Banking for nature

Aligning Australian banking with the Global Biodiversity Framework

Report for the Australian Conservation Foundation

30 October 2023

Building a better working world

About this report

The Australian Conservation Foundation ("ACF") commissioned Ernst & Young Australia ("EY") to prepare this report on the impacts of banking on nature in Australia.

ACF and EY acknowledge the contribution of the academics, scientists, banks and other experts who provided input into this report through stakeholder interviews.

Acknowledgement of Country

EY and ACF acknowledge the Traditional Custodians of Country throughout Australia and recognise their continuing connection to land, waters, species and culture. We acknowledge their ongoing status as the First Peoples of Australia and pay our respects to their Ancestors and Elders past, present and emerging.

Release notice

Table of contents

1. Executive summary

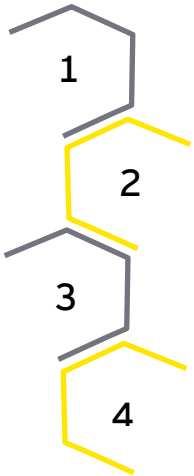
Globally, nature is in crisis. About 75% of the planet's land and 66% of marine environments have been significantly altered by human actions.[1] Australia's 2021 State of the Environment Report (2021 SoE Report) revealed that Australia's natural environment is in an overall poor condition and deteriorating due to climate change, habitat destruction, pollution, resource extraction and invasive species.[2]

Banking practices directly and indirectly interface with nature. Despite having a sizeable footprint of their own, the most material way in which banks can impact upon nature is through their value chain and activities of the companies that they finance. Company activities within different sectors have a variety of impacts on the environment because of the resources they use, pollution or waste they produce, footprint of their activities and impacts of their respective value chains. This impact manifests through financing activities that directly drive nature loss or deliver nature regeneration.

Due to their exposure to the economy as a whole, the dependence of the economy on the natural capital value of environmental assets and ecosystem services that flows through to banks can lead to systemic and cascading risks. Historically banking practices have integrated a limited consideration of nature-related impacts and dependencies through environmental risk assessment policies. However, financial institutions are increasingly recognising that halting nature loss and investing in nature regeneration is a critical component of prudent financial management. The changing approach of companies in how they manage nature risks and opportunities is also increasing the expectations on banks to incorporate broader nature considerations into their practices.

This report seeks to quantify the amount of lending by Australian banks to key sectors that are materially exposed to nature impacts, namely agriculture, property, energy and resources (these sectors are referred to as "*key sectors*" throughout this report). This analysis seeks to understand the relationship between financial flows of lending practices and impacts upon nature. The report also explores the barriers to aligning banking practices to priority Global Biodiversity Framework (GBF)[3] goals and targets for the banking sector, namely goals A and D and targets 10, 14, 15(a) and 19, and the opportunities associated with overcoming such barriers.[4]

In summary, this report seeks to address four questions:



How do Australian banks' lending practices impact sectors that have high risks of nature impacts?

What are the barriers to Australian banks aligning with and enabling the achievement of the priority GBF goals and targets?

What are the opportunities for Australian banks in achieving the priority GBF goals and targets?

What actions could Australian banks take to help reduce impacts on nature?

[1] Brondizio E S, Settele J, Díaz S, Ngo, H T (2019) *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services,* IPBES, https://doi.org/10.5281/zenodo.3831673
[2] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* Department of Climate Change, Energy, Environment and Water (DCCEEW), https://soe.dcceew.gov.au/overview/key-findings
[3] United Nations Convention on Biological Diversity (CBD), 2022 Kunming-Montreal Global Biodiversity Framework
[4] Note: this report focuses on goals A and D and targets 10, 14, 15(a) and 19 as priorities for the banking sector in the immediate term, as agreed between EY and ACF

1.1 Key findings

Australian bank lending practices finance activities in sectors that have high risks of nature impacts

The *key sectors* (agriculture, property, resources and energy) substantially contribute to gross value added (GVA) in the Australian economy and have material impacts on nature.[5]

Our analysis found that these sectors account for approximately 22% ($260.79 billion AUD) of all outstanding lending finance in Australia as of June 2023.[6] Specifically, our analysis found:

- **Agriculture:** $118 billion AUD of all lending finance was attributable to the agriculture sector as of June 2023.[7] Of the sub-sector financial flows from Australia's four largest banks, lending finance comprised $47.1 billion AUD to livestock, $21.7 billion AUD to crops and $8.6 billion AUD to horticulture and viticulture as of 2022.[8]

  Agricultural activities materially contribute to terrestrial land use change including deforestation, water resource exploitation and soil degradation in Australia. Agriculture comprises about 55% of Australian land use.[9] The expansion of agricultural grazing is largely driving land use change through land clearing, while irrigated cropping creates the greatest pressure on freshwater use.[10]

- **Property:** $65 billion AUD of all lending finance was attributable to the property construction and development sector as of June 2023.[11] Of the sub-sector financial flows from Australia's four largest banks, lending finance comprised $7.3 billion AUD for building construction, $3.5 billion AUD for non-building construction and $9.8 billion AUD for construction services as of 2022.

  Property activities materially contribute to terrestrial land use change and water resource use.[12] Up to 13.2% of Australia's native vegetation has been replaced by urban, production and extractive uses of land.[13] Some vegetation groups have been more severely impacted than others, with Eucalypt Woodlands having reduced by 33%, and Casuarina Forests and

[5] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* Department of Climate Change, Energy, Environment and Water (DCCEEW), https://soe.dcceew.gov.au/overview/key-findings
[6] Reserve Bank of Australia (2023) *Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1,* https://www.rba.gov.au/statistics/tables/; Note: most recent publicly available data for all of outstanding lending finance in Australia is as of June 2023.
[7] Ibid.
[8] Note: See Appendix A for details of analysis from largest Australian banks, for all sub-sector categories. Data analysis from the largest Australian banks is as of year-end financial reporting from ANZ, CBA, NAB and Westpac in 2022, noting that the year-end financial reporting dates differ between banks. See Appendix A for further details.
[9] Australian Bureau of Statistics (2023) *Agricultural Commodities, Australia*, https://www.abs.gov.au/statistics/industry/agriculture/agricultural-commodities-australia/2021-22#australian-farms
[10] Cresswell, I, Janke T, Johnston E (2021) *State of the Environment, D*epartment of Climate Change, Energy, Environment and Water (DCCEEW), https://soe.dcceew.gov.au/overview/key-findings
[11] Reserve Bank of Australia (2023) *Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1,* https://www.rba.gov.au/statistics/tables/
[12] ENCORE (2023) *Construction Materials: Impact Drivers*, UN Environment Programme, https://encorenature.org/en/explore?tab=dependencies
[13] Cresswell, I, Janke T, Johnston E (2021) *State of the Environment, D*epartment of Climate Change, Energy, Environment and Water (DCCEEW), https://soe.dcceew.gov.au/land/environment/native-vegetation#vegetation-extent

Woodlands having reduced by 53%.[14] The use of water in construction materials such as cement production is also significant.[15]

- **Resources:** $23 billion AUD of all lending finance is attributable to the resources sector as of June 2023.[16] Of the sub-sector financial flows from Australia's four largest banks, lending finance comprised $13.8 billion AUD for fossil fuel mining and $9.6 billion AUD for metal ore and mineral mining as of 2022.

