[redacted] Submission to the consultation on the Agriculture and Land Sectoral Plan

Via Have Your Say 5th January 2024

Response to the questions listed in the discussion paper:

1) **What are the opportunities to reduce emissions and build carbon stores in agriculture and the land? What are the main barriers to action?**

Building nature based carbon stores plays an important role in addressing the twin biodiversity and climate crises. Agricultural land across Australia accounts for 55% of the land use, and in Queensland, which has the largest cattle herd, 88% of land is used for agriculture. This land has been subject to broadscale land clearing for decades. With the appropriate land management practices, including protection of remnant and high conservation value vegetation, and allowing the regrowth of forests has the potential to draw down a significant amount of carbon.

Under current regulatory frameworks, broadscale land clearing and deforestation continues, predominantly throughout Queensland and New South Wales. Without tighter regulatory frameworks to prohibit these practices, incentives and the role of the carbon and biodiversity markets are critical. Emissions from the land sector can be reduced by:

- reducing land clearing and native forest logging;
- retaining remnant and high conservation value vegetation as well as allowing regrowth to restore landscapes; and
- altered herd management regimes.

There is a lack of recognition in the discussion paper of the significance of land clearing emissions overall and the role of agriculture. After enteric methane, land clearing is the next largest source of emissions from agricultural activity. The average annual emissions from tree clearing from 2013 to 2017 was 31 Mt CO2eq, with about 75% of deforestation attributable to agriculture (2010-2014).[1]

There are opportunities to drastically reduce emissions from the land sector through the development of high integrity carbon methodologies that reduce native forest logging rates and reduce clearing of native regrowth. For example, incentivising large scale reductions of emissions from a cessation of logging in public native forests can be achieved – if effective high integrity methodologies are created and innovative and ambitious carbon projects developed. This offers significant abatement almost immediately, and extends over the life of the projects through permanence requirements.

[1] Meyer, Rachelle & Doran-Browne, Natalie & Dooley, Kate & Eckard, Richard. (2020). Achieving net negative emissions in a productive agricultural sector A review of options for the Australian agricultural sector to contribute to the net-zero economy. 10.13140/RG.2.2.15619.84002

The main barriers to action include lack of consensus from industry about the impacts of land clearing, lack of a coordinated national plan and central education resource for landholders to engage in carbon and biodiversity markets and the role of land valuations in not placing a representative value on land that is participating in carbon and biodiversity programs.

[redacted] supports the development of new carbon methodologies that will ultimately protect biodiversity and native forests and draw down large amounts of carbon over the project's lifetime. The development of market based incentives can only be realised if the reform of the Environment Protection and Biodiversity Conservation Act (EPBC Act) is robust and creates a strong regulatory base for the protection of native vegetation.

Implementing the Chubb Review recommendations in full is also an essential precondition to delivering an effective agriculture and land sector plan. Timely implementation, including rapidly developing processes for the development of methods and abatement projects that can contribute to 2030 targets, must also be a priority to underpin agriculture and land sector emissions reduction.

[redacted] strongly supports the development of the sectoral plan and the progress in a set of related reforms, including the passage and implementation of Nature Repair Act, Nature Positive and ACCU scheme reforms, and the review of the National Forest Policy Statement, and look forward to ongoing and constructive participation in these processes.

2) How can we progress emission reduction efforts whilst also building resilience and adapting to climate change?

Better land management practices, including reducing land clearing, increases the resilience of the agriculture sector by promoting stable stream flow, increasing soil moisture levels and improves productivity during droughts. Landscape resilience can be improved given the ecosystem services that vegetation provides as outlined below:

- Vegetation provides shade and shelter for livestock, and forests and woodlands provide a cooling effect on the land's surface.[2]
- There is increasing evidence that native vegetation is associated with the water cycle and rainfall.[3] Water infiltration and groundwater recharge has been found to be greater in areas covered by trees, with up to five times the amount of infiltration occurring when compared with grassy slopes or cultivated areas.[4] Trees can also moderate large run-off events[5] and decrease streamflow and surface runoff during the rain periods which can reduce the risk of moderate floods.[6]
- Degradation and loss of intact forests can increase the number of dry and hot days, increase the risk of intense fires, decrease daily rainfall intensity and wet day rainfall, and increase drought duration during El Niño years.[7]

[2] Kilvert, N (2018) *When trees make rain: Could restoring forests help ease drought in Australia?* (for Life Matters) ABC Science. https://www.abc.net.au/news/science/2018-09-15/trees-make-rain-ease-drought/10236572 accessed 15/2/2021

