, it is a pathway toward food sovereignty. Taking this into account, it is important to note the small but growing number of agroecology-oriented farmers operating in Australia. AFSA currently represents over 100 farmer members who have embraced agroecological principles in practice and as political values.

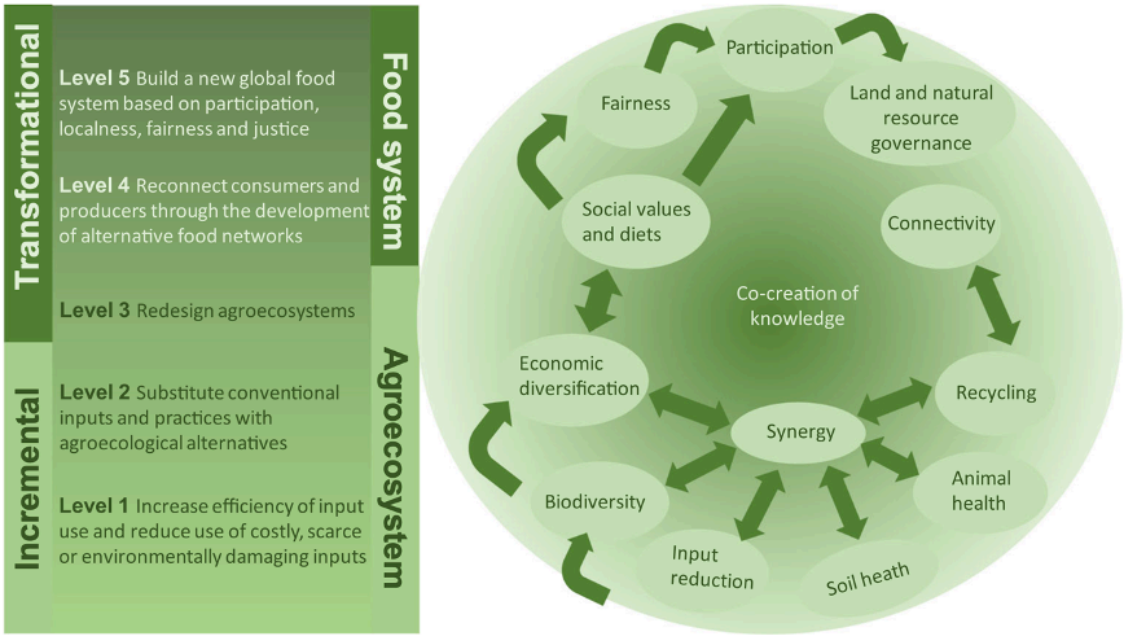
Key barriers to reducing emissions cited by AFSA members include:

- Time constraints, labour constraints, etc.: 59.6% (28 respondents)
- Lack of funds: 51.1% (24 respondents)
- Absence of clear government policies/incentives: 29.8% (14 respondents)
- Government regulation: 19.1% (9 respondents)
- Lack of knowledge: 17% (8 respondents)

Around 70 percent of food in the world is grown by small-scale food producers on small plots of land, with the remaining 30 percent grown by large-scale industrial farms, which are responsible for 75 percent of ecological destruction from farming.[23] Beyond farming, 20 percent of the world's population uses 80 percent of its resources.[24] Clearly the Minority World (aka the Global North) is using more than its share, and something has to change.

[22] Food and Agriculture Organization of the United Nations, 2023
[23] Shiva, 2017
[24] Friends of the Earth Austria, 2009

Agroecology promotes the 'frugal abundance' which ensures sufficiency for all possible through degrowth, 'demanding the "end of the scarcity capitalism produces through waste, hoarding, and privatisation".[25] This form of abundance is 'radically different from the bourgeois form of material wealth that is inevitably based on ever-increasing productivity and endless mass consumption of commodities'.[26] Central to degrowth is the principle of connectivity, which ensures proximity and trust between producers and eaters through fair and short (often direct) supply chains, and by re-embedding food systems in local economies.



Levels of Transition Towards Sustainable Food Systems & Related 13 Principles of Agroecology

1. **Recycling**. Preferentially use local renewable resources and close as far as possible resource cycles of nutrients and biomass.
2. **Input reduction**. Reduce or eliminate dependency on purchased inputs and increase self-sufficiency.
3. **Soil health**. Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and enhancing soil biological activity.
4. **Animal health**. Ensure animal health and welfare.
5. **Biodiversity**. Maintain and enhance diversity of species, functional diversity and genetic resources and thereby maintain overall agroecosystem biodiversity in time and space at field, farm and landscape scales.
6. **Synergy**. Enhance positive ecological interaction, synergy, integration and complementarity amongst the elements of agroecosystems (animals, crops, trees, soil and water).

[25] Saito, 2022. (p.232)
[26] ibid.