  Resources and mining activities materially contribute to the degradation of land and water resources, as well as habitat loss, displacement of native species, impacts on surface water and groundwater and air pollution in Australia.[17]

- **Energy:** $54 billion AUD of all lending finance is attributable to the energy sector as of June 2023.[18] Of the sub-sector financial flows from Australia's four largest banks, lending finance comprised $24 billion AUD for renewable energy and $5.1 billion AUD for non-renewable energy as of 2022.

  Energy-related activities materially contribute to substantial greenhouse gas (GHG) emissions and land use change. Roughly, 76% of Australian energy is derived from fossil fuels, the emissions from which contribute to climate change and in turn compound and accelerate the effects of the drivers of nature loss.[19]

As providers of critical funding to these sectors, banks have the opportunity to help shape the landscape and improve nature related outcomes through their influence and leverage capabilities. Understanding the relationship between lending and nature impacts in these sectors has the potential to drive improved nature outcomes for Australia.

There are barriers and opportunities for banks to align to priority GBF goals and targets

There is an imperative for banks to take action to overcome the barriers identified in this report to achieve the priority GBF goals and targets. The opportunities and recommendations presented in this report provide a pathway for banks to overcome these barriers and take action to transition and align practices to the priority GBF goals and targets.

The below table details the key barriers faced by banks when aligning to priority GBF goals and targets, and corresponding opportunities to overcome these barriers. Further information is included below within Sections 5 and 6 of this report.

[14] Ibid.
[15] ENCORE (2023) *Construction Materials: Impact Drivers*, UN Environment Programme,https://encorenature.org/en/explore?tab=dependencies
[16] Reserve Bank of Australia (2023) *Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1*, https://www.rba.gov.au/statistics/tables/
[17] Cooperative Research Centre for Transformations in Mining Economies Ltd (2022) *Impact Framework*, https://crctime.com.au/macwp/wp-content/uploads/2022/03/FINAL_CRC-TiME_Impact-Framework_23.03.22.pdf
[18] Reserve Bank of Australia (2023) *Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1*, https://www.rba.gov.au/statistics/tables/
[19] Australian Government Geoscience Australia (2023) *Overview*, https://www.ga.gov.au/scientific-topics/energy/overview

Table 1: Key barriers and opportunities associated with banks aligning to priority GBF goals and targets

Barriers	Opportunities
► Lack of nature-related policies and target-setting ► Governance and risk management processes have limited visibility of nature-related risks ► Legacy valuation methods omit the value of environmental assets and ecosystem services ► Customer engagement models do not yet support improved nature outcomes ► Operational data and technology gaps ► Overreliance on current environmental protection laws to promote nature outcomes	► Implement nature policies and science-based target-setting ► Enhance governance and management of nature risks and opportunities ► Improve land valuation by accounting for ecosystem services ► Adopt and advocate for nature-aligned bank lending practices ► Collaborate with customers to enhance capacity, collect existing data and incentivise the reporting of nature-related analytics ► Actively engage with environmental law reform in Australia

Recommendations for banks to reduce impacts and align practices to the priority GBF goals and targets

Key recommendations on actions that banks can take immediately to reduce impacts to nature and align practices to the priority GBF goals and targets are summarised below, detailed at Section 6.

Table 2: Recommendations for banks to reduce impacts on nature and align to priority GBF goals and targets

1	Set science-based targets for nature
2	Adopt a no deforestation policy in accordance with global best-practice voluntary commitments
3	Embed targets and map accountabilities across the Board, management and operations to identify and address nature related risks and opportunities
4	Apply nature risk and opportunity frameworks across banking operations and value chain with a double materiality approach
5	Engage land valuers to incorporate ecosystem services into land valuation to avoid perverse incentives and minimise trade-offs
6	Develop products and labelling focused on valuing nature to drive uptake of practices that protect and restore nature
7	Engage in advocacy initiatives to facilitate accelerated nature-aligned banking practices
8	Provide greater engagement support to customers to foster uptake of financial products that drive positive nature outcomes
9	Improve collection of environmental data held by counterparties and expand environmental data requirements in loan conditions
10	Engage with environmental law reforms to support strengthened nature-related outcomes for banking practices in Australia

Mapping of barriers, opportunities and recommendations to align practices to the priority GBF goals and targets