[3] Anthes, R. A. (1984) Enhancement of Convective Precipitation by Mesoscale Variations in Vegetative Covering in Semi-arid Regions. *Journal of Applied Meteorology and Climatology* Volume 23: Issue 4

[4] Eldridge, D.J. and Freudenberger, D. (2005) Ecosystem wicks: Woodland trees enhance water infiltration in a fragmented agricultural landscape in eastern Australia. *Austral Ecology* (2005) 30, 336–347

[5] Williams, J., Bui, E.N., Gardner, E.A., Littleboy, M. and Probert, M.E. (1997). Tree clearing and dryland salinity hazard in the upper Burdekin catchment of north Queensland. *Australian Journal of Soil Research* **35:** 785-801.

[6] Marhaento, H., Booij, M.J., Rahardjo, N. and Ahmed, N. (2021). Impacts of forestation on the annual and seasonal water balance of a tropical catchment under climate change. Forest Ecosystems 8, 64

[7] Sheil, D. & Murdiyarso, D. How forests attract rain: an examination of a new hypothesis. Bioscience 59, 341–347 (2009).

- Trees provide habitat for more than 80% of our land-based wildlife.[8]

To ensure that the plan is effective, we support an approach to the development of the agriculture and land sector plan that prioritises target setting and establishes a goal to achieve net zero across the agriculture and land sectors by 2030 at the latest. We note agricultural emissions exceed the aggregated (carbon sink and source) LULUCF carbon removals by more than 20%, and that there are large untapped abatement opportunities from ending land clearing and logging inside the aggregated LULUCF total.

With action, sector wide net zero is achievable by 2030. These targets should be accompanied with a specific set of actions that incentivise participation in emissions reduction and the provision of environmental and co-benefits, with clear roles, milestones and responsibilities assigned for delivery across relevant portfolios and agencies.

Methane emissions from animal agriculture accounted for 11.4% of Queensland's emissions in 2021 and represent a huge opportunity to reduce emissions. Australia has now signed up to the Global Methane Pledge to reduce emissions by 30% on 2020 levels by 2030. CSIRO estimates that Queensland could reduce methane emissions by 4.5 - 8 million tonnes every year by 2030. Accenture estimated that this could be up to a 15 million tonne annual saving through a combination of food additives, grazing management and genetics[9]**.**

Industrial logging can reduce the ecological integrity of forests by removing habitat and feed trees, reducing structural complexity, killing native wildlife, killing den/nest trees and causing soil erosion. This reduces forest resilience and the ability of forest landscapes to store carbon.[10] Ending logging, particularly clearfell logging, will both reduce forest carbon emissions and allow degraded forests to recover. This will assist native vegetation to germinate or sprout from root stock. Wildlife sensitive to disturbance from logging will be able to recolonise recovering forests over time, including wildlife critical to ecological processes such as pollinators, seed dispersers, soil engineers and animals that consume invasive plants and animals. Over time, the restoration of forests previously logged supports the establishment of ecological processes and long term carbon storage.

3) Are there initiatives or innovative programs underway that could be applied or expanded on at a national scale?

The Queensland Government commissioned the CSIRO to develop a Low Emissions Agriculture Roadmap, released in 2022. This outlined how Queensland could reduce agricultural emissions by nearly 50% by 2030 through reductions in methane enteric fermentation emissions and improvements to cropping land management. However, this Roadmap did not actually set hard targets or mechanisms for how to implement these practices in Queensland. The Australian Government should focus on setting clear emissions reduction targets and national plans to bring these initiatives into mainstream agricultural practice.

Queensland's Land Restoration Fund (LRF) provides an appropriate model that integrates landscape restoration and carbon farming. The LRF comprises two components – Research, Innovation and Market Development that serves to reduce barriers and increase uptake to carbon farming by landholders, and a

