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Enhancing Australia's Agriculture and Land Sector Decarbonisation through Nature-Based Solutions

4 January 2024

Dear Department of Agriculture, Fisheries and Forestry,

Submission to the Agriculture and Land Sectoral Decarbonisation Plan

The Nature-based Solutions Working Group of Better Futures Australia (BFA) welcomes the opportunity to contribute to the development of the Agriculture and Land Sectoral Decarbonisation Plan. Our group represents a coalition of experts and stakeholders from various sectors committed to advancing Nature-based Solutions (NbS) in climate policy and action. In line with the recent COP28 agreement¹, which marks the beginning of the end of the fossil fuel era, we emphasise the critical urgency of phasing out fossil fuels across all sectors including agriculture and land. Our efforts align with the Paris Agreement's 1.5°C target and the global movement towards robust climate transition plans.

We recognise and commend the Australian Government's commitment to achieving net-zero emissions before 2050 and acknowledge nature's crucial role in this transition. This commitment is evident in the 'Nature Positive Plan', international initiatives such as the Kunming-Montreal Global Biodiversity Framework (Item 15), the Joint Donor Statement on International Finance for Biodiversity and Nature, and the 2023 Memorandum of Understanding with California. NbS, including urban green spaces, regenerative agriculture, and reforestation, are vital for climate resilience, biodiversity conservation, and economic sustainability.

¹United Nations Framework Convention on Climate Change (UNFCCC). (2023). COP28 Agreement Signals "Beginning of the End" of the Fossil Fuel Era. Retrieved from <https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era>.

In response to the questions posed in the discussion paper, we offer the following recommendations:

- 1. Reducing Emissions and Building Carbon Stores:** We emphasise the importance of policies on forest protection and restoration, and the development of a national NbS roadmap that integrates biodiversity and climate goals for effective climate mitigation.^{2,3} Alongside these efforts, we propose setting clear, quantifiable goals for gross emissions reduction across all sectors, including agriculture and natural ecosystems, to align with global standards and enhance our climate mitigation efforts. Legislative, policy and investment frameworks must phase out forest loss and land degradation, including curbing industrial native forest logging, to achieve rapid emissions abatement. This is underscored by Australia's commitment under the Glasgow Leaders' Declaration on Forests and Land Use⁴ to halt and reverse forest loss and land degradation by 2030.

Accurate disaggregated data on losses and gains in land carbon stocks are critical for monitoring and informed decision-making. This is currently unavailable for deforestation and native forest logging. However, the National Inventory Report 2021 reports 21,328 MtCO₂-e in 2020-21 from forest land converted to grassland (i.e. land clearing).⁵ For native forest logging, regrettably no accurate disaggregated (gross) data is reported in the National Inventory Report, although this data has been included in previous NIRs. Enhancing data transparency is essential.

Domestic achievement of Targets 2 and 3 of the Kunming-Montreal Global Biodiversity Framework (GBF), to which Australia is signatory, would deliver significant NbS for climate action that are also nature positive. Under Target 2 of the GBF, Australia has committed to restore 30% of areas of degraded ecosystems to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity. Under Target 3, Australia has committed to protect at least 30% of Australia's land in ecologically representative and well-connected networks of protected areas. Achievement of both targets could substantially increase carbon sequestration in landscapes.

² International Union for Conservation of Nature (IUCN). "Nature-based Solutions." Accessed 6/12/2023.

<https://www.iucn.org/our-work/nature-based-solutions>

³ The Nature Conservancy. "Three Things About Nature-Based Solutions for Agriculture." Accessed 6/12/2023.

<https://www.nature.org/en-us/what-we-do/our-insights/perspectives/three-things-nature-based-solutions-agriculture/>

⁴ Department of Climate Change, Energy, the Environment and Water (DCCEEW). (2023). Australia Joins Forests Partnership to Drive Climate Action. Retrieved from <https://www.dcceew.gov.au/about/news/australia-joins-forests-partnership-to-drive-climate-action>.

⁵ National Carbon Accounting System reporting of emissions from forest land converted to grassland is very likely a significant underestimate given the under-reporting of deforestation when compared to highly accurate woody vegetation change reporting undertaken by the Queensland and NSW governments. National Inventory Report Volume I; Australian Government (2023), Department of Climate Change, Energy, the Environment and Water, see Table 6.6.3 Net emissions and removals from land converted to grassland sub-categories, kt CO₂-e, see page 351.

The establishment of the Nature Finance Council⁶ provides an opportunity to increase private sector financial flows benefiting nature. By leveraging this Council, we can address barriers to action, such as the lack of accurate data on land clearing and emissions, and implement more transparent carbon accounting based on stocks and flows.