7. **Economic diversification**. Diversify on-farm incomes by ensuring that small-scale farmers have greater financial independence and value addition opportunities while enabling them to respond to demand from consumers.
8. **Co-creation of knowledge**. Enhance co-creation and horizontal sharing of knowledge including local and scientific innovation, especially through farmer-to-farmer exchange.
9. **Social values and diets**. Build food systems based on the culture, identity, tradition, social and gender equity of local communities that provide healthy, diversified, seasonally and culturally-appropriate diets.
10. **Fairness**. Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade, fair employment and fair treatment of intellectual property rights.
11. **Connectivity**. Ensure proximity and confidence between producers and consumers through promotion of fair and short distribution networks and by re-embedding food systems into local economies.
12. **Land and natural resource governance**. Strengthen institutional arrangements to improve, including the recognition and support of family farmers, smallholders and peasant food producers as sustainable managers of natural and genetic resources.
13. **Participation**. Encourage social organisation and greater participation in decision-making by food producers and consumers to support decentralised governance and local adaptive management of agricultural and food systems.[27]

AFSA members' top five methods for reducing emissions include:

1. Increased carbon sequestration e.g. through planting trees, healthy root systems in soil, increasing perennial plants: 70% (35 respondents)
2. Re-localising food systems: 68% (34 respondents)
3. Avoiding agrichemicals, including pesticides and synthetic fertilisers: 64% (32 respondents)
4. Focusing on agroecological principles to enhance soil health: 62% (31 respondents)
5. Rely on renewable energy sources: 42% (21 respondents)

To reiterate, AFSA asserts the following are **false solutions promoted in Section 1**:

- **Nature as capital** - the financialisation of nature is actively extending the frontier of colonial capitalist accumulation across the living Earth. Whether motivations are derived from well-meaning pragmatism or neoliberal ideology, the crudeness of these efforts is backfiring as farmers and First Peoples are rewarded with carbon credits that are sold to the highest emitters. In place of greater value-realisation for Earth's wonderful biodiversity, a crude market for dumbed-down ecosystem services has come to the fore.[28]
- **Nature-based solutions as offsets -** this leans on agricultural innovations and technologies for the purpose of promoting carbon and biodiversity offsets that can be used as credits by governments to meet critical climate change reduction targets. Concepts such as 'nature-positive' and 'net zero'

[27] Wezel, Herren & Kerr, *et al.* 2020
[28] Rappell, 2021

are a weak measure for reducing emissions and halting biodiversity loss, where viewing nature through the lens of economics assumes that fossil fuel emissions can be permanently absorbed in equal amounts in forests, soil and oceans.

- **Nature-based solutions for higher productivity** - approaches like climate-smart agriculture, sustainable intensification, and precision agriculture focus largely on yields and system stability, rather than solutions that address the complex social and political issues related to industrial agriculture. They largely re-entrench the inequity and ecological degeneration that is so characteristic of today's food system. In contrast, agroecology explicitly enhances bottom-up processes of food system transformation based on the needs, knowledge, priorities and agency of people and nature, rooted in territories.[29]

Recommendations:

- Halt negative drivers and meet obligations through policy for the targets of the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework with regard to land-use change and land-use intensification, which are major drivers of climate change and biodiversity loss.
- Develop a mechanism to financially account for loss of soil, carbon, and water through industrialised food and agricultural systems to provide subsidies for agroecological land management (e.g. by building this cost into food prices through taxation).
- Fund state and local governments to create public land banks for agroecological production.
- Enact policy that will 'Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably, in particular through the sustainable use of biodiversity,including through a substantial increase of the application of biodiversity friendly practices, such as [...] agroecological and other innovative approaches contributing to the resilience and long-term efficiency and productivity of these production systems and to food security, conserving and restoring biodiversity and maintaining nature's contributions to people,including ecosystem functions and services.'[30] This will enable Australia to meet its obligations under the *Kunming-Montreal Global Biodiversity Framework* (GBF) agreed in December 2022.
- Enact policy that will 'Reduce pollution risks and the negative impact of pollution from all sources, by 2030, to levels that are not harmful to biodiversity and ecosystem functions and services, considering cumulative effects, including: reducing excess nutrients lost to the environment by at least half including through more efficient nutrient cycling and use; reducing the overall risk from pesticides and highly hazardous chemicals by at least half including through integrated pest management, based on science, taking into account food security and livelihoods; and also preventing, reducing, and working towards eliminating plastic pollution.' This will enable Australia to meet its obligations under the *Kunming-Montreal Global Biodiversity Framework* (GBF) agreed in December 2022.
- Fund grants to democratically-constituted farmer organisations to collectivise and develop cooperative production, processing, and distribution infrastructure needed (e.g. farming equipment, abattoirs, boning rooms, grain mills, dairy processing, refrigerated transport and storage);

[29]Anderson & Bruil, 2021

[30] ibid.

- Develop and fund generously school curricula with a focus on agroecology and food literacy including garden and teaching staff;
- Increase investment in research and development to support programs in agroecology.

2 Building on existing effort and knowledge

3. Are there initiatives or innovative programs underway that could be applied or expanded on at a national scale?
4. How can the Australian Government bring together existing effort and new initiatives into one coordinated plan?