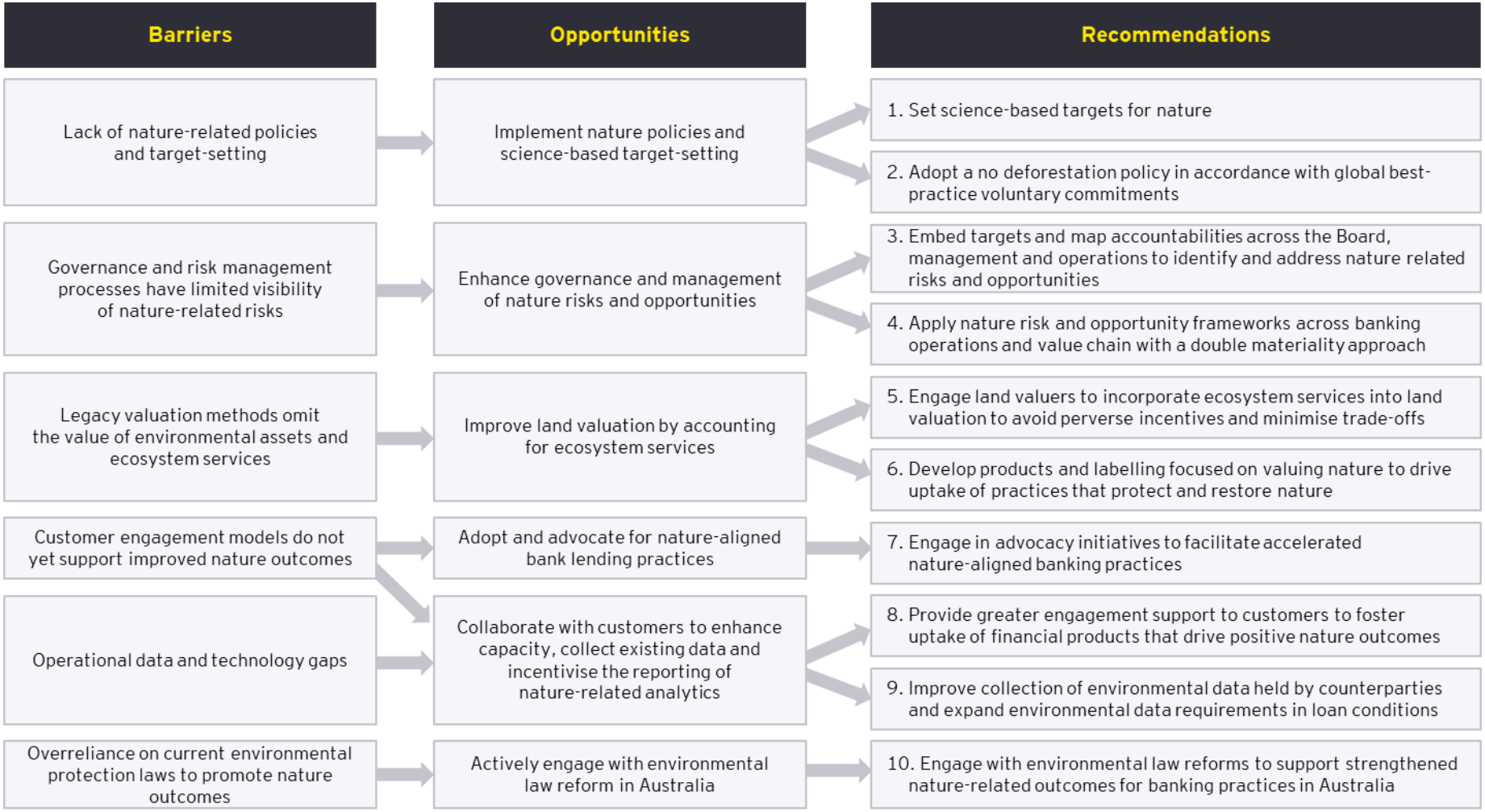


Figure 1: Key barriers, opportunities and recommendations for banks to align to priority GBF goals and targets

2. Introduction and overview

The ACF commissioned EY to develop a report on the flow of capital and lending from banks into sectors that have a risk of material impact upon nature, barriers inherent within banking practices to aligning to priority GBF goals and targets for the banking sector, and opportunities to overcome these barriers.

This report sets out recommendations on how banks can take action to meaningfully align lending practices to the priority GBF goals and targets. It also serves as a reference guide for governments, non-government organisations (NGOs), investors and academics seeking to engage with banks on this issue and work together collaboratively to achieve positive nature outcomes.

2.1 Defining nature in context

There are a number of fundamental concepts and definitions for understanding nature in the context of our economy and society. *Nature* refers to the natural world with an emphasis on its living components, and includes biodiversity, ecosystems and their functions, as well as their relationship to earth systems such as the water cycle.[20] For many First Nations people, nature is inextricably linked to culture and humanity and not seen as a separate entity.

Nature can be understood through a construct of four realms – land, ocean, freshwater and atmosphere, as detailed in Figure 2 below.[21]

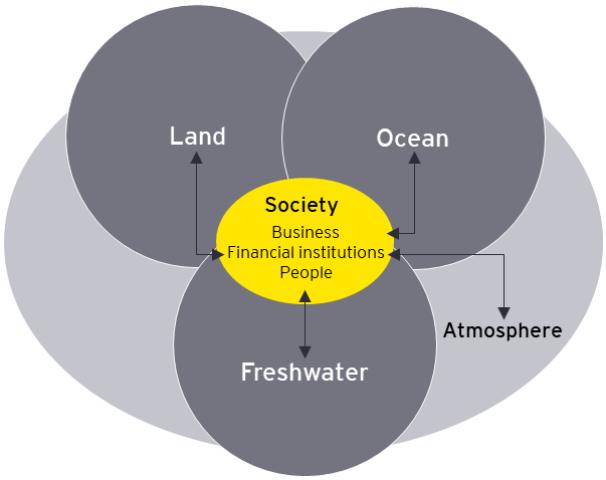


Figure 2: Nature realms – land, ocean freshwater and atmosphere

Nature in this sense is comprised of the stock of natural capital and the flow of ecosystem services from environmental assets, also known as nature's contributions to people.[22] Environmental assets and ecosystem services provide benefits (the goods and services that are ultimately used and enjoyed by people and society) to the environment, people and business.[23] There are three types of ecosystem services: provisioning services, regulating services and cultural services. Provisioning services capture our dependence on products such as food, water and timber. Regulating services, such as climate regulation, soil fertility regulation and hydrological cycles are essential to environmental stability. Cultural services relate to recreational, symbolic and spiritual values that people attach to nature and biodiversity.[24]

[20] Taskforce on Nature-related Financial Disclosures (2023) *Concepts and Definitions*, https://framework.tnfd.global/concepts-and-definitions/definitions-of-nature/
[21] Ibid.
[22] Ibid.
[23] Ibid.
[24] Finance for Biodiversity Foundation (2022) *The why and how of biodiversity integration by financial institutions,* https://www.financeforbiodiversity.org/wp-content/uploads/FfB-Foundation_Act-now_Guide-on-biodiversity-integration.pdf

More than half of the world's gross domestic product (GDP) – $44 trillion USD ($70 trillion AUD) of economic value generation - is either moderately or highly dependent on nature and its services.[25] Despite this, financial institutions and banks, or economies more broadly, have not historically accounted for the full value or costs of using natural systems in financial decision-making. This has resulted in nature and biodiversity loss with 69% of species populations decreasing since 1970 (see Figure 3[26]), leading to a reduced capacity of ecosystems to provide such services.[27] Nationally, Australia has one of the highest rates of species decline among Organisation for Economic Co-operation and Development (OECD) countries and continues to lose more mammal species than any other continent.[28]

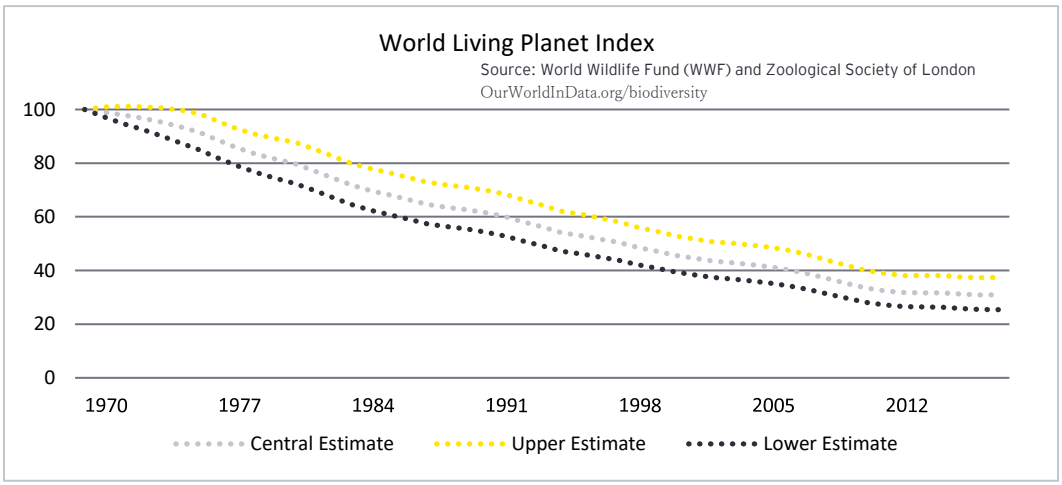


Figure 3: Nature and biodiversity loss over time

Widespread environmental degradation is now manifesting and increasingly being identified as a material financial and business risk, with biodiversity loss and ecosystem collapse ranked among the top five global risks over the next 10 years in the *World Economic Forum Global Risks Report 2023*, see Figure 4 below.[29]