2. Progressing Emission Reduction Efforts, Building Resilience and Adapting to Climate Change:

Integrating climate adaptation and mitigation within agricultural and land management practices is crucial.⁷ Key steps include developing a National NbS Roadmap aimed at reducing land clearing to lower emissions and enhance resilience. This should also highlight the critical role of vegetation in climate regulation and biodiversity conservation. Specifically, we support targeted strategies that:

- a. Reduce methane emissions in agriculture, drawing from the latest research and successful models in regenerative farming. Additionally, promoting NbS practices like agroforestry supports sustainable agriculture, biodiversity, and economic benefits.
- b. Implement robust, place-based solutions to address climate challenges like heatwaves and flooding, drawing upon the knowledge and experiences of First Nations and local communities.
- c. Create policy instruments that reduce risk and liquidity constraints. This will encourage widespread NbS adoption and overcome barriers to effective climate solutions.

3. Initiatives or Innovative Programs for National Expansion:

We support the scaling up of holistic farming practices, such as regenerative agriculture and agrivoltaics, via initiatives like the Carbon and Biodiversity pilot and the Enhancing Remnant Vegetation Pilot, part of the Australian Government's Agriculture Stewardship Package.⁸ The implementation of the first two methods under the new Nature Repair Market (currently being tested as Agriculture Biodiversity Stewardship Package pilots) offer opportunities to more effectively connect NbS with climate outcomes and investments. The Nature Finance Council can play a pivotal role in scaling these programs by facilitating investments and integrating them with broader climate action efforts. It is important to recognise the critical role of smallholders, rural communities, and Indigenous peoples in decarbonising the sector.

⁶ Department of Climate Change, Energy, the Environment and Water (DCCEEW). (n.d.). Nature Finance Council. Accessed 4/1/2024. <https://www.dcceew.gov.au/environment/environmental-markets/financing-solutions-for-nature/nature-finance-council>.

⁷ Intergovernmental Panel on Climate Change (IPCC). 2023. "Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change." Accessed 6/12/23. <https://www.ipcc.ch/report/ar6/syr/>

⁸ Agriculture Stewardship. (n.d.). Agriculture Stewardship Carbon + Biodiversity Pilot. Accessed 13/12/2023. https://agsteward.com.au/program-info/cb#:~:text=The%20Agriculture%20Stewardship%20Carbon%20%2B%20Biodiversity%20Pilot%20%28C%20BB_outcomes%20and%20provide%20new%20financial%20opportunities%20for%20farmers.#:~:text=The%20Agriculture%20Stewardship%20Carbon%20%2B.new%20financial%20opportunities%20for%20farmers

4. **Coordinating Existing Efforts and New Initiatives into a Unified Plan:** Cohesively integrating existing efforts and new initiatives requires aligning NbS with broader sectoral plans and climate policies. Ensuring regional and sub-sector plans collectively meet the Paris Climate Agreement and other commitments are key. This includes support for food system transformations, incentivising emissions reduction in agriculture, disaggregating emissions data by sub-sectors, engaging expert groups, and fostering collaboration with Aboriginal and Torres Strait Islander peoples. Additionally, developing robust finance strategies and mandating corporate disclosures on climate impacts will be crucial. A systems-level approach balancing climate, nature, and agriculture, while addressing land use trade-offs, is necessary.
5. **Important Options for Adoption in Emission Reduction:** It's vital to invest in strategies that minimise land clearing and reduce enteric methane emissions. Enhancing soil practices, advancing blue carbon initiatives, and strengthening forest protection will significantly lower agricultural emissions. Additionally, rewilding methods should be prioritised as they offer dual benefits: they aid in habitat regeneration and management, enhancing carbon sequestration and aiding the recovery of endangered species. Community education on plant-based diets and sustainable livestock practices is also essential for driving systemic change and reducing overall emissions.⁹
6. **Practical Solutions for Uptake:** Greater support for programs that facilitate NbS adoption at the community level is needed. This involves implementing new funding mechanisms and capacity-building initiatives tailored to local governments and regional entities, enabling them to champion and effectively implement NbS. Additionally, grassroots-level engagement is paramount. By offering financial incentives and educational programs, we can promote practices like precision agriculture and advanced feed management, thereby reducing emissions. Such initiatives not only empower local communities but also contribute to widespread environmental and economic benefits.
7. **Contribution of Agriculture and Land Sectors to Whole-of-Economy Emission Reduction:** We recognise that removing or capturing carbon dioxide is not a substitute for reducing and avoiding emissions. In the medium and long term, agriculture and land sectors can significantly contribute to emissions reduction and carbon sequestration. Strategies include climate-smart agricultural practices, protecting existing carbon stores, and reducing methane emissions. Opportunities exist in carbon farming, which improves productivity, biodiversity, and resilience. Accurate emissions reporting and focusing on overall emission prevention and reduction are essential.

