New Forests' Submission

The Department of Agriculture, Fisheries and Forestry.

Agricultural & Land Net Zero Sectoral Plan, 13 December 2023

About New Forests

New Forests is a global investment manager of nature-based real assets and natural capital strategies, with A$11 billion in assets under management across more than 1.3 million hectares of investments. We manage a diversified portfolio of sustainable timber plantations and conservation areas, carbon and conservation finance projects, agriculture, timber processing and infrastructure. We aim to generate shared prosperity for our clients and the communities in which we operate and accelerate the transition to a sustainable future.

In 2022, New Forests established a business division called New Agriculture, to manage the Lawson Grains aggregation, and to build a portfolio of agriculture assets globally, starting in Australia and New Zealand. New Agriculture has A$1 billion in assets under management across 130,000 hectares, and subject to regulatory approval in early 2024, will add a further 3 million hectares to its portfolio with the acquisition of the Kimberley Cattle Portfolio in Western Australia, which will see New Forests, including New Agriculture become a top 10 landowner in the world.

New Forests' vision is to see investment in land use and forestry as central to the transition to a sustainable future. New Forests operates in Australia, New Zealand, Southeast Asia, Africa and the United States.

Executive Summary

We encourage the Department of Agriculture, Fisheries and Forestry to take a broad view of landscape management and emphasise the importance of including all land use, particularly agriculture, forestry, conservation, and Indigenous Protected Areas in a '**Land Sector Plan**'. In this submission, we bring together our extensive experience across the 'land sector'.

In addition, we call on the government to develop a **land sector emissions pathway** in line with achieving Net Zero by 2050 as a matter of urgency. Separate agriculture and forestry emissions reduction pathways should be developed, in line with achieving Net Zero by 2050. These pathways are urgently required to enable New Forests, New Agriculture and other land sector participants to:

- understand the level of ambition required by the sector to be aligned to a Net Zero by 2050 pathway between now and 2050; and
- to facilitate development of their own Net Zero by 2050 targets and associated decarbonisation plans.

1. The need for higher ambition

New Forests recognises the need for higher climate ambition, and to address this, have committed to Net Zero targets for 2050, with some ambitious action points identified, as described below in the high-level plan.

New Forests commitment to Net Zero by 2050 and NZAMI targets and implementation plan

In December 2020, New Forests became a founding signatory to the Net Zero Asset Managers Initiative (NZAMI), which requires asset managers to set decarbonisation goals for assets under management, (AUM) targets for a proportion of AUM, and review targets every five years. New Forests has set 2050 decarbonisation targets for forest assets in a pilot study, which started in 2023. By 2024, 100% of New Forests total financed emissions[1] will be subject to direct engagement or stewardship actions. By 2030 50% of AUM will be achieving Net Zero or will be aligned with a Net Zero by 2050 pathway. Under the NZAMI, New Forests has set goals, targets, forecast emissions, and is required to report on disclosure, develop a plan for decarbonisation and have governance in place to achieve these targets and goals. New Forests have forecast our Scope 1-3 emissions to 2050 for all assets in the pilot study.

We have commissioned consultants, liaised with forestry portfolio and property manager stakeholders across key forestry regions in the Green Triangle, Tasmania, Western Australia, NSW, and Victoria, to prioritise pathways for emissions reductions. Findings from these consultations have informed this submission.

Here, we address a selection of key questions from the DAFF (Department of Agriculture, Fisheries and Forestry) (Department of Agriculture, Fisheries and Forestry) survey, 'Have your say' (DAFF, 2023b). This allows us to identify what we see as key opportunities, barriers, and areas to build on existing knowledge. A summary of opportunities is provided in Appendix 1.

2. Building on existing effort

New Forests supports the Federal government's efforts in evaluating existing programs to determine which initiatives are successfully reducing emissions and moving forward, to support investment decisions. We suggest determining which industry leadership programs, local and regional initiatives, state, and federal programs are most commercially and technologically feasible, and providing investment, policy, and education around these actions. Consideration of First Nations people and indigenous knowledge will be key to successful emissions reductions. We describe three key initiatives, including Wood First, Carbon Protocols, and Biodiversity Certificates.