Aboriginal and Torres Strait Islander peoples occupy a unique position as the First Peoples of this Country - what is now known as Australia - and as the custodians of Country for millennia. It is through their **custodial ethic**, 'an ancient reciprocal relationship with nature; an ethic of looking after, stewardship, caring for, and the obligation to look after land'[31] that First Peoples were, and continue to be, nurtured and sustained by the land. Country and People are one.

First Peoples have long articulated colonialism's effect on Country: that it is hurt, and in need of healing. As we attempt to reset relations, we know that healing happens from the ground up, for 'when you heal Country, you heal yourself'[32]. These Indigenous relations with Country direct us to understand the ultimate life-giving, nourishing and nurturing role of Country in providing food.

> *It is only when non-Indigenous people realise that our system, while bringing certain material benefits to us, is ultimately imperilling our survival because it is attended by 'ecocide' (destruction of the environment) that we will begin to act and to turn to Indigenous people as a resource to value and to learn something from (Robbie Thorpe, interview).*[33]

Global food systems have been failing people for a long time, and the voices of Indigenous Peoples are often excluded from the conversations of sustainable food systems that they should be driving. Food sovereignty centres knowledges that are place-based, offering a political vision and framework for asserting everyone's right to nutritious and culturally-appropriate food produced and distributed in ethical and ecologically sound ways, and our right to democratically determine our own food and agriculture systems.[34]

Indigenous knowledges and land management principles and practices should be prioritised, embraced and incorporated in a substantive sense into all proposed policy reforms for food security, land and water use, and climate action in Australia, with full self-determined participation of and leadership from First Peoples.

We were pleased to see inclusion of Hepburn Shire Council's support for the community-led Z-Net program's guidelines for reducing agricultural emissions, which advocates agroecology.

[31] Graham, 2013 (p.2)
[32] Graham, 2021
[33] Land, 2015 (p.216)
[34] Nyéléni, 1996

The discussion paper cites several non-transformative initiatives that actually contribute to continued high emissions, which we will briefly review here. These are more **false solutions**.

- Rural and Research Development Corporations (RRDCs): these bodies (e.g. APL and MLA) promote increased consumption of meat, and have long directed their funds towards primarily marketing, as well as how to adapt animals to unhealthy environments rather than changing those environments (e.g. vaccines for pigs to tolerate poor air quality in sheds). While they conduct research around reducing emissions, RRDCs do not research nor promote reduced consumption.
- MERiL: once again, the productivist narrative is not challenged, and instead the focus is on a technocratic fix to maintain high levels of livestock production. Australia exports 72% of beef and lamb produced here, mostly to middle-income countries or middle classes in low-income countries[35], to the detriment of our fragile soils and limited water resources, with a significant contribution to methane emissions. In the years 2016-2017, this paradigm of vast farming properties has resulted in just 14 per cent of the nation's farms enjoying 59 per cent of market value.[36]
- Climate Active & the Nature Repair Market: as stated previously, environmental markets that provide offsets to high emitters are a false solution, even when with higher integrity carbon credits.

Instead, we recommend support for initiatives and innovative programs that support the expansion of agroecology, such as:

- Agroecology Dialogues (AFSA farmers) - An increasing number of AFSA farmer members are offering agroecology dialogues on their farms, which provide a day of horizontal knowledge sharing about the science, the practices, and the social movement of agroecology. For two examples, see Jonai Farms and Echo Valley's programs, which take participants through their systems of production, on-farm value chain infrastructure, land sharing with young farmers, CSA, and participation in the food sovereignty movement with targeted lobbying for policy reform at local, state, and global levels.
- Mornington Peninsula Food Economy and Agroecology Strategy 2022-2028 - The Mornington Peninsula Shire's Food Economic and Agroecology Strategy is a ground-breaking local government policy which aims to drive sustainable growth in the agriculture, food and beverage sectors whilst enhancing the region's ecology and biodiversity. It signals Australia's first local policy to highlight the need for transformational industry change guided by principles and practices of agroecology, circular economies and regenerative local agriculture. It departs from the conventional use of gross and net financial returns often found in economic development strategies to consider the environmental and social benefits of the Strategy. As such, its 5 Pillars focus on:
    - Pillar 1: promoting collaboration between stakeholders to secure a more resilient and sustainable food economy (Pillar 1);

[35] ABARES. 2021. Snapshot of Australian Agriculture 2021. Australian Bureau of Agricultural and Resource Economics and Sciences.
[36] ibid.

    - Pillar 2: reinvigorating the Mornington Peninsula Produce provenance brand based off a local regenerative agriculture certification system (Pillar 2);
    - Pillar 3: facilitating the regional uptake of regenerative, agroecological farming practices through certification schemes, incentives and land leasing (Pillar 3);
    - Pillar 4: engaging industry, schools and training organisation in training around regenerative agriculture and sustainable food production (Pillar 4);
    - Pillar 5: strengthening infrastructure for a circular food economy, including on-farm composting, organics recycling, recycled water schemes and renewables (Pillar 5).

  The Strategy positions the Mornington Peninsula Shire as an exemplar food economy operating a sustainable food system production to protect the region against future supply and climate shocks.