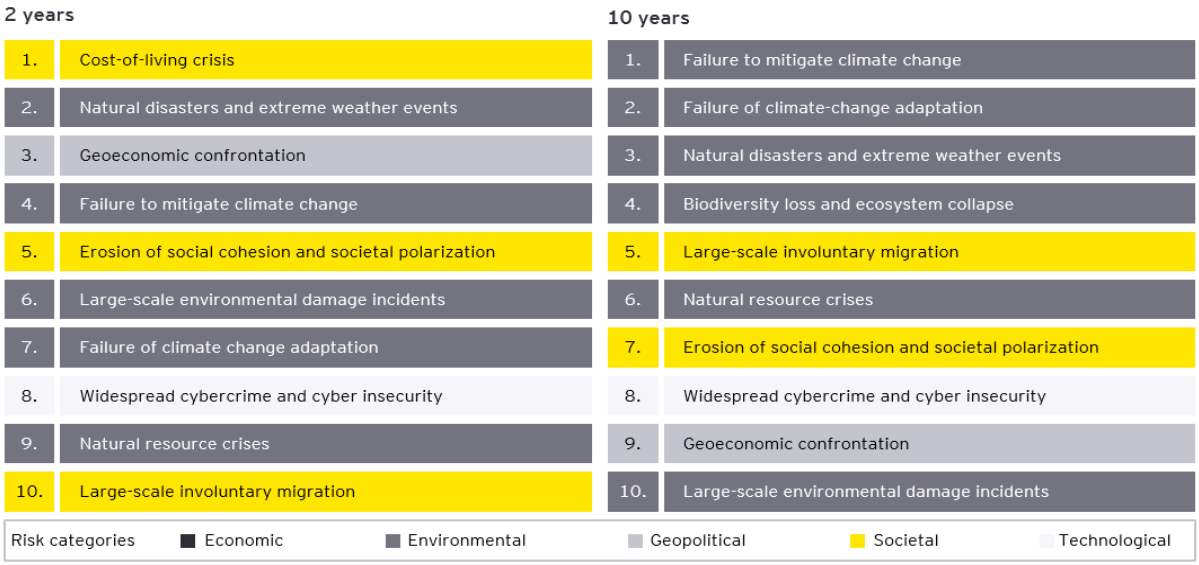


Figure 4: *World Economic Forum: 2023 Global Risks Report* risk rankings

[25] World Economic Forum (2020) Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy, https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf
[26] Grooten M, Almond R (2018) *Living planet report 2018*, WWF, https://www.worldwildlife.org/pages/living-planet-report-2018
[27] Finance for Biodiversity Foundation (2022) *The why and how of biodiversity integration by financial institutions,* https://www.financeforbiodiversity.org/wp-content/uploads/FfB-Foundation_Act-now_Guide-on-biodiversity-integration.pdf
[28] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* Department of Climate Change, Energy, Environment and Water (DCCEEW), https://soe.dcceew.gov.au/overview/key-findings
[29] World Economic Forum (2023) *The Global Risks Report 2023*, https://www.weforum.org/reports/global-risks-report-2023/

Analysis from the Network for Greening the Financial System (NGFS) released in September 2023 highlights some of the key micro- and macro-economic effects of increased nature-related risks.[30] This analysis demonstrates that the micro- and macro-level effects are not isolated. Micro-economic effects can translate into macro-economic effects, while macro-economic effects can in turn affect households and businesses (potentially giving rise to feedback loops).

A summary of these effects is below at Figure 5.[31]

Micro level effects		Macro level effects
Capital destruction: Damage to assets arising from physical shocks and hazards such as flooding or landslides.		**Prices:** Changes in prices of commodities, energy or water could create inflationary pressure.
Stranded assets: New regulations or changing consumer preferences resulting in premature write-offs of assets, for instance because a factory is located in an area that becomes designated as protected.		**Productivity:** Effects on GDP from a diversion of investment or lower risk appetites for innovation, reduced labour productivity (e.g., as a result of heat or pollution), the loss of provisioning or regulating service productivity (e.g., affecting agriculture) or damage and disruptions to assets.
Price volatility of raw materials: Higher or more volatile prices of commodities due to, for instance, failed harvests of food crops.	Regional/ sectoral level	**Capital:** Higher investment needs for mitigation or adaptation to prevent nature degradation and potentially accelerated depreciation of the current capital base.
Disruptions of production processes and value chains: Increases in costs as a result of temporary disruption to businesses or households processes, such as a suspension of services due to flooding.		**Socio-economic changes:** Effects from changing societal preferences, arising inequalities, migration or conflict.
Relocation and adjustment of economic activities: Relocation or alteration of economic activities to account for a reduction or loss of ecosystem services, or to reduce negative impacts, such as planting different crops on a farm.		**Trade and capital flows:** Changes to trade and capital flows may result from shocks in ecosystem service provision, potentially amplified via value chains, which affects exchange rates and sovereign credit ratings.
Pricing of externalities: Cost increases as a result of pricing in negative (or positive) impacts on nature, for instance a tax on certain pollutants.		**Fiscal balances:** The lack of access to ecosystem services may necessitate an increase in social protection spending on, for instance, water or food. Losses in production and employment may also reduce fiscal revenues.

Figure 5: Summary of key micro- and macro-economic effects of increased nature-related risk

2.2 What is the relationship between banking and nature?

Banks interface with nature through their direct operations and indirectly through the activities of companies that they finance. Depending on their sector and activities, banking operations and companies receiving finance may directly depend on nature, impact on nature, or do both.

A diagram of the relationship between banks, companies and nature is below at Figure 6.[32]

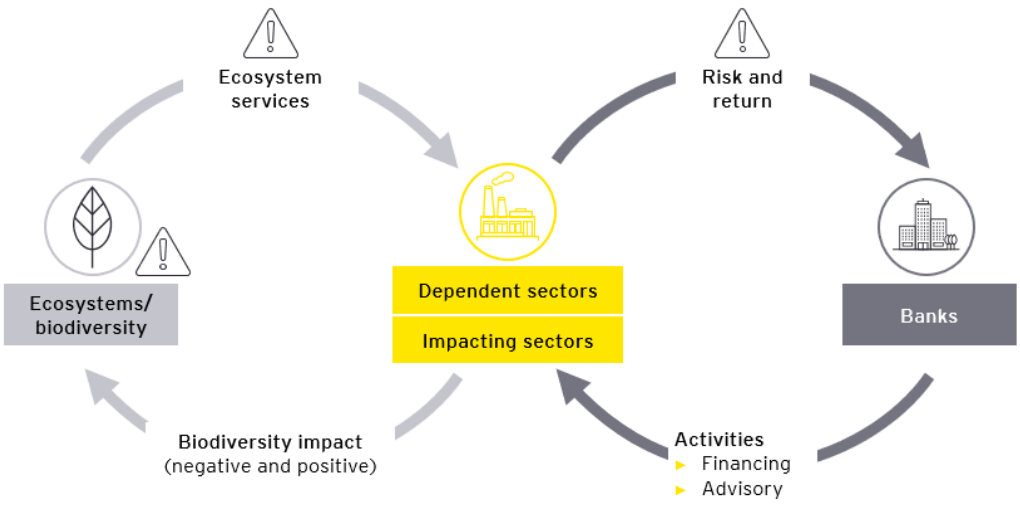


Figure 6: The relationship between banking, key industry sectors and nature

[30] Network for Greening the Financial System (2023) *Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors*, https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf
[31] Ibid.
[32] Finance for Biodiversity Foundation (2022) *The why and how of biodiversity integration by financial institutions,* https://www.financeforbiodiversity.org/wp-content/uploads/FfB-Foundation_Act-now_Guide-on-biodiversity-integration.pdf