"Wood First" construction: One key opportunity is "Wood First', using timber for construction rather than high GHG embodied products such as steel and concrete. The Australian government's commitment at COP28, Dubai, to increase the use of timber in buildings by 2030 acknowledges the significance of timber in construction as a key strategy for emissions reductions. The second highest global emissions source is buildings, construction, and heating (88 GtCO2, Figure 1, Institute for Sustainable Futures, 2022). Converting building construction from concrete to wood-based products, such as Cross Laminated Timber, will allow (1) a material reduction in emissions during construction, (2) increased embodied carbon in the built environment and (3) continued carbon sequestration in

[1] Financed emissions are emissions linked to assets or investments, which result from upstream or downstream activities, including Scope 3. https://www.netzeroassetmanagers.org/

subsequent plantation rotations. When one hectare of plantation timber is used to construct predominantly timber buildings instead of predominantly steel/concrete building, embodied emissions are reduced by between 55-547 tCO2-e (Perry *et al.* 2021). Encouraging government funded, and state/local government as well as commercial and residential projects to use wood as the primary construction material allows both emissions reductions and increased abatement (WBCSD, 2023a).

Carbon Protocols: Improved protocols for carbon accounting, including Scope 3 emissions for End of Life, and during product processing will assist prioritising key areas for emissions reductions (WBCSD,2023c). Improved training and datasets on Emissions Factors, End of Life, Service life and product lifecycles for Scope 3 would be beneficial (UTS, 2023, WBCSD, 2023a).

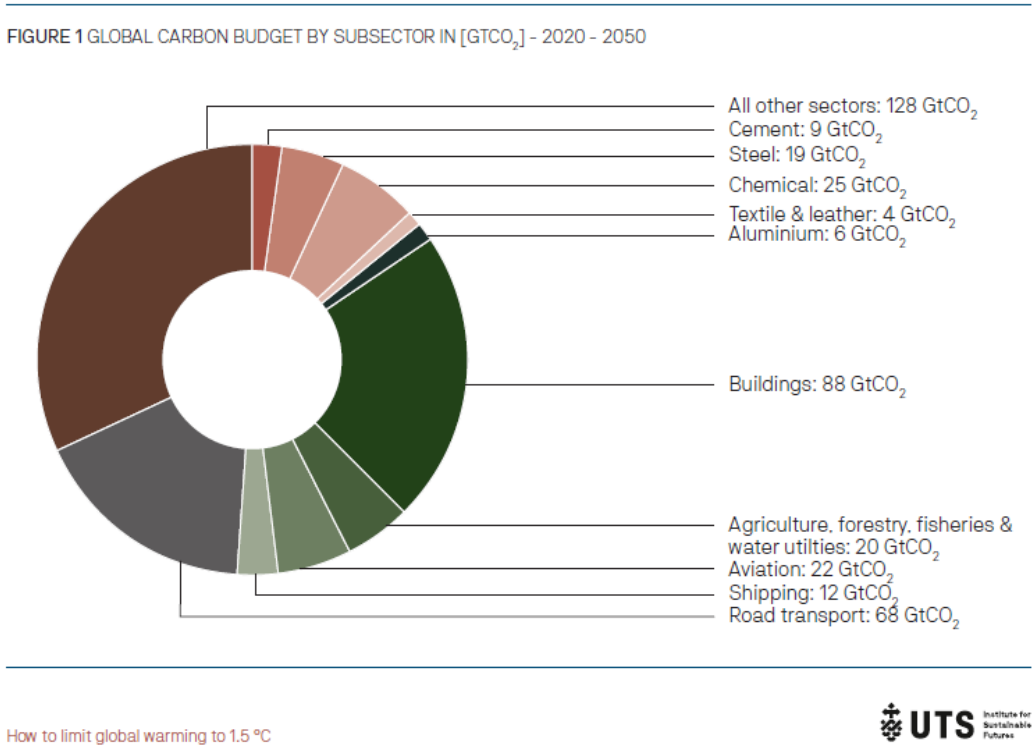
30% biodiversity markets: Private land renting biodiversity certificates:

At COP15, in Montreal, the Australian government adopted the Kunming-Montreal Global Biodiversity Framework, to conserve 30% of the world's land by 2030. It is suggested that the Australian government follow the Canadian government with their $200 million contribution towards 'biodiversity funds' or biodiversity certificates, functionally 'renting' biodiversity.