AFSA notes the range of effort and initiatives outlined in Section 2 of the discussion paper, and urges caution with bringing things together in a 'coordinated plan' led predominantly by industry (agribusiness) and government. Instead, we call for the Australian Government's support to increase the visibility of community-led efforts that enable horizontal knowledge sharing between First Peoples, farmers and communities, to share agroecological knowledge and insight that will effectively reduce emissions and respond to region-specific climate risks[37].

When surveyed, AFSA members were asked what barriers they face in achieving low emissions in their food systems activities, with the majority of respondents citing:

- Time constraints, labour constraints, etc.: 59.6% (28 respondents)
- Lack of funds: 51.1% (24 respondents)
- Absence of clear government policies/incentives: 29.8% (14 respondents
- Government regulation: 19.1% (9 respondents)
- Lack of knowledge: 17% (8 respondents)

When asked what the top 3 priorities that should be prioritised by Government in its development of the Net Zero for Agriculture and Land Plan, AFSA members stated they should be:

- Localising food systems: 68% (34 respondents)
- Transitioning to agroecology: 52% (26 respondents)
- Transition to degrowth economy (support for diverse and community economies): 40% (20 respondents)

Decolonise agriculture and land sectors

A part of the urgent need for truth-telling of the impacts of colonisation on land, peoples, water, biodiversity, and climate is the story of our food systems. It is a catch-all, in that all relate to the production of food. The need to acknowledge and respect Indigenous ways of relating to land and water, as well as many Indigenous land and water management practices, is therefore manifest.

[37] https://www.tandfonline.com/doi/full/10.1080/21683565.2023.2217095

> *Valuing the earth and the raw materials it provides for us is central to conservative economics. What is smart about eliminating the resource? [...] Every product we use must be stamped with our determination that our great-grandchildren can enjoy them in the future. This means our care must be extended to soil, water, food and the products we have created from the resources of the earth.* [38]

For Aboriginal and Torres Strait Islander Peoples, Country is kin. Therefore, nature is safeguarded where Indigenous land management is prioritised and First Peoples are the main or equal decision-makers, and the UN provides evidence that, globally, Indigenous Peoples and local communities are the best custodians of biodiversity.[39] This is well-founded in literature regarding food production, and is a key organising principle of agroecology and the food sovereignty movement.

Recommendations:

- Ratify the Nagoya Protocol.
- Apply a rights-based framework to Indigenous food and land management, and across the food system more broadly, fulfilling the obligations outlined in the Nagoya protocol and the UN Declaration on the Rights of Indigenous Peoples (UNDRIP).
- Recognise First Peoples' right to relate to Country by providing unfettered access to Country - starting with all public lands.:
    - Remove land-use regulations that restrict First Peoples' access to public lands;
    - Develop a Traditional Knowledge Code of Practice in consultation with Indigenous communities to require benefit-sharing negotiations;
    - Embed First Peoples' food, land, fire and economic management practices in all Indigenous Land Use Agreements and National Parks, above and beyond Native Title determinations;
    - Increase funding and training opportunities for First Peoples rangers and custodians to care for Country; and
    - Include First Peoples' input through culturally-appropriate engagement practices in the development of land and water resource management and planning.
- Recognise First Peoples' right to relate to Country by promoting access to Country on private lands.
    - Support partnerships between First Peoples and private landholders to give access to Country for social, cultural and economic purposes, in adherence to CSIRO's Our Knowledge Our Way guidelines;
    - Provide funding and opportunities for horizontal knowledge exchanges between First Peoples and farmers (and other landholders); and
    - Introduce 'Pay the Rent[40]' rates in local property taxes, to be paid directly to the Traditional Custodians.
- Consider First Peoples' customs and protocols on engagement and consultation. For example, settler priorities often value time and urgency over trust and relationships.

[38] Gammage & Pascoe, 2021 (p.169)
[39] FAO, 2023
[40] https://paytherent.net.au/

- Promote and learn from the efforts of local leaders in landscape rehydration (e.g. First Peoples, Peter Andrews, and the Mulloon Institute).
- Support autonomous food value chain developments, investing and rewarding agroecology-oriented farmers to:
    - Develop community-led local processing hubs and distribution channels;
    - Provide incentives for First Peoples, young farmers and food producers, women and community-led enterprises that capture and retain value locally, recognizing and addressing their specific constraints and needs; and
    - Encourage local food producers, food enterprises and communities to build recycling systems that enable the reuse of animal waste, crop residue and food processing waste in forms such as animal feed, compost, bio gas and mulch.
- Alter current Agricultural Census data collection to ensure proper representation from small scale farmers and alternative distribution models (e.g. CSAs, farmers' markets, direct sales) to understand how government processes such as scale-appropriate regulation can be amended to support scaling out.
- Survey the extensive research[41] on food distribution models undertaken during the COVID-19 pandemic, to ascertain how CSAs, farmers markets and other alternative models remained largely unaffected by long chain supply disruption. Research findings should be used to develop policy and regulations that support localised food systems being the strongest pathway to domestic food security. In order to lessen the disadvantage already encountered by communities located in outer regional and remote areas who pay increasingly more for food than their urban counterparts.
- Develop a dedicated grant scheme to support localised distribution models, especially in their initial stages, to ensure their longevity. Recognising that access to fresh, healthy, and locally produced food is often precluded by geographical location and socio-economic status (which themselves are interlinked), AFSA recommends that grants servicing distribution in low socio-economic areas are prioritised, and that consideration is given to subsidising the price of produce to increase accessibility while maintaining farmer livelihoods.
- Publish a series of 'how-to' guides to assist in the development of alternative distribution models. These guides should be informed directly by small-scale farmers and civil society to ensure pathways to alternative distribution models are reflected accurately in government resources.
- Prioritise disaster funding (grants) for farmer-led initiatives that strengthen resilience and adaptive capacity of local food systems in response to climate change impacts and in the prevention of future risks.