⁹ UNEP & IUCN. 2021. "Nature-based solutions for climate change mitigation." Accessed 6/12/23.
https://www.researchgate.net/publication/358833749_Nature-based_solutions_for_climate_change_mitigation

Protecting irrecoverable carbon in native forests, including on agricultural land, and addressing underreported methane (and nitrous oxide) sources like farm dams are also crucial.¹⁰ These measures collectively contribute to broader climate and sustainability goals.¹¹

8. Government Support for Agriculture and Land Sectors to Drive Innovation and Build Capacity:

- a. Recognise and empower Aboriginal and Torres Strait Islander peoples in land care, ensuring adequate resources and land control.
- b. Facilitate a just transition in the land sector, promoting economic diversification and clear decision-making frameworks for regional communities.
- c. Prioritise investment in innovative agricultural technologies and NbS practices, including anaerobic digesters for manure management.
- d. Facilitate transformative changes in food systems, essential for adapting land use. This includes support for system transformations, including waste reduction, alternative proteins promotion, and sustainable diets development, and engaging in global leadership and learning platforms like the Alliance of Champions for Food System Transformation.¹²
- e. Align sector actions with global methane pledges and biodiversity targets, ensuring high ecosystem value in initiatives like the 30x30 pledge.
- f. Develop a robust Sustainable Finance Strategy, integrating climate and nature goals, and refine the Nature Repair Market to support necessary sector changes without creating perverse incentives.

9. New Initiatives for Emissions Reduction: Developing new initiatives requires a multifaceted approach, including better mapping methods for vegetation and emissions reporting. We would also like to see:

- a. Market mechanisms differentiate between geo-carbon and bio-carbon, supporting biodiversity alongside carbon offset markets.
- b. Greater support of fundamental scientific research to understand and control the processes that lead to emissions, and to develop new technologies and approaches to reduce emissions in the sector.

10. Addressing Emissions Assessment and Reporting: The Australian Government can play a crucial role in enhancing the reliability and

¹⁰ Malerba, M.E., de Kluyver, T., Wright, N. et al. Methane emissions from agricultural ponds are underestimated in national greenhouse gas inventories. *Commun Earth Environ* 3, 306 (2022). <https://doi.org/10.1038/s43247-022-00638-9>; <https://www.sustainablefarms.org.au/on-the-farm/farm-dams/>

¹¹ ClimateWorks Centre. (n.d.). Decarbonisation Scenarios 2023: Australia can still meet the Paris Agreement. Retrieved 13/12 2023, from <https://www.climateworkscentre.org/resource/climateworks-centre-decarbonisation-scenarios-2023-australia-can-still-meet-the-paris-agreement/>

¹² "Alliance of Champions for Food System Transformation." Accessed 13/12/23. <https://allianceofchampions.org/>

transparency of emissions reporting. This includes integrating ACCU review findings into the sectoral plan for improved emissions tracking and carbon management in agriculture.¹³ The government also has a role in educating producers about mandatory reporting requirements and market drivers like Science-based Targets for Nature¹⁴ and Taskforce on Nature-related Financial Disclosures (TNFD)¹⁵, ensuring compliance doesn't solely burden producers but involves other supply chain actors.

11. Skills and Knowledge for Change Implementation: For effective change implementation, producers and land managers require a deep understanding of NbS, climate change mitigation and biodiversity conservation. This necessitates government-supported education and collaborative knowledge-sharing initiatives. Access to detailed land use maps and carbon sequestration data is critical for informed decision-making. Skills in developing and understanding robust, viable climate transition plans are essential. Additionally, acknowledging and supporting the unique role of Aboriginal and Torres Strait Islander peoples in land stewardship is vital, which involves resourcing based on in-depth community consultation.

We are committed to supporting ambitious and credible climate action and look forward to the development and implementation of a robust, ambitious Agriculture and Land Sectoral Plan. We are open to further discussions and collaboration with the Climate Policy branch at DAFF to develop and implement this plan. For further engagement, please reach out to the Program Director of Better Futures Australia at lisa@betterfutures.org.au or +61 429 998 315 to discuss further and arrange a meeting in early 2024.

Sincerely,

Lisa Cliff

Program Director
Better Futures Australia

¹³ E.g. Carbon Market Institute. "ACCU Review Discussion Paper Submission." Accessed 6/12/23. https://carbonmarketinstitute.org/app/uploads/2023/10/2023_10_CMI_ACCU-Review-Discussion-Paper_submission.pdf

¹⁴ Science Based Targets Network. (n.d.). The First Science-based Targets for Nature. Accessed 13/12/2023. <https://sciencebasedtargetsnetwork.org/how-it-works/the-first-science-based-targets-for-nature/>

¹⁵ Taskforce on Nature-related Financial Disclosures. (n.d.). Recommendations of the TNFD. Accessed 13/12/2023. <https://tnfd.global/recommendations-of-the-tnfd/>



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