Main barriers:

- **Cost and Investment:** Initial costs for implementing new practices/technologies can be a barrier. For example, electrification of plant and machinery, and logging trucks, with charging stations and/or battery swaps, are a significant investment for agriculture and forestry. Expansion of Clean Energy Finance Corporation (CEFC) funding to support electrified options for haulage/harvest would help.
- **Knowledge and Awareness**: Lack of knowledge or information about effective techniques and their benefits can hinder adoption. Further knowledge about 'Wood First' construction as a replacement for emissions-heavy cement construction, and mass timber in building and construction education programs would be beneficial.
- **Policy and Regulation**: Uncertain or inconsistent policies related to carbon markets, land use, or agricultural practices can discourage investment in emission reduction efforts. Expediting the Integrated Farm and Landscape Method under the Emissions Reduction Fund will increase carbon project uptake.
- **Infrastructure and Technology**: Limited access to infrastructure or technology needed for adopting sustainable practices is a challenge, especially for forestry and agriculture in remote areas. For example, technologies exist overseas for low emissions vehicles that are not available in Australia. Further, infrastructure and technology investment for biofuel use in forest and land sectors is also required to expedite emissions reductions.

Addressing these barriers requires a comprehensive approach involving government support, *financial incentives*, *knowledge dissemination*, and collaboration among stakeholders in the agricultural and forestry sectors. Policies that incentivise and support sustainable practices, along with education and funding schemes, would help overcome these barriers and facilitate the transition toward low-emission agriculture and forestry in Australia.



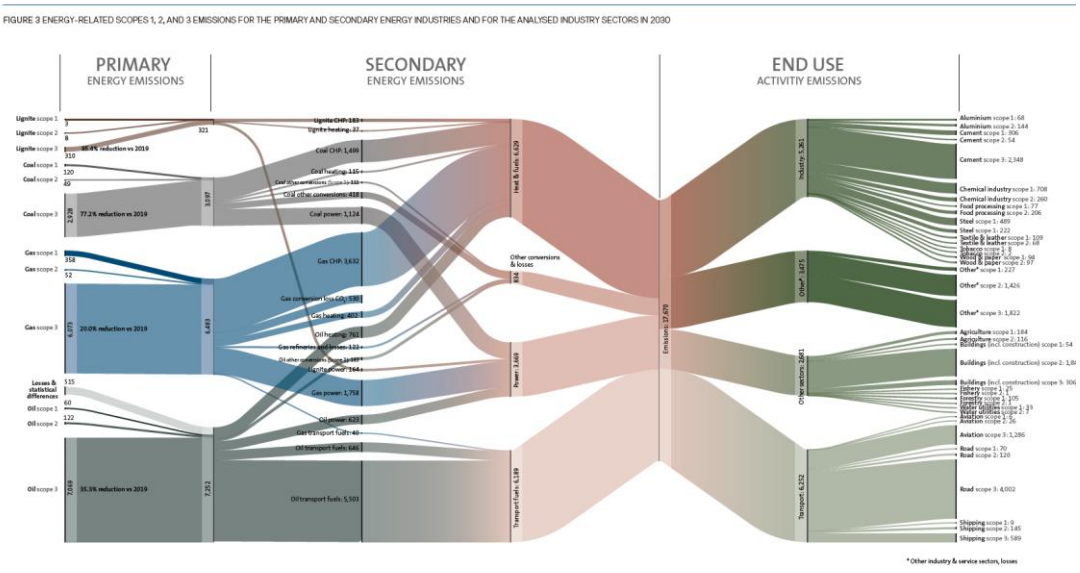


Figure 1: The proportion that building, cement, agriculture and forestry contribute to global carbon budgets. (Source: Institute for Sustainable Futures, UTS, (2022). Limit Global Warming to 1.5 c. Sectoral pathways and Key Performance Indicators.)

One innovative program that is underway is ActivAcre https://activacre.com.au/ The ActivAcre project is managed by New Forests and offers a flexible way for landowners to create steady income through a lease payment for the establishment of plant private forests on their lands. The lease payments are calculated on a property specific basis over a 28-30 year timeframe.

ActivAcre provides regular, reliable income for landholders with no upfront costs or ongoing fees. The plantation forest and associated carbon project are managed by professional plantation managers from establishment to harvest and provides carbon sequestration alongside increased timber and fibre supply for domestic and export markets. Tasmania has been selected for the initial roll out of the ActivAcre program, and we believe this model has the potential to be expanded at a national scale.

3. Opportunities to reduce emissions

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

Australia can simultaneously advance emissions reduction efforts in forestry and agriculture while building resilience and adapting to climate change through a combination of strategies. We describe specific opportunities for livestock, cropping, fuel and energy around forestry and agriculture, as well as carbon storage, in the Appendix.