3 Opportunities to reduce emissions

5. What are the most important options to be further adopted or supported, looking in the short and the longer-term?
6. What are the practical solutions to increase uptake?

Section 3 of the discussion paper reviews the contributions of livestock, cropping and horticulture, and fuel and energy to agricultural emissions, noting that livestock contribute the most. While improved pasture

[41] See Estrada-Flores & Larsen, 2010 ; Tarkunde, 2021

management is canvassed, the focus is once again primarily on downstream technical false solutions such as methane-inhibiting feed supplements that perpetuate higher and more intensive production. Differentiating the impacts of the different types of livestock farming is paramount. Industrialised livestock farming, including the increasing practice of feedlotting detached from the land, is responsible for the vast majority of emissions attributed to the sector. Yet this is often overlooked by the mainstream data and rhetoric. To get an accurate picture, it is not enough to just measure direct and total emissions from the livestock farming sector (which is itself linked to other dynamics). It is also necessary to consider the life cycles of the different GHGs, which vary according to on-farm practices (e.g. set stocking v. managed holistic grazing).

Further, as climate change accelerates, we cannot simply accept the productivist narrative of the 'need' to increase production and exports, which benefits a small proportion of farms with vast landholdings at the expense of the global emissions budget and a liveable planet for all. As already outlined in Section 1, it is magical (and dangerous) thinking to suggest increasing livestock production is compatible with reducing emissions. AFSA instead advocates a transition to agroecology, which brings livestock production into harmony with ecosystems through year-round maintenance of healthy groundcover, agro-forestry and silvi-pastoralism, a focus on healthy soils and animals, and localised food systems that reduce fossil fuel use rather than export supply chains, which add to the sector's emissions.

Securing land for agroecology-oriented farmers is critical. We need an urgent policy focus to enable more small-scale producers to access affordable, secure land tenure, to begin regenerating and enhancing agroecosystems and building localised food systems which reduce emissions and contribute to food security and nutrition.Current government support for environmental markets is contributing to a rapid escalation in land grabbing in Australia and elsewhere, as investors buy agricultural land for its biodiversity and carbon values, making land ever more unaffordable and often taking it out of agricultural production. This also requires government social policy to bridge the gap between who can afford healthy, local diets and who can't.

Similarly to livestock, the cropping and horticulture sector do not need more technology, but rather changed production models to increase diversity, maintain healthy soils that store carbon, and recycle nutrients on farm rather than purchased inputs. The majority of Australian grain is exported primarily for feed for livestock and bio-fuels, and this export dependence is another avoidable source of emissions by changing focus to domestic production for local food systems. And while AFSA supports the government's call for increased use of renewables to reduce on-farm emissions, a simpler way is to avoid emissions by shortening supply chains.

Australia's forests are the most biologically productive ecosystems on Earth for sequestering carbon and an important part of the global carbon cycle. The continued clearing of vegetation and native forests poses a threat to our best available and natural carbon sink. Recently, the state governments of Victoria and Western Australia have promised to end clear-fell logging. *This is an easy and immediate solution that will allow forests to aid in global carbon drawdown efforts which are essential to preventing catastrophic climate change.* It will also afford forests the opportunity to heal from the wounds caused by decades of over extraction. Continuing to log forests places them at risk of ecological collapse in a climate crisis. Ending logging in Australia's public native forests could prevent 9 million tonnes of carbon pollution from

being emitted each year. Small-scale agro-forestry integrated with diverse farming systems could secure valuable timber, store carbon, and provide economic diversification of rural livelihoods. The discussion paper notes the poor access to milling infrastructure as a barrier to agro-forestry, which could be addressed by supporting on-farm small mills for timber endogenous to the farm.

Instead of investing in carbon markets, we advocate for the people with the most knowledge, capacity and connection to Country - First Peoples and farmers - to be prioritised in policy making and economic reform. It is crucial that there are economically and socially supported opportunities to enhance and protect soil and water and enhance carbon stores; this is labour which restores and builds resilience into the ecosystems our economy and society depend upon and must be kept protected and stewarded democratically, with First Peoples' knowledge and customs informing the processes.

Finally, AFSA supports moves towards circular economies, and urges governments to stop configuring fertility as 'waste' on farms. Where surplus nutrient or yield cannot be metabolised by the farm ecosystem, agroecology-oriented farmers respond by reducing the activities that produce an excess, rather than seeking techno-fixes that support continued over-production out of balance with the agro-ecosystem.