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Spracklen, D. V., Arnold, S. R. & Taylor, C. M. Observations of increased tropical rainfall preceded by air passage over forests. Nature 489, 282–285 (2012).
Alkama, R. & Cescatti, A. Biophysical climate impacts of recent changes in global forest cover. Science 351, 600–604 (2016).
[8] https://www.iucn.org/resources/issues-brief/forests-and-climate-change
[9] Accenture (2023) *Queensland Climate Action Plan: Laying the foundation for a successful climate transformation*
[10] Lindenmayer, D, and Taylor, C, 2022. Diversifying Forest Landscape Management—A Case Study of a Shift from Native Forest Logging to Plantations in Australian Wet Forests, *Land* 2022, *11*(3), 407, https://doi.org/10.3390/land11030407

contracting component where the LRF purchases ACCUs with co-benefits (environmental, socioeconomic and First Nations outcomes that are additional to ACCUs). The LRF is currently being reviewed to extend the success of this initiative, for example with potential additions such as supporting the development of new high integrity carbon and biodiversity crediting methods, ongoing investment in landholder extension services, and investment in data platforms. The LRF model could inform the development of the agriculture and land sector plan, including the integration of emissions reduction and environmental and social co-benefits, and the practical emphasis on development and uptake of emissions reduction projects.

The Glasgow Leaders Declaration on Forests and Land Use sets out a commitment to protect remnant forests and reduce emissions by halting forest loss. As described in the declaration:

Recognise that to meet our land use, climate, biodiversity and sustainable development goals, both globally and nationally, will require transformative further action in the interconnected areas of sustainable production and consumption; infrastructure development; trade; finance and investment; and support for smallholders, Indigenous Peoples, and local communities, who depend on forests for their livelihoods and have a key role in their stewardship.

The agriculture and land sector plan should include active measures that contribute to the Declaration and set clear targets to achieve the six listed areas of priority.

Understanding the emissions from the land sector could be improved drastically by implementing a national tree cover monitoring study, such as the Statewide Landcover and Trees Study (SLATS) program operating in Queensland. Currently, there is a discrepancy between the data utilised in National Greenhouse Gas Inventory (NGGI) and SLATS, with SLATS being more accurate to determine tree cover loss. A coordinated national tree cover monitoring program such as SLATS can be expanded to deliver improved transparency of LULUCF emissions.

Realising these opportunities requires innovation and collaboration across the Australian Government and with the states and territories. The development of the agriculture and land sector plan, as well as policy and market reforms including the Safeguards Mechanism, the Carbon Farming Initiative Act and ACCU scheme, the review of the National Forest Policy Statement, the Nature Positive reforms, and the passage of the Nature Repair Act provide a significant platform for creating an effective, coherent and durable set of incentives and policies that reduce emissions in the agricultural and land sector.

4) How can the Australian Government bring together existing effort and new initiatives into one coordinated plan?

The agriculture and land sectoral plan provides an opportunity to combine existing and new initiatives, and this coordination and learnings should be incorporated across the development of the remaining sectoral plans. It is imperative that the agriculture and land sector plan establishes clear targets that are reflected in the priorities of each responsible department, and that can be used to guide joint implementation with states, territories and other actors. Each target should be accompanied by specific processes, programs and instruments that clearly identify the respective roles and actions to be undertaken.

If the Australian Government established effective shared objectives, targets and activities across the three key Australian Government Agriculture and Forestry, Climate Change, and Environment portfolios, this would provide an essential precondition of a durable and effective agriculture and land sector plan. Such a convergence of targets and plans would support practical options that can deliver a number of benefits, including large scale emissions reduction; income streams, market access and productivity for industry and land managers; and progress towards Nature Positive environmental protection and

restoration targets. We believe these agencies working together is a clear and essential area for joint target setting and coordinated delivery across portfolios.

The agriculture and land sector plan should be structured to assess and prioritise actions at a sub-sector level and data is disaggregated accordingly as there are particular challenges associated with each sub-sector that need to be addressed differently. This allows for understanding, monitoring and reporting emissions so that the most transformative actions within a sub-sector can be prioritised. Although the plan states at page 20 that 'there is no expectation there will be sector-specific emissions reduction targets', we believe that for continuous improvement it is essential that emissions data is disaggregated for monitoring and adaptation. Without clear and up to date data by subsector, there will be a lack of feedback and indicators that allows for the adaptation and scaling of effective programs.

5) What are the most important options to be further adopted or supported, looking in the short and the longer-term?

Reducing land clearing and improving monitoring and reporting should be an immediate priority as land clearing is the second largest source of emissions from agricultural activity. There is a need to improve national native vegetation monitoring as previously discussed and to facilitate initiatives which provide a financial incentive, market access or improve resilience from retaining vegetation and generating nature positive outcomes.

New carbon methodologies play a critical role in removing barriers to access long term protection measures for native regrowth and native forests. The development of these new methodologies along with the implementation of the CHUBB review and reforms of the EPBC Act will bring about significant reductions in emissions from the land sector.