Improved Forest and Agricultural Management Practices – education and financial incentives: Implementing sustainable forest management techniques, such as reduced-impact logging and selective harvesting, extending rotations in plantations, and dedicating portions of planned logging units to conservation area can maintain carbon stocks while allowing forests to adapt to changing conditions. Financial incentives for low emissions technology, such as agrivoltaics, battery storage, and electric vehicles for agriculture would be beneficial. Improved education around regenerative agriculture will reduce also carbon emissions.

Preserving Biodiversity: Protecting diverse forest ecosystems helps maintain resilience against climate change impacts, such as pests, diseases, and extreme weather events. Preserving biodiversity within forests can also enhance their ability to adapt to changing conditions. New Forests supports the Nature Repair Bill, 2023.

Forest Fire Management – providing more resources to fire management and acting on expert advice: Implementing effective fire management practices, including controlled burns and early detection systems, can reduce the risk of destructive fires that release large amounts of carbon into the atmosphere. The Emergency Leaders for Climate Action has created an Australian Bushfire and Climate Plan with practical ideas to mitigate and adapt to worsening fire conditions.

Carbon Offsetting and Trading: Encouraging the establishment of carbon offset projects within agriculture and forests and participating in carbon trading markets can create financial incentives for forest conservation and carbon sequestration. Policies and regulations creating more credibility in carbon stores, encouraging project uptake, so economics for carbon projects in agriculture and forests are less marginal.

Community Engagement and Indigenous Knowledge: Involving local communities, including Indigenous peoples with traditional knowledge of land management, can help develop adaptive strategies that incorporate traditional and modern forest management practices.

Research and Monitoring: Investing in research in agricultural and forest ecosystems, carbon sequestration, and climate impacts on agriculture and forests can provide valuable insights for effective management and adaptation strategies.

Policy Support and International Cooperation: Developing supportive policies that incentivize sustainable forest and agricultural management, conservation, and restoration as well as construction using timber, while collaborating internationally for knowledge sharing and best practices, can accelerate progress.

By combining these strategies, Australia can effectively mitigate emissions from forestry activities while simultaneously enhancing the resilience of its forests/agriculture to adapt to the changing climate conditions. This approach aligns with the dual goals of reducing greenhouse gas emissions and preparing for the inevitable impacts of climate change on forest/agricultural ecosystems.

2) 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 Australian Government could consider several initiatives to support emissions reduction and carbon storage in agriculture and the forest sector while fostering a sustainable future for these sectors. Further examples of initiatives are described by WBCSD (2023b), with 10 key actions discussed, expanded upon in table 1. We suggest research into which of these bring the most dramatic, cost-effective, and viable emissions cuts, and funding these.

1) *Carbon Farming Initiative Expansion*: Expanding the Carbon Farming Initiative (CFI) would encourage landholders to implement carbon sequestration practices like reforestation, agroforestry, soil carbon sequestration, and additional improved land management practices. Offering incentives, subsidies, or tax credits for participation could spur adoption.

2) *Carbon Credits and Trading*: Creating mechanisms that encourage landowners to participate in carbon markets or trading schemes, with levers for increasing the price of ACCUs. These could include restricting supply through integrity measures and increasing demand by expanding the safeguard mechanism.

3) *Investment in Research and Development*: Funding research into innovative agricultural practices and technologies that reduce emissions from methane and fertiliser, encourage use of biofuels, improve soil health, and enhance carbon storage. This could involve supporting research on regenerative agriculture techniques, precision farming, and sustainable land management practices (CSIRO, 2023).

4) *Financial Support for Sustainable Practices*: Providing financial support or grants for landholders transitioning to low emissions, sustainable practices. This could include subsidies for adopting renewable energy systems transitioning to low emissions farming techniques or investing in equipment/techniques that reduce agricultural emissions, e.g. asparagopsis. Further, subsidies/grants for nitrification inhibitor coated fertilisers, which reduce emissions by 79% (Migliorati et al. 2014, 2016) yet are currently cost-prohibitive (DAFF, 2023b) would be useful.

5) *Education and Training Programs*: Implementing education for improved understanding of sustainable forestry and regenerative agricultural practices. This could involve workshops, seminars, and online resources promoting carbon-neutral and carbon credit schemes for forestry and IFLM methods, electrification of processing timber and renewables/batteries for mill energy supply.