Transition to a degrowth economy

The Federal Government needs to consider degrowth in agriculture and land sectors if it wants to drastically reduce emissions, while also safeguarding Australia from climate risks and food insecurity. Degrowth does not mean less production of food, rather a shift away from the policies and practices that support increased productivity and growth for the purpose of exporting our food, water and soil to other markets. Central to degrowth is the principle of connectivity, which ensures proximity and trust between producers and eaters through fair and short (often direct) supply chains, and by re-embedding food systems in local economies. Degrowth can assure intergenerational justice, because 'future generations should have access to the social and material means to live flourishing lives at least at the same level as the present generation.'[42]

Recommendations

- Work collaboratively with First Peoples traditional knowledge, laws and perspectives in all Indigenous Land Use Agreements and National Parks, above and beyond Native Title determinations.
- Allocate increased funding and training opportunities for First Peoples rangers and custodians to care for Country.
- Ensure that consultation on land-use and water policy is conducted on the terms set by First Nations communities, and with appropriate community representatives.
- Provide and fund opportunities for public servants and communities to increase cultural awareness, and to learn from Indigenous knowledges and practices of caring for Country.
- Work collaboratively to adopt Tree Management Strategies to protect existing trees and support the planting of more trees on farms and other properties.

[42] Wright (2018: 10)

- Legislate to conserve, reward and enhance the sustainable use of biodiversity in agricultural and other managed ecosystems, especially in systems that also sequester carbon, to:
    - Support landowners' protection of significant ecosystems through stewardship or other effective conservation measures, or retaining and restoring native vegetation and connecting habitats. The restoration and connection of habitats should aim to maximise the genetic diversity and complexity of restored ecosystems[43]
    - Support systems that use native seeds, landrace varieties and breeds, as well as agroecology-oriented production, particularly those managed by smallholders, increasing the area dedicated to these systems; and
    - Decrease the areas dedicated to genetically uniform production.
- Reward and increase the area of ecosystems and areas managed under ecosystem-based approaches, relevant to the restoration and protection of ecosystem functions, particularly clean water provision and reduction of soil erosion.
- Provide financial and educational support for farmers to justly transition from high-risk monocultures of plants and animals to biodiverse and ecologically sustainable farming practices.
- Strengthen environmental laws and reform the Environmental Protection Biodiversity Conservation (EPBC) Act
- Terminate all Regional Forest Agreements
- Place a national ban on commercial native logging and vegetation clearing
- Enable small-scale mills (e.g. Lucas mills) for sustainable agroforestry of endogenous timber, by making them an allowable use without a permit to support diverse business models, as is common on agroecology-oriented farms
- Support state governments to invest in regional jobs for care, management and ecological restoration of public land
- Map all agricultural land and water catchments, and protect them from carbon and biodiversity 'farming' or renewable energy production that take land out of food production.

4 Developing emissions pathways

7. How do you see the agriculture and land sectors contributing over the medium and longer term? What are the opportunities to deliver emission reductions in parallel with wider goals?

Section 4 of the discussion paper acknowledges the challenges that agriculture and land sectors will face as the government continues to focus on production for exports while balancing emissions reduction targets. However, AFSA takes issue with the following statement: 'Agriculture's response to national competition reforms of the 1980s and 1990s demonstrated the industry's capacity to adjust – embracing risk and being rewarded with productivity improvements and profitability.' The rise of neoliberalism in the 1980s and 1990s led to the myriad of social, ecological and economic crises faced by Australian farmers. The ripple effect of competitive production means that many farmers are being priced out of business, leaving room for large-scale agricultural businesses to further monopolise the market. The number of farms in Australia

[43] Australia's Nature Hub, 2019

has decreased from approximately 200,000 in the 1950s to 88,700 in 2023[44][45]. Furthermore, around 75 per cent of Australia's agricultural productivity comes from operators in the top eight to 10 deciles of farm receipts, with 50 percent of output concentrated in the top 10 percent of producers.

Although there are fewer farms operating in Australia, industrial-scale productivity is increasing, yet the majority of food produced in Australia is exported to other countries rather than to meet national food security objectives. The Federal Government's 'expanded vision for the industry that includes more mixed farming, where producers supply larger volumes of lower emissions food and fibre into global markets, integrated with the provision of carbon and biodiversity outcomes at the farm-scale' does not address the fragility of global food supply chains during crises, nor the impact of climate change on farmers' ability to produce.

In order to achieve medium and long-term emissions reductions, we need immediate actions that support agroecological transitions whereby more people have access to land for small-scale food production embedded in local communities that will effectively regenerate agricultural ecosystems and strengthen local food security.