Despite having significant direct physical operations, the most material way in which banks impact on nature remains through the activities of the companies that they finance. This impact manifests through the financing of company activities that in turn drive nature loss at a global level, namely through the following drivers of nature and biodiversity loss:[33]

- Land and sea use change
- Overexploitation of natural resources
- Climate change
- Soil, water and air pollution
- Spread of alien invasive species

Companies also depend on nature through the environmental assets and ecosystem services that they rely upon to operate or the goods and services they provide (e.g., freshwater, soil health, pollination).[34]

Approximately half of Australia's GDP ($896 billion AUD) has a moderate to very high direct dependence on nature – with the *key sectors* (agriculture, property, resources and energy) having a particularly high nature dependency.[35] As nature's limits, or planetary boundaries, are exceeded, ecological systems and functions are altered along with the ecosystem services they provide. As a result, the capacity of nature to contribute to individual businesses and the economy falls.

Financial losses incurred by counterparties affected by nature loss can in turn pose financial risks for banks. Given the growing recognition of the dependence of the economy on nature, nature regeneration presents opportunities to both mitigate financial risks posed by nature and biodiversity loss and drive improved nature outcomes.

2.3 How is the policy and regulatory landscape for managing nature risks changing?

Increased awareness of the risks associated with nature and biodiversity loss is resulting in accelerated international and national policy and regulatory developments on nature. These developments are seeking to deliberately mirror the approach and structures adopted in response to climate change to accelerate action, while responding to the particular considerations of nature and biodiversity. This includes for example, adopting the structure of a global framework, national commitments, reporting and disclosure frameworks and voluntary company commitments.

In June 2020, the Taskforce for Nature-related Financial Disclosures (TNFD) was established to deliver a voluntary risk management and disclosure framework for companies and financial institutions to report and act on evolving nature-related risks. It has the ultimate aim of supporting a shift in global financial flows away from 'nature-negative' outcomes and toward 'nature-positive' outcomes.[36] Following a global consultation process, framework design and pilot testing, the TNFD's final recommendations (v1.0) were published in September 2023.

[33] Brondizio E S, Settele J, Díaz S, Ngo, H T (2019) *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services,* IPBES, https://zenodo.org/record/6417333
[34] Taskforce on Nature-related Financial Disclosures (2023) *Concepts and Definitions,* https://framework.tnfd.global/concepts-and-definitions/definitions-of-nature/
[35] Australian Conservation Foundation (2022) *The nature-based economy: How Australia's prosperity depends on nature*,https://assets.nationbuilder.com/auscon/pages/20826/attachments/original/1665019942/2208_Nature_NatureDependencyReport_FINAL-2.pdf?1665019942
[36] Taskforce on Nature-related Financial Disclosures (2023) *About,* https://tnfd.global/about/#history

In December 2022, Australia and 195 other countries that are party to the United Nations CBD adopted the GBF. The GBF sets out 4 global nature-related goals and 23 targets to be achieved by 2030.[37]

This report focused on a sub-set of the full suite of goals and targets, which EY and ACF have determined to be key immediate priorities for banks.[38] These include:

- Goal A: Increase the area of natural ecosystems and halt human-induced extinction of known threatened species by 2050
- Goal D: Align financial flows with the GBF and the 2050 Vision for Biodiversity
- Target 10: 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 sustainable intensification, agroecological and other innovative approaches
- Target 14: Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes… across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, and fiscal and financial flows with the goals and targets of this framework
- Target 15(a): Ensure that businesses (particularly large and transnational companies and financial institutions) regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity
- Target 19: Increase the level of financial resources from all sources, including public and private resources, to implement national biodiversity strategies and action plans, by 2030 mobilising at least $200 billion USD per year

In January 2023, the UN Principles for Responsible Investment (UN PRI) published the Inevitable Policy Response (IPR) Forecast Policy Scenario (FPS) + Nature providing guidance on integrated nature and climate scenario analysis, providing a forward-looking view to 2050 on how policy, technological and social trends could impact key value drivers.[39] Key nature-related policy trends are related to four areas, namely protected areas, land restoration, nature markets and climate drivers.[40]

Other policy and regulatory signals include the European Union (EU) Regulation on deforestation-free supply chains, EU taxonomy, and the International Sustainability Standards Board (ISSB) disclosure standards (including consideration of a future standard for Biodiversity, Ecosystems and Ecosystem Services (BEES)).[41] Internationally, multiple jurisdictions are developing similar legislative reforms. For example, China recently launched the Taskforce on Green Value Chains for China, to encourage global supply chain actors that enter China's market to alleviate deforestation caused by soybeans, palm oil, beef, pulp and paper and other commodities.[42]

---

[37] United Nations Convention on Global Biodiversity (2022) *COP15: Final Text of Kunming-Montreal Global Biodiversity Framework,* UN, https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222
[38] Ibid.
[39] Principles for Responsible Investment (2023) *The Inevitable Policy Response to climate change,* https://www.unpri.org/sustainability-issues/climate-change/inevitable-policy-response
[40] Ibid.
[41] European Commission (2023) *Green Deal: New law to fight global deforestation and forest degradation driven by EU production and consumption enters into force,* https://environment.ec.europa.eu; European Commission (2023) *EU taxonomy for sustainable activities*, https://finance.ec.europa.eu/sustainable-finance; IFRS Foundation (2023) *ISSB prepares to consult on future priorities and international applicability of the SASB Standards,* https://www.ifrs.org/news-and-events/news/2023/04/issb-prepares-to-consult-on-future-priorities-and-international-applicability-of-sasb-standards/
[42] World Economic Forum (2023) Businesses to Drive Green Transition of China's Beef, Paper, Palm Oil and Soy Supply Chains, https://www.weforum.org/press/2023/06/businesses-to-drive-green-transition-of-china-s-beef-paper-palm-oil-and-soy-supply-chains

The Australian Government has taken a number of actions on nature:

- In 2019, Professor Graeme Samuel AC led an independent review of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) to review the operation of the legislation and whether it was meeting its objectives to protect Australia's environment and heritage (Samuel Review). The recommendations of the Samuel Review were published in October 2020.[43]

- In 2021, Australia announced its support for TNFD as a strategic funding partner and member of the TNFD Stewardship Council.[44]

- In November 2021, Australia signed the Glasgow Leaders Declaration on Forest and Land Use committing to end deforestation and land degradation by 2030.[45]

- In December 2022, in response to the recommendations of the Samuel Review, the government published a *Nature Positive Plan* committing to:[46]

    - Reform environmental laws to better protect, restore and manage Australia's environment

    - Establish an independent Environmental Protection Agency

    - National Environmental Standards that will set out the environmental outcomes that environmental laws are seeking to achieve

    - Establish a nature repair market to increase businesses and individual investment in nature

- In December 2022, Australia also became a signatory to the GBF, committing to strong action on biodiversity conservation including protecting and conserving 30% of land and oceans by 2030.[47] As a signatory to the GBF, Australia is required to submit a revised or updated National Biodiversity Strategy and Action Plan (NBSAP), describing how Australia will contribute to its goals targets, by the next CBD Conference of the Parties (COP16) in 2024.