6) *Policy and Regulation*: Implementing policies and regulations promoting sustainable forestry, and agriculture. This could involve setting emissions reduction targets, emissions standards for

vehicles, such as those present in Europe, and integrating environmental considerations such as sustainability certification into agricultural policies.

7) *Technological Support*: Supporting the adoption of technologies that enable monitoring, measuring, and verifying carbon sequestration on agricultural lands. Investing in tools like remote sensing, satellite imagery, and precision agriculture can aid in accurately quantifying carbon storage.

8) *Incentives for Agroforestry and Biodiversity Conservation*: Encouraging agroforestry and biodiversity conservation efforts on farmlands can enhance ecosystem resilience and contribute to carbon storage. Further, encouraging development of, and demand for, the biodiversity certificate markets, including schemes and project developers, will lead to beneficial biodiversity and emissions reductions outcomes (Pollination Group, 2023).

4. Developing emissions pathways:

It is critical that the agricultural and land sector have guidance on the Net Zero pathway to 2030 and 2050. Sectoral pathways and the resultant policies and the funding and education that will follow, will drive innovation, technology, and enable investment. We note that many funding bodies and institutes have recommended Net Zero by 2050 (DAFF, 2023a, WBCSD 2023a), and for adequate investment and technology to be available and carbon markets to grow, sectoral pathways are key. New Forests has become a founding signatory to the Net Zero Asset Managers Initiative, goals for assets under management have been set, and targets for reductions will be completed in January 2024, using 2022 as a baseline. To enable driving action and innovative steps in carbon abatement and emissions reductions, sectoral pathways should guide investment and action. As part of the NZAMI, New Forests has consulted with stakeholders across Australia, and key areas for emissions reduction are summarised in the Appendix.

Further, WBCSD (2023a) has described pathways for agriculture and forestry, and a separate document with 10 actions for emissions reduction listed (WBCSD, 2023b). These include measures to increase carbon removals in sustainable working forests, switching to low carbon fuels, and increasing adoption of wood products for construction. We would welcome the opportunity to work with DAFF on developing **a land sector emissions pathway** for Australia's land sector.

5. Supporting and enabling change

A list of opportunities for forest and agricultural emissions reductions and carbon abatement, that drive innovation, build capacity, and ensure system wide change are listed in the Appendix, Table 1.For further information, please contact Melanie Zeppel on **MZeppel@NewForests.com** or (02) 9406-4100.

References:

ATSE (Academy of Technological Sciences and Engineering). (2023). Becoming a Net Zero Nation: Australia's leading engineers and technologists call for net zero by 2035. https://www.atse.org.au/news-and-events/article/australias-leading-engineers-and-technologists-call-for-net-zero-by-2035/

CSIRO. (2023). Common Approach to GHG Accounting for Australian Agriculture Framework. https://www.csiro.au/en/news/all/news/2023/may/australian-agricultural-sectors-unite-to-create-common-framework-for-ghg-accounting

DAFF. (2023a). Department of Agriculture, Fisheries and Forestry. National Statement of Climate Change and Agriculture. https://www.agriculture.gov.au/sites/default/files/documents/national-statement-on-climate-change-agriculture.pdf

DAFF. (2023b). Department of Agriculture, Fisheries and Forestry. Agriculture, land and emissions. Discussion paper. https://haveyoursay.agriculture.gov.au/agriculture-and-land-sectoral-plan/widgets/420512/documents

Institute for Sustainable Futures, UTS. (2022). Limit Global Warming to 1.5°C: Sectoral pathways and Key Performance Indicators.

Migliorati, M., Bell, M., Lester, D., Rowlings, D., Scheer, C., de Rosa, D., & Grace, P. (2016). Comparison of grain yields and N2O emissions on Oxisol and Vertisol soils in response to fertiliser N applied as urea or urea coated with the nitrification inhibitor 3,4-dimethylpyrazolephosphate. *Soil Research*, 54, 552-564.

Migliorati, M., Scheer, C., Grace, P., Rowlings, D., Bell, M., & McGree, J. (2014). Influence of different nitrogen rates and DMPP nitrification inhibitor on annual N2O emissions from a subtropical wheat–maize cropping system. *Agriculture, Ecosystems & Environment*, 186, 33-43.