When surveyed, AFSA members were asked to provide their top 5 ways to reduce emissions in food and agriculture and the results reflect the above notion that small-scale, agroecology should be prioritised by the Australian Government:

1. Increased carbon sequestration e.g. through planting trees, healthy root systems in soil, increasing perennial plants: 70% (35 respondents)
2. Re-localising food systems: 68% (34 respondents)
3. Avoiding agrichemicals, including pesticides and synthetic fertilisers: 64% (32 respondents)
4. Focusing on agroecological principles to enhance soil health: 62% (31 respondents)
5. Rely on renewable energy sources: 42% (21 respondents)

Transition to localised food systems

Against the social and ecological crises brought on by agricultural systems that are geared towards productivity and exports, localisation is considered the antidote for many of the current and future challenges we face to feed growing populations under an increasingly volatile and inhospitable climate.

In her book *Who Really Feeds the World: The Failures of Agribusiness and The Promise of Agroecology,*[46] Vandana Shiva explains the social and ecological value of localising food systems:

> *Two principles have shaped the evolution of food systems across the world. The first is that everyone must eat. The second is that every place where human beings live produces food.*

[44] Clune, T. (2021). Conceptualising policy for sustainable agriculture development [Article]. Australian Journal of Public Administration, 80(3), 493-509. https://doi.org/10.1111/1467-8500.12436
[45] Freebairn, J. (2021). Adaptation to climate change by Australian farmers [Article]. Climate, 9(9), Article 141. https://doi.org/10.3390/cli9090141
[46] Shiva, 2016

> *Between these two principles, the food systems that have evolved to nourish people are, by their very nature, local. These systems of food production nourish both biological and cultural diversity. The localisation of food is not only natural but vital, because it allows farmers to practise the Law of Return, produce more food through biodiversity, create food systems adapted to local cultures and ecologies, and nourish themselves, their communities and the soil that they give back to.*[47]

For governments and corporations, viewing food systems through the lens of localisation is in direct contrast with how they understand the generation of profits that inform policies to scale up farming using competitive incentives, technology and other market mechanisms. However, the COVID-19 pandemic, biodiversity loss, and climate change in Australia reveal the fragility of a globalised food system, and should prompt policymakers to consider how agricultural policy should support localisation and solidarity economies to safeguard food security.

Recommendations

- Provide public facilities to host farmers' markets, food and seed fairs and festivals for agroecological and other diversified sustainable local producers.
- Implement policies that support local, diversified, sustainable, and equitable markets that enhance connections between producers and eaters.
- Facilitate the registration of agroecology-oriented food producers with trade and food-safety authorities appropriate to their size and production capacity.

5 Supporting and enabling change

8) How can the Australian Government better support agriculture and the land sector to:

a) drive innovation
b) build capacity
c) ensure the system enables emissions reductions?

9) What new initiatives could the Australian Government design that would support emissions reduction and carbon storage in agriculture and land emissions reductions and help ensure a productive, profitable, resilient and sustainable future for agriculture and land sectors?

10) A consistent and trusted approach for assessing and reporting emissions is often raised as a barrier to reducing emissions. Is there a role for the Australian Government in addressing this concern, and how can producers and land managers be supported?

11) What skills, knowledge and capabilities do you think producers and land managers need to implement change? What information and data would help them make decisions about emissions reductions and sustainable land management in the short and longer-term?

The final section of the discussion paper on agriculture, land and emissions focuses on driving innovation, building capacity, and ensuring the system enables change. Consistent with the rest of the document, it prioritises commercial viability, profitability, private investment, and protecting and increasing exports,

[47] ibid.

instead of placing the highest value on the lives of people, animals, plants, and microbes increasingly at risk from climate change. We note the interest in 'alternative and emerging' practices, and First Nations' traditional and ongoing knowledges and practices, and recommend that this line of reasoning is pursued with leadership from agroecology-oriented farmers and First Peoples. We assert that smallholders are some of the most innovative people in society, possessing what anthropologist James C. Scott calls mêtis, 'a mode of reasoning most appropriate to complex material and social tasks where the uncertainties are so daunting that we must trust our (experienced) intuition and feel our way,'[48] and are best placed to build capacity through horizontal knowledge sharing.

AFSA is deeply sceptical about techno-fixes to resolve issues caused in no small part by technology, and draw the government's attention to the Jevons paradox, which occurs when the effect from increased demand predominates, and the improved efficiency results in a faster rate of resource utilisation. The Action Group on Erosion, Technology and Consultation (ETC Group) monitors the impact of emerging technologies and corporate strategies on biodiversity, agriculture and human rights. The ETC Group puts forward: 'New high-risk technologies, ranging from the very small (synthetic biology, nanotechnology) to the very large (geoengineering), are rapidly developing. Their promoters promise that they hold the keys to solving climate change, world hunger, energy shortages and biodiversity loss and the precautionary principle and social and economic impacts are often ignored in the rush to deploy the latest technofix.' There is no clearer example of this than U.S. billionaire Bill Gates, whose book 'How to Avoid a Climate Disaster' details various lucrative false solutions to global food crises under a changing climate. Not coincidentally, Gates is currently the biggest private owner of farmland in the United States, having acquired 242,00 acres of agricultural land worth almost $700 million.