- In December 2022, the Australian Treasury commenced consultation on the design and implementation of mandatory climate-related financial disclosures in Australia, as part of a suite of sustainable finance reforms.[48]

These developments are driving increased expectations for Australian companies and banks to: understand the impacts of financed activities on nature; assess, manage and disclose nature-related risks; and develop pathways to align practices towards positive nature outcomes.

2.4 Nature is increasingly manifesting as financial risk

Nature and biodiversity loss associated with the impacts of financed activities can manifest as risks to the bank. These risks may be categorised as physical, transition or systemic risks.[49]

---

[43] DCCEEW (2023) *Independent reviews of the EPBC Act*, https://www.dcceew.gov.au/environment/epbc/our-role/reviews
[44] DCCEEW (2023) *Financing Solutions for Nature*, https://www.dcceew.gov.au/climate-change/policy/nature-based-solutions-for-climate/financing-solutions
[45] The National Archives (2021) *GLASGOW LEADERS' DECLARATION ON FORESTS AND LAND USE*, United Nations Climate Change Conference UK 2021, https://webarchive.nationalarchives.gov.uk/
[46] DCCEEW (2022) *Nature Positive Plan:*
better for the environment, better for business, https://www.dcceew.gov.au/sites/default/files/documents/nature-positive-plan.pdf
[47] DCCEEW (2023) *A New Global Biodiversity Framework: Kunming-Montreal Global Biodiversity Framework*, https://www.dcceew.gov.au/environment/biodiversity/international/un-convention-biological-diversity/global-biodiversity-framework
[48] Australian Government, The Treasury (2023) *Climate-related financial disclosure, https://treasury.gov.au/consultation/c2022-314397*
[49] Network for Greening the Financial System (2023) *Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors*, https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf

- **Physical risks:** arise directly from a decline in environmental assets and ecosystem services. Production processes are exposed to physical risks to the extent that they depend on environmental assets and ecosystem services such as forests, pollination or soil fertility (e.g., crop failure, difficulties sourcing raw materials). A decline in regulating ecosystem services can also cause risks to physical assets such as buildings and infrastructure (e.g., coastal protection, water buffering, prevention of heat islands).[50]

- **Transition risks:** arise if business models are misaligned with new developments aimed at aligning to the GBF goals and targets. Such new developments could include new regulations, market risk or shifting consumer preferences that negatively influence their business. For example, companies may fail to adapt to new regulations or market-led commitments on deforestation-free supply chains, resulting in legal consequences, loss of market access and reputational damage.[51] Transition risks can impact right across the value chain, including for example the impact of regulation in key markets or commodity supply chains. Banks that act in anticipation of policy development rather than in response to it are well placed to mitigate transition risks.

- **Systemic risks:** arise from the breakdown of the entire environmental and/or economic system, rather than the failure of individual parts. Systemic risks result from interactions between risks, in particular compounding, cascading or contagion effects of physical and transition risks.[52] Compounding effects occur when the degradation of one ecosystem triggers a degradation or a collapse of others (e.g., collapse of the Amazon ecosystem may have global impacts). Cascading effects occur when risks cascade and amplify throughout the value chain. Contagion may occur when risks spread throughout the financial system and/or create feedback loops to the real economy.[53]

Banks that finance company activities which are subject to physical, transition or systemic risks face financial risks as a result of financing these activities, as a result of changed pricing, productivity, trade and capital flows, socio-economic changes and fiscal balances.[54] This can negatively impact cash flows or impact creditworthiness.

Examples of the effects of nature-related factors that affect prudential risk categories are listed below at Figure 7.[55]

Prudential risk categories	Examples of potential nature-related factors affecting prudential risks
Strategic and business model risk	Losing ecosystems affects the ability of banks to finance practices that rely on particular natural resources
Credit risk	Soil degradation affects agricultural productivity, which may limit a farmer's ability to service their debt and lead to higher risk of default on loans. The reduced collateral value of agricultural land will drive a higher loss in the event of default
Market risk	Banks are susceptible to changes in energy and commodity prices. Environmental degradation and disruption to the value of production processes expose financial institutions to increased price volatility for commodity prices such as wheat and coal
Operational risk	Financial institutions face regulatory, reputational, or litigation risks as a result of financing a company engaged in activities that contribute to deforestation. Many investors are responding to shifting public attitudes to consider ESG factors in their decisions and are channeling funds to greener companies. Risk of loss due to fraud relating to the misrepresentation of green investments or the transition pathway of specific borrower
Liquidity risk	Rapid nature degradation creates stressed conditions and short-term liabilities which pressure financial institutions to liquidate assets and meet their obligations

Figure 7: Summary of the effects of nature-related factors that affect prudential risk categories

[50] Ibid.
[51] Setzer J, Higham C (2023) *Global trends in climate change litigation: 2023 snapshot*, London School of Economics, https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2023/06/Global_trends_in_climate_change_litigation_2023_snapshot.pdf
[52] Network for Greening the Financial System (2023) *Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors*, https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf
[53] Ibid.
[54] Ibid.
[55] Ibid.

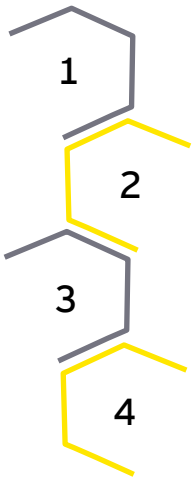
It is therefore important for banks to assess credit risk exposure by understanding how their financing practices impact nature and how they can effectively manage risks to support positive nature outcomes.

Climate- and nature-related risks also interact with each other and must be considered as part of an integrated risk management strategy. Climate change exacerbates biodiversity loss and vice versa, for example physical risks in agriculture arise both from biodiversity loss (e.g., reduced crop diversity, reduced pest and disease control) and climate change (e.g., shifting weather patterns, increased probability of extreme weather events), requiring a dual yet combined approach to risk management.[56]

2.5 Our approach

As set out earlier in this report, ACF commissioned EY to assess the flow of capital and lending from banks into sectors and sub-sectors that have a risk of material impact upon nature, barriers inherent within banking practices to aligning to priority GBF goals and targets for the banking sector, and opportunities to overcome these barriers.

This report seeks to address four questions:



How do Australian banks' lending practices impact sectors that have high risks of nature impacts?

What are the barriers to Australian banks aligning with and enabling the achievement of the priority GBF goals and targets?

What are the opportunities for Australian banks in achieving the priority GBF goals and targets?

What actions could Australian banks take to help reduce impacts on nature?

To prepare this report, EY conducted interviews with key stakeholders including academics, scientists, banks and other experts.

EY also conducted a detailed literature review of the four largest Australian banks and mapped the financial flows from these banks into sectors and sub-sectors that have a material risk of impact on nature, namely the *key sectors*. The banks analysed comprised, Australia and New Zealand Banking Group Limited (ANZ), Commonwealth Bank of Australia (CBA), National Australia Bank (NAB) and Westpac Banking Corporation (Westpac). We also analysed financial flow information from Rabobank to the agriculture sector in Australia.

We have focused primarily on, institutional, business and retail banks in this report, however our key findings and recommendations also align to central banking practices in many instances.