Perry, M., Pechey, L., & Binney, J. (2021). Estimating the implications of Net Zero targets. Prepared for Forest and Wood Products Australia. https://fwpa.com.au/wp-content/uploads/2021/08/Estimating_Implications_of_Net_Zero_Targets_Report_Final_PRE562-2021.pdf

Pollination Group. (2023). State of Voluntary Biodiversity Credit Markets: A global review of Biodiversity credit schemes. https://pollinationgroup.com/wp-content/uploads/2023/10/Global-Review-of-Biodiversity-Credit-Schemes-Pollination-October-2023.pdf

WBCSD. (2023a). Forest Sector Sustainable Development Goals Roadmap. https://docs.wbcsd.org/2019/07/WBCSD_Forest_Sector_SDG_Roadmap.pdf

WBCSD. (2023b). Forest Sector Net-Zero Roadmap, Phase II: Catalogue of key decarbonisation actions. https://www.wbcsd.org/contentwbc/download/17599/246263/1

WBCSD. (2023c). Greenhouse Gas Protocol Land Sector and Removals Initiative. https://ghgprotocol.org/land-sector-and-removals-guidance

Appendix Table 1: Summary of opportunities for emissions reductions and carbon abatement for the Forest and Agricultural sector.

Opportunities	***Comment***	***Background***	***Outcome.***
Wood First	Initiatives encouraging construction using timber.	Converting building construction to timber products allows (1) emissions reductions during construction, (2) embodied carbon in buildings and (3) continued carbon sequestered in subsequent rotations.	Reduces emissions, increases abatement.
GHG accounting protocols & updated Emissions factors:	Updated accessible Emissions Factors (EFs) for Australian agriculture and forestry. An emissions Scope 3 training course for Forestry, with emissions factors, data, and website/staff to assist.	Research and training on use of Scope 3 for Forestry to increase uptake of emissions reporting (Source: Timberlink). Improved data and relevant Emissions Factors (EFs) for Australian fertiliser, transport (diesel trucks), plantation mills, with up-to-date data. Currently Emissions Factors are 5+ years old, and often for European countries. Recent EF for the Australian Agriculture and Forestry sectors would help enable business decisions for decreasing emissions.	Reduces emissions.
Biodiversity markets: COP15.	Encourage engagement in Biodiversity funds, and certificates.	Protecting diverse forest ecosystems helps maintain resilience against climate change impacts, i.e. pests, diseases, extreme weather events. Preserving biodiversity within forests can enhance ability to adapt to changing conditions.	Increases carbon sequestration.
Integrated Farm and Land Management (IFLM).	Expediting the transparent, integrous ACCU scheme to include soil and vegetation methods, to increase update of carbon projects	The Integrated Farm Landscape Method allows for carbon projects to be undertaken which include both soil and vegetation methods.	Increases carbon sequestration.
Fire prevention	The Emergency Leaders for Climate Action has created an Australian Bushfire and Climate Plan	Fire prevention not only minimises loss of property and life, but also significantly reduces emissions from forests and woodlands burning.	Reduces emissions.
Agricultural certification.	Certification, such as “Leading Harvest”.	Certification and training on best agricultural practices for sustainability.	Increases carbon sequestration and reduces emissions.

Biofuel and electric/low emissions vehicles.	Policies, case studies and grants for low emissions forestry/ag vehicles and fertilisers.	Adoption of low emissions fertilisers and biofuels would significantly reduce emissions. This could be facilitated by subsidies, grants and pilot studies demonstrating their efficacy, and increasing affordability.	Reduces emissions.
Precision Agriculture using AI	Reducing fertiliser and weed control using AI.	The application of AI for pesticide or fertiliser delivery, to reduce emissions by more efficient timing and location of delivery.	Reduces emissions.
Clean Energy Finance Corporation. (CEFC)	Expansion of CEFC for electrified vehicles	Expansion of CEFC funding programmes to support the purchase of electrified options for operations. Further funding of inoculants which increase soil carbon, additives which reduce nitrogen volatility from soil, electric trucks and harvesters for grain/forestry.	Reduces emissions.
Livestock emissions reductions	Animal genetics and husbandry.	Supplements (e.g. Asparagopsis). Methane capture and reuse from waste processing.	Reduces emissions.
Regenerative Ag and rotational grazing.	Education, grants, and policies supporting regenerative agriculture.	Increased soil carbon via rotational grazing rotates many livestock across smaller paddocks or delineating grazing areas for short periods, forcing them to thoroughly graze all the edible plants. increasing groundcover, biodiversity, soil organic matter, water holding capacity, and production outcomes.	Reduces emissions.