We urge the government to develop an equitable framework to assess technological innovations, asking questions such as:

- Who decided we needed the technology?
- Who designed it and for whom?
- Who profits from the technology and what practices did it alter or displace?
- Who has access to the technology and who doesn't?
- Who gathered the raw materials needed to build it and what was the ecological impact of gathering the parts to build the technology?
- Who owns the intellectual property rights?[49]

AFSA is concerned that section 5 of the discussion paper leans on RD&E as the core solution to leveraging knowledge around reducing on-farm emissions and wants to reiterate that efforts should be undertaken at a local scale, supported by policy instruments available to the Federal Government in the form of funding and legislative reform. However, the paper notes that 'producers are most motivated by peer-to-peer learning.' There is a vast body of work on farmer-to-farmer (or *campesino-a-campesino*) knowledge sharing as the best means to grow agroecology movements globally, supported by a dialogue of knowledges between the traditional knowledges of First Peoples, the mêtis of smallholders, and western science.

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[48] Scott, J.C. 1998. *Seeing Like a State: How certain schemes to improve the human condition have failed.* Yale University Press, Durham.

[49] Politics of Technology, ETC Group & A Growing Culture July 2023. See report here.

Transition to democratic knowledge production

Where productivist food and agricultural policy encourages farmers to specialise, scale up, and outsource knowledge and inputs, localised economies support *scaling out* and diversifying through horizontal knowledge sharing farmer-to-farmer. Agroecology-oriented farming supports producers to effectively feed their local communities with healthy, nourishing foods, with clear boundaries where production puts a strain on ecological, social and economic limits.

> *The fact that agroecology is based on applying principles in ways that depend on local realities means that the local knowledge and ingenuity of farmers must necessarily take a front seat. This is in contrast to conventional practices, where farmers follow pesticide and fertiliser recommendations prescribed on a recipe basis by extension agents or sales representatives.*[50]

For a major change toward sustainability in food systems, there is a need to promote assemblages of farmers groups, food security and consumer networks, public policies and authorities, and non-human actors and infrastructures, in order to provide access for civil society organisations and agroecology-oriented farmers to the decision-making process.[51] Agroecology appeals to farmers in part because it diminishes their dependencies and builds their autonomy. Thus, agroecology grows best when it is not overly dependent upon external structures originating from NGO projects, research institutions, or public policies.[52]

Recommendations

- Allocate funding to support action research and farmer-led innovation in agroecology through bodies such as CSIRO;
- Create policies that support young, aspiring agroecology-oriented farmers to access land for the long term with affordability and secure tenure as a core driving value, alongside grants and resources to establish their innovative farming enterprises;
- Develop and support transdisciplinary research conducted through platforms that foster co-learning between practitioners and researchers, and horizontal dissemination of experience among practitioners (e.g. farmer-to-farmer networks, communities of practice and agroecological beacons);
- Ensure that educational programs for agricultural extension and climate policy makers are promoting horizontal learning processes and democratically-determined use of appropriate technologies, as well as a better understanding of the role of agroecological practices for its transformative approach towards reducing emissions;
- Address power imbalances and conflicts of interest in relation to the generation, validation and communication of knowledge about agroecological farming practises and policies, by valuing different sources of knowledge and bridging gaps between knowledge generated and transmitted

[50] Rosset & Altieri, 2017

[51] González de Molina et al. 2019; Marsden, Hebinck, and Mathijs 2018

[52] Mateo Mier y Terán Giménez Cacho, Omar Felipe Giraldo, Miriam Aldasoro, Helda Morales, Bruce G. Ferguson, Peter Rosset, Ashlesha Khadse & Carmen Campos (2018): Bringing agroecology to scale: key drivers and emblematic cases, Agroecology and Sustainable Food Systems

through Indigenous Peoples and social movements on the one hand, and the scientific sector on the other;
- Prioritise strengthening and building capacity into local and regional markets over export ones;
- Implement policies that support and promote the innovation of diversified, sustainable, equitable markets that enhance connections between producers and eaters;
- Seek First Peoples participation in every decision-making process that might impact them;
- Enact stricter regulation around clear-felling in agricultural land use zones as well as increasing incentives and opportunities to plant trees on farms;
- Promote agroecology dialogues/lighthouses/beacons (farmer to farmer knowledge exchanges, farm tours, resource and tools sharing);
- Legislate Indigenous Cultural and Intellectual Property (ICIP) rights to ensure the protection of First Peoples' traditional knowledge;
- Fund agroecology farming courses and develop new resources to empower aspiring farmers to grow food following agroecology principles;
- Promote low-tech initiatives adapted to small and medium scale agroecological farming which are useful, accessible and sustainable[53];
- Introduce a Universal Basic Income to ensure everyone can afford food produced by agroecology-oriented farms.

AFSA emphasises the notion that First Peoples, farmers and local communities already have an acute understanding about changes to the landscapes that they care for. Agroecology is the culmination of traditional knowledge shared over millennia between First Peoples, farmers and other food producers, which must be protected and upheld in the development of climate change plans and policies.

[53] Based on the principle that farmers are themselves innovators, L'Atelier Paysan has been collaboratively developing methods and practices to reclaim farming skills and achieve self-sufficiency in relation to the tools and machinery used in organic farming.