A summary of the methodology is presented below, with further detail in **Appendix A**.

[56] Finance for Biodiversity Foundation (2022) *The why and how of biodiversity integration by financial institutions,* https://www.financeforbiodiversity.org/wp-content/uploads/FfB-Foundation_Act-now_Guide-on-biodiversity-integration.pdf

Identifying impacts on key sectors

To understand the impacts of banking on key sectors with a high-risk of nature impacts, EY mapped the *key sectors* to the relevant Australian and New Zealand Standard Industrial Classification (ANSZIC) codes.[57]

EY then utilised Exploring Natural Capital Opportunities, Risks and Exposures (ENCORE) tool and the Science Based Targets for Nature (SBTN) materiality tool to identify material nature risks across the *key sectors*.[58] To understand how these risks manifest in the Australian context, EY mapped these risks to the 2021 SoE Report.[59]

Our report focuses on impacts to terrestrial and freshwater use, rather than impacts to marine environments.

EY then undertook a literature review of public reports from Australia's four largest banks, to inform understanding of the current state of banking practices that could impact on nature or create opportunities for alignment to the priority GBF goals and targets. EY also reviewed international banking practices to obtain insights and information on international best practice.

Mapping financial flows into key sectors and sub-sectors

To identify and map financial flows of all bank lending practices in Australia into the *key sectors*, EY utilised Reserve Bank of Australia (RBA) data comprising monthly returns collected by the Australian Prudential Regulation Authority (APRA) from Australian banks and registered financial institutions with more than $2 billion AUD in business credit, capturing over 95% of total business credit.[60]

To further understand lending to sub-sectors of the *key sectors* in Australia, EY reviewed public reports from Australia's four largest banks and Rabobank with regard to lending to agriculture as detailed in **Appendix A**.

[57] Australian Bureau of Statistics (2013) *Division definitions*, https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions
[58] Science Based Targets for Nature (2023) *Resources,* https://sciencebasedtargetsnetwork.org/resources/
[59] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[60] Reserve Bank of Australia (2023) Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1, https://www.rba.gov.au/statistics/tables/

3. Impacts of the Australian economy on nature

3.1 The health of Australia's natural environment is deteriorating

Australia's land cover is constantly changing in response to both natural processes and human activities. The 2021 SoE Report revealed that Australia's environment is deteriorating because of increasing environmental pressures.[61] Various pressures across the four realms are summarised below in Figure 8.[62]

Land	Freshwater
Intense competition for land resources has impacted the delivery of essential ecosystem services. Australia's terrestrial ecosystem comprises land-based natural capital, namely native vegetation, soil, and biodiversity. Approximately 40% of Australia's forests have been cleared, primarily for agriculture.[63] Urban, production and extractive land uses have replaced 13.2% of Australia's native vegetation. Clearing exacerbates desertification, erosion, chemical contamination and invasive species.	Access to quality water is vital for the environment, economy and society. The intensity and frequency of extreme weather events are important characteristics of Australia's freshwater systems. Surface-water and groundwater systems had not yet recovered from the millennium drought when the lowest 24-month rainfall period was recorded. This is compounded by extensive water extraction for agriculture, the effects of which are evident across the Murray Darling Basin.
Atmosphere	**Ocean**
Warming of the Australian climate and associated changes in the climate system is continuing, largely driven by increasing concentrations of GHG emissions in the atmosphere. Since the early 20th century, average Australian land temperatures have increased by 1.4 °C, mostly occurring after the 1950's. The years 2019 and 2020, saw unprecedented dust and smoke events, with bushfires burning across several states for weeks.	Australia's marine ecosystem encompasses vital physical, biochemical, and ecological processes. Environmental change caused by industrial production, fishing, industrial run-off and coast land development has affected water temperature, salinity, acidification, circulation and ocean nutrients. Supporting services provided by marine ecosystems such as oxygen production, carbon abatement and climate regulation have been negatively impacted by a lack of regulation.

Figure 8: Various pressures across the four realms in Australia

[61] Cresswell I, Janke T, Johnston E (2021) *State of the Environment*, DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[62] Ibid.
[63] Bradshaw, (2012). Little left to lose: deforestation and forest degradation in Australia since European colonization. https://academic.oup.com/jpe/article/5/1/109/1294916

Relevant to all realms, the average capacity of habitats to support native species and ecosystems has also declined with Australia losing more mammal species than any other continent in the last few centuries.[64] There are roughly 100 species that qualify as functionally extinct or extinct in the wild in Australia. [65] However, the true number of extinctions is likely significantly higher, as many species are poorly surveyed, poorly described or not yet identified. Invasive species and habitat loss are the leading pressures to Australian terrestrial species extinction.[66]

Also relevant to all realms, Indigenous and First Nations people maintain their deep holistic relationship with Country through their living connections. The reciprocal relationship is sustained by the environment and cultural knowledge.[67]

While there have been some positive trends in recognition of rights, there are still many limitations to access, customary governance and other aspects vital for caring for Country. This represents the continuing legacy of colonialisation, as law and policies risk disempowering Indigenous environmental management practices. Inadequacies in law and policy, including intellectual property laws, limit Indigenous people's ability to practise their customary obligations according to customary law. Mining, agriculture, urbanisation and tourism have all been identified as causing damage and degradation to Country.[68]

Key sectors contributing to nature loss in Australia

Company activities within different sectors have a variety of impacts on the environment as a result of the resources they use, pollution and waste they produce and direct footprint of their activities. The nature and extent of the impact depends on the activity itself, where it operates, and how well it is regulated and managed.[69]

In Australia, the *key sectors* have been identified as having the most material pressures and impacts upon nature.[70] The material impacts of each *key sector* are detailed in the following sections.

Material impacts on nature are set out below and mapped across the *key sectors*. These impacts were identified using the ENCORE risk assessment tool, mapped to Australian-specific information provided in the 2021 SoE Report for each sector.

[64] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[65] National Environment Science Programme (2019) *A review of listed extinctions in Australia*, https://www.nespthreatenedspecies.edu.au/news-and-media/latest-news/a-review-of-listed-extinctions-in-australia
[66] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[67] Welcome to Country (2019) *Connection to Country,* https://experience.welcometocountry.com/blogs/learning/connection-to-country
[68] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[69] Ibid.
[70] Ibid.

Agriculture

The material impacts of the agriculture sector on nature are detailed in Figure 9 below.

