

Agriculture Land and Emissions discussion paper: Sustenance Asia submission.

13 December 2023

This is an opportunity for a complete reset; it won't work without a complete reset.

Thank you for the opportunity to provide this submission.

Sustenance Asia is a specialist agrifood sustainability consultancy founded in 2014. I began working in sustainability in 2002, which makes me one of the most experienced sustainability practitioners in Australian agrifood.

The need for a long-term and coordinated national plan to reduce the agriculture and land sector's net emissions is long overdue. The scale and urgency of the task – and of the opportunity – means tweaking what has been done in the past and expecting the transformation needed will not be sufficient. That would simply be a case study in the well-known definition of insanity. Meaningful action in the past has been stifled by needless complexity, confusion, duplication and ideology from both ends of the political spectrum.

The Australian Government's Agriculture and Land Sector Plan is a one-off chance for a complete reset of how emissions are managed in agriculture. By definition, this reset must include how the interlinked agricultural assets that impact net emissions reduction – including biodiversity, soil, and human capital – are managed. This fundamental and coordinated change will lead to increased natural and human capital resilience in farming systems.

This submission addresses all the discussion paper questions by providing a suggested holistic and collaborative cross-sector and cross-jurisdictional approach for this reset. It also aims to remove the unnecessary complexity and confusion from greenhouse gases, and provide the clarity and certainty needed for action.

A graphic summary of this approach is provided as an attachment.

1. Spell out the sources of greenhouse gas (GHG) emissions and pools.

The overwhelming source of GHGs, and cause of climate change, is fossil fuel emissions. In agriculture, some farming and natural processes also release GHGs. Carbon is largely stored in vegetation and soil (and ocean), and can primarily be removed in agriculture by increasing woody vegetation (sinks).

The current magnitude of fossil fuel and other emission sources, and carbon stores and sinks to agriculture and land sector's net emissions needs to be more clearly and compellingly communicated. The existing National Greenhouse Inventory provides this at an aggregate national level; the Greenhouse Accounting Frameworks for Primary Industries from the University of Melbourne's Primary Industries Climate Challenge Centre is emerging as the consistent cross-sector tool for measuring industry emissions. Both should be used to more simply communicate emissions and reductions.

This needs to be a clear and simple starting point for all stakeholders to understand and to keep coming back to, to see progress and be motivated to act. Like the fundraising thermometer outside the local school to track community progress to the fundraising goal: four emissions reduction thermometers for fossil fuel and other emission sources, and carbon stores and sinks.

2. Define opportunities to reduce emissions and increase pools

Eliminating fossil fuel emissions must be an absolute priority, both because of the magnitude of the opportunity, and the need to stop the false narrative agriculture is the cause of climate change. Green nitrogen and green fuels like renewable and hydrogen energy are the obvious opportunities. Carbon capture and use of emissions in new manufacturing industries adjacent to



coal-fired power stations (as opposed to carbon capture and storage – CCS – a which is a commercial, social and environmental impossibility to work at scale) may be a novel additional opportunity, but with almost two wasted decades of inaction and CCS platitudes it's hard to see this happening in the timeframe needed.

Individual industries need to be heavily involved in the identification of opportunities to reduce other emissions specific to their sectors – enteric methane and nitrogen fertilizer, for example.

Much more needs to be done to maintain existing stores of carbon in woody vegetation on Australian farms; keeping carbon stored in mature trees is far cheaper, more effective, and more certain than investing in revegetation. This will require a fundamental rethink of financial incentives from society – via governments and consumers – to pay for the public good provided by keeping woody vegetation, and other incentives to motivate landholders not to clear land. These other incentives will include more clearly quantifying the private good landholders receive from ecosystem services, and the cultural and behavioural changes needed put a higher value on native vegetation. Acknowledging the landholders who have kept large tracts of vegetation intact must be a part of the suite of non-financial incentives; these stewards should feel rewarded for past “good” practices, not excluded because additionality rewards past “bad” practices. The Land Restoration Fund provides a good starting point for this thinking, as does the work of the Australian cotton industry, the Natural Capital Measurement Catalogue and Farming for the Future to value natural capital. The National Soil Strategy has an obvious leading role to play in maintaining soil carbon stores.