There is a clear need for substantial investments in data, measurement, method development and verification related to complementary investments in natural capital protection and restoration projects. The Nature Repair Act provides some foundational architecture, however prioritising standards development, method development, and building skills and capacity to ensure landholders can develop biodiversity protection and restoration projects must be an identified priority in the agricultural and land sector plan. This would benefit both standalone environmental protection, restoration and sustainable land management activities, and the creation of co-benefits alongside ACCU generating projects.

Further modelling of the abatement potential of ending the logging of native forests, increasing rotation times and expanding the extent of plantations, and ending land clearing should be undertaken as a priority activity in developing the agriculture and land sector plan.

6) What are the practical solutions to increase uptake?

To increase uptake, there needs to be clear and coordinated information readily available to land holders along with strong market based incentives to drive a high integrity carbon and biodiversity market.There needs to be investment in marketing and promotion with the right messengers with peer to peer education known to be the most effective form of information dissemination.

As previously discussed, the development of new methodologies that are applicable to areas most at risk of land clearing, including areas of regrowth and native forests currently being logged will increase uptake. The new methods, along with clear information for land holders will greatly contribute to the uptake of these projects and therefore reduce emissions from the land sector.

Land valuations also need to accommodate for carbon and biodiversity projects and adjust accordingly, currently there is a disincentive as land values decrease with carbon projects and this needs to be addressed in order to increase uptake.

Similar assessments of continuing disincentives in taxation and drought support benefits, that may be acting as barriers to uptake of income or activities from carbon sequestration or nature restoration.

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?

Protecting and restoring native forests and woodland in the land sector would also achieve several other important policy goals of the Australian Government. This includes the delivery of nature positive outcomes embedded in 2030 targets outlined in the Global Biodiversity Framework, including those related to vegetation and habitat protection, and restoration. Abatement through native vegetation protection and establishment is also likely to contribute to other key policy reforms, such as regional planning and habitat protections under the reforms to the EPBC Act. The commitment of no new extinctions will also be supported by addressing emissions reductions from the agriculture and land sector.

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

- drive innovation, build capacity, ensure the system enables emissions reductions?

The Australian government can help accelerate emissions reduction in agriculture and increase carbon storage in the land by implementing robust EPBC reforms and developing the mechanisms through the Nature Repair Bill that drive private sector investment into agricultural lands and set a scientifically robust standard for measuring and monitoring biodiversity outcomes through national accounts.

There is an opportunity to set a market incentive of deforestation-free beef that lays the foundation for a premium product. This could be supported by the Australian Government to drive product innovation and reduce emissions from land clearing.

Building capacity could be achieved through increased extensions services that upskill farmers and support peer to peer learning. Whilst there are many successful projects currently underway, these can be improved through a more nationally coordinated approach.

Ongoing efforts to engage directly with landholders to draw their attention to the (increasing) emissions reduction opportunities in the agriculture and land sector, and to reduce practical barriers to participation are important to continue. Investments in extension activities – such as how to undertake emissions reduction projects – are critical, particularly for those abatement sources that require engaging with large numbers of landholders. We note, for example, practical initiatives such as Queensland's Carbon Farming Advice Scheme that funds advice for landholders from accredited providers. These types of programs can be scaled up nationally.

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

The development of a national food plan (noting that this was last done in 2013) that seeks to describe a future of farming that is sustainable and addresses the cost of living crisis will support both emissions reduction opportunities in the land sector and bring together a range of initiatives to ensure that the agriculture and land sector supports food security.

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?

There should be timely release of national tree cover similar to that of the SLATS in Queensland. This information should be widely shared and easily accessible and include further details on the extent and condition of native forests and the impacts of agriculture and land use change.

Environmental Information Australia should play a central role in ensuring that data is coordinated and communicated clearly to both the general public and industry.

Emissions data for States and regions should be released more frequently, and with a reduced lag, providing greater direct incentive for further action.

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?

There needs to be a coordinated, clear and one-stop shop for information on market opportunities and best land management practices to reduce emissions and increase carbon storage in the land that is readily available to land managers. Currently, there are too many different sources of information and information is not disseminated in a coordinated fashion. NRM groups and other locally based community groups should be supported to deliver coordinated information and extension officers should be supported and coordinated so that all points of information are clear.

New land managers and owners should be provided information through real estates and supported to make the appropriate sustainable land management choices.