To increase carbon removals, the confusion around carbon – and most likely in the near future, confusion around biodiversity – markets must be removed. It would seem the influx of private companies to maximise individual benefits from a public good has amplified what was already a confusing and complex topic for most landholders. There needs to be a trusted source of advice for landholders. Because native vegetation and soils changes across the landscape, this trusted source of advice must be regionally appropriate. And it must balance biodiversity and social needs against solely carbon removal outcomes; the excess of pine trees planted in New Zealand to maximise carbon credits at the cost of biodiversity is a clear warning of profit-focused carbon removal tunnel vision. Australia's network of 54 Natural Resource Management regions¹ provides an obvious opportunity to have nationally consistent place-based advice, tools and support in a one-stop non-profit shop of regional hubs for landholders and their trusted advisers. This model should include a farmer-owned carbon and biodiversity aggregation company aligned to each regional hub, to minimise farmer costs and ensure projects will prioritise long-term regional natural and social capital growth over short term profit. The key to this national network of trusted, regionally-appropriate advice and support is to ensure it is properly funded – in quantum and in certainty – to enable the long-term changer and long-term relationship-building needed.

This step needs to also quantify the maximum technical reductions and removals by all the opportunities identified, and the likely timeframe by which these will be achieved. This is needed to provide a credible pathway to goals and targets.

3. Set long-term science-based goals and medium-term targets.

Clear and ambitious 2050 goals for reducing emissions from fossil fuel and other sources, and increasing carbon stores and sinks, will make the scale of change tangible and give stakeholders something to aim for. It's the figure on top of each of those four emissions reduction thermometers.

To be consistent with international markets and the expectations of Australian food and fibre customers, these goals should be science-based: aligned with Earth's limits and societal sustainability goals². For agriculture and land sector emissions, this means the goals must be in line with what this sector needs to do to contribute its fair share to what the latest climate science says is necessary to limit global warming to well below 2°C above pre-industrial levels.

¹ Full disclosure: I was appointed to the Board of NRM South in 2023, but I am organisation agnostic. The NRM Regions Australia network seems a logical default entity for this model, but if there is a better one I would be supportive of it. What is not needed is a whole new entity created that duplicates what is already here: we need to make use of existing assets.

² Science Based Targets for Nature: Initial Guidance for Business. September 2020.

Note that 'contributing its fair share' may mean not taking the same blanket approach to setting targets as other sectors. There always have been emissions from natural processes associated with agriculture, and there always will be. Climate change is not caused by agriculture, and it will not be solved by stopping agriculture. Climate change is caused by burning industrial volumes of carbon that were previously safely stored in the ground, and it will be solved by stopping emissions that come from burning fossil fuels. The agriculture and land sector must be decarbonized as quickly as possible and it must reduce its other sources of emissions, but applying a similar level of reductions and target-setting methods to other sectors of the economy may be inequitable. It will also create socio-economic impacts that are not consistent with the definition of science-based targets or with the Sustainable Development Goals. An extension of this same logic is not setting unrealistic increases in carbon stores and sinks in the agriculture and land sector, especially if this is used as an excuse for offsetting the continued release of fossil fuel emissions.

In short, a science-based method to set goals that ensure the agriculture and land sector is contributing its fair share to global goals is needed, but this may not be a direct replica of the Science Based Target Initiative method.

Medium-term 2030 and 2035 targets are needed to check progress is on track.

Goals and targets will almost certainly be opposed by some for being too ambitious, and by others for not being ambitious enough. These voices need to be ignored; there is simply no time to allow ideology or ignorance to influence what must be done, and done urgently.

There is a critical role for Australia's trusted government scientific community to do this work.

4. Develop a coordinated, cross-sector, cross-jurisdictional plan.

The Australian Government must develop a clear plan to achieve goals, but shouldn't over-think it. A long and glossy plan will be a terrible plan. It does not need to be made more complex and confusing than the climate change space already is.

To realise the opportunities needed to achieve goals and targets, the plan simply needs to articulate:

- What is being done well, and should continue
- What is being done, but is duplicated or delivered inconsistently by several stakeholders, and needs to be consolidated
- What are the gaps that need to be filled. This should include social capital gaps in addition to physical emissions reduction actions: embedding behavioural change principles within this plan will be essential to support the shift in culture needed
- What are the specific roles for governments, industries and individual businesses to take maximum advantage of the opportunities identified to achieve targets and goals. Working in order of magnitude of impact and likely emissions reduction return on investment, define the policy settings, the adoption incentives, the commercial needs and the other actions that specific stakeholders need to take clear responsibility for.

The role of the Federal Government is to play the central coordinating role to make this happen, and to ensure the national network of regional hubs has nationally consistent information and resources to extend in a regionally appropriate way to landholders and their trusted advisers.

What this plan does need is bi-partisan political support (climate change and natural systems don't follow the electoral cycle), cross-jurisdictional support (they don't observe State and Territory borders either) and cross-sector support (nor do they care what commodities farms grow). As with setting goals, it's acknowledged that in reality this may initially be challenging. But it simply must be done.

Thank you for the opportunity to make this submission.

Chris Cosgrove
Director



Attachment: A holistic approach to reducing agriculture and land emissions.

Define and baseline
sources of current
emissions & pools:

Emissions

| | |
|---|---|
| Fossil fuels <ul style="list-style-type: none"> Fuel Electricity Other | Other <ul style="list-style-type: none"> Livestock enteric methane Cropping fertilizer Other |
| X tonnes CO ₂ e (government to baseline this) | X tonnes CO ₂ e (government to baseline this) |

Pools

| | |
|---|--|
| Stores <ul style="list-style-type: none"> Existing native vegetation Existing orchards Soil Other | Sinks <ul style="list-style-type: none"> Increased vegetation Increased soil organic carbon? |
| X tonnes CO ₂ e (government to baseline this) | X tonnes CO ₂ e (government to baseline this) |

Define opportunities
to reduce emissions
and increase pools:

| | |
|---|---|
| Eliminate fossil fuels as a priority. Eg green N, renewable energy, H for transport/machinery. | Sector-specific initiatives, existing and new. Eg, CN30, nitrogen use efficiency, etc. |
| Quantify maximum technical reductions and likely timeframe. | |

| | |
|---|---|
| More recognition and financial incentives for landholders to keep woody vegetation in place. Eg Land Restoration Fund. | Remove confusion & give trusted, regionally-appropriate advice. Eg, cotton industry regional hubs model. |
| Quantify maximum technical reductions and likely timeframe. | |

Set long-term goals &
medium-term targets

| | |
|--------------------|--------------------|
| 2030 – 2035 – 2050 | 2030 – 2035 – 2050 |
|--------------------|--------------------|

| | |
|--------------------|--------------------|
| 2030 – 2035 – 2050 | 2030 – 2035 – 2050 |
|--------------------|--------------------|

Coordinated cross-
jurisdiction, cross-
sector plan

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|---|
| Gap analysis / define actions needed, by when, & by whom – Assign Govt, industry, individual responsibilities. |
| Delivered through regional hubs. <ul style="list-style-type: none"> Targeted advice and support for regional priorities that most contribute to national goals Nationally consistent and trusted tools to measure change and impact, and assess options One-stop-shop for farmers and their advisers to get trusted advice, and for governments and others to reach farmers NRMs as the default entity – but must have proper certainty of funding. |

Federal Government
role

Drive all this work. Stop the chat. Stop the confusion. Stop the over-complexity. **Just do it.**
Make it bi-partisan. Leave politics and ideology at the door. Involve anyone who wants to make a constructive contribution to working collaboratively to benefit Australian agriculture, nature and society.