		Land/Water/Sea Use Change			Resource exploitation		Climate Change	Pollution				Invasives and Other	
		Terrestrial ecosystem use	Freshwater ecosystem use	Marine ecosystem use	Water use	Other resource use	GHG emissions	Non-GHG air pollutants	Water pollutants	Soil pollutants	Solid waste	Disturbances	Biological alterations/interferences
1	Mixed farming	VH	VH	H	H	ND	H	H	M	M	L	ND	M
2	Raising Animals (Small and Large-scale livestock)	VH	ND	ND	VH	ND	H	H	M	M	L	ND	M
3	Logging	VH	ND	ND	ND	ND	H	H	H	H	H	H	ND
4	Aquaculture (Including marine and freshwater)	ND	VH	H	ND	ND	H	ND	H	H	H	ND	M
5	Plant Propagation	VH	ND	ND	ND	ND	H	H	H	H	L	ND	H
6	Growing Crops	VH	VH	ND	VH	ND	H	H	H	H	L	ND	H
7	Silviculture	VH	ND	ND	ND	ND	H	H	H	H	H	H	ND
8	Support activities for Agriculture	VH	VH	ND	VH	ND	H	H	H	H	L	ND	H
9	Fishing (Including marine and freshwater)	ND	VH	VH	ND	H	H	ND	H	ND	H	M	ND

Key: VH = Very High H = High M = Medium L = Low ND = No Data

Figure 9: Material impacts of agriculture on nature

Agricultural activities include growing crops, raising animals, growing, and harvesting timber, fish and other animals from farms or their natural habitats.[71]

Agriculture accounts for 2.4% or $155 billion AUD of Australia's GDP.[72] Land management practices can have positive or negative impacts that are highly influenced by valuation and market conditions. The sector utilised 369 million hectares of land in 2021-22 which equates to about 55% of Australian land use.[73]

The most material impacts of agriculture as identified in Figure 9 are summarised below in the Australian context:

- Terrestrial and freshwater ecosystem conversion and modification associated with agriculture has a very high material impact on nature. The clearing of natural vegetation, including deforestation, removes and fragments habitat for native species and exacerbates the impacts of invasive species such as pigs and goats. Clearing has also increased soil erosion and decreased soil moisture. Without key terrestrial and freshwater ecosystems to redistribute rainwater and soil, the quality and ultimately the productive capacity of land decreases. Croplands and livestock attempt to counteract this by expanding and clearing more fertile or desirable land for cropping or grazing sheep and cattle, rather than focusing on increased productivity.[74] Globally, intensive farming to produce livestock feed can also be a driver of deforestation and the conversion, or degradation, of natural ecosystems.

- The use of water for agricultural production has a high material impact on nature. The majority of Australia's total consumed water is for agriculture (58%), including water that is not suitable for human consumption.[75] Dairy production uses an estimated 1,000 litres of water per litre of milk produced over the entire supply chain. Irrigation of arable crops and water abstraction for beef production contribute to local water stress which can be exacerbated by adverse weather conditions increasing risk of drought.[76]

- GHG emissions associated with agriculture have a high material impact on nature. GHG emissions from agriculture accounted for 13% of all emissions in 2020, with land use, land-use change and forestry (LULUCF) and methane from beef and dairy cattle being the most prominent.[77] These emissions can fluctuate in conjunction with cattle stock count. Energy use from manufacturing and production processes for cold storage and heating also contribute to GHG emissions.[78]

[71] Australian Bureau of Statistics (2013) *Division definitions*, https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions
[72] Australian Government Department of Agriculture, Fisheries and Forestry (2023) *Snapshot of Australian Agriculture 2023,* https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture
[73] Australian Bureau of Statistics (2023) *Agricultural Commodities, Australia*, https://www.abs.gov.au/statistics/industry/agriculture/agricultural-commodities-australia/2021-22#australian-farms
[74] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[75] Australian Bureau of Statistics (2008) *4610.0.55.007 - Water and the Murray-Darling Basin - A Statistical Profile, 2000-01 to 2005-06*. https://www.abs.gov.au/ausstats/abs@.nsf/latestproducts/94F2007584736094CA2574A50014B1B6?opendocument
[76] ENCORE (2023) *Agricultural Products: Impact Drivers*, United Nations Environment Programme, https://encore.naturalcapital.finance/en/impact_drivers/2
[77] Climate Council (2021) *Agriculture's contribution to Australia's GHG emissions*, https://www.climatecouncil.org.au/resources/australia-agriculture-climate-change-emissions-methane/
[78] ENCORE (2023) *Agricultural Products: Impact Drivers*, UN Environment Programme, https://encore.naturalcapital.finance/en/impact_drivers/2

Property

The material impacts of the property and construction sector on nature are detailed in Figure 10 below.

		Land/Water/Sea Use Change			Resource exploitation		Climate Change	Pollution				Invasives and Other	
		Terrestrial ecosystem use	Freshwater ecosystem use	Marine ecosystem use	Water use	Other resource use	GHG emissions	Non-GHG air pollutants	Water pollutants	Soil pollutants	Solid waste	Disturbances	Biological alterations/interferences
1	Construction of buildings	VH	H	VH	H	ND	H	H	M	M	H	H	M
2	Infrastructure maintenance	M	ND	ND	H	ND	H	L	L	L	ND	ND	M

Key: VH = Very High H = High M = Medium L = Low ND = No Data

Figure 10: Material impacts of property and construction on nature

Property and construction activities involve land development, the construction of large infrastructure, buildings and other structures for commercial and residential purposes.[79]

The most material impacts of property and construction activities as identified in Figure 10 can be summarised in the Australian context as follows:

- Terrestrial ecosystem use change associated with construction has a very high material impact on nature. Up to 13.2% of Australia's native vegetation has been replaced by urban, productive and extractive uses of land.[80] Land development processes including soil excavation and removal of natural vegetation to expand services is disruptive to critical habitats and its inhabitants.

- Freshwater ecosystems are at high risk of material impact as a result of new property developments. Like terrestrial, the extractive use or urbanisation of a freshwater ecosystem can interfere with vital resource distribution. This can include the complete removal or relocation of small, localised ecosystems like wetlands, streams or ponds resulting in reduced quality and quantity of water.[81]

[79] Australian Bureau of Statistics (2013) *Division definitions*, https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions
[80] ENCORE (2023) *Construction Materials: Impact Drivers*, UN Environment Programme, https://encorenature.org/en/explore?tab=dependencies
[81] Australian Bureau of Statistics (2013) *Division definitions*, https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions

- The use of water to produce materials within the construction supply chain is significant. It is estimated that 100-600 litres of water is required to make one tonne of cement.[82] Long-term complications also exist due to chemically contaminated run-off from construction sites settling into soil or local freshwater systems.[83]

- GHG emissions from property construction and maintenance have a high impact on nature, the most significant GHG gas for the sector being CO_2. The majority (60%) of construction based GHG emissions come from the thermal reaction to create cement.[84]

Resources

The material impacts of the resources sector on nature are detailed in Figure 11 below.

		Land/Water/Sea Use Change			Resource exploitation		Climate Change	Pollution				Invasives and Other	
		Terrestrial ecosystem use	Freshwater ecosystem use	Marine ecosystem use	Water use	Other resource use	GHG emissions	Non-GHG air pollutants	Water pollutants	Soil pollutants	Solid waste	Disturbances	Biological alterations/interferences
1	Mining (Including hard coal, lignite and other non-ferrous metal ores)	VH	H	ND	VH	ND	H	H	H	H	H	H	ND
2	Natural Gas extraction	VH	VH	VH	VH	ND	H	H	M	M	H	H	ND
3	Extraction of crude petroleum	VH	VH	VH	VH	ND	H	H	M	M	H	H	ND

Key: VH = Very High H = High M = Medium L = Low ND = No Data

Figure 11: Material impacts of resource on nature

Resources activities refers to the extraction of naturally occurring mineral solids such as coal, ores, liquid minerals, gases and natural gases.[85]

The most material impacts of resources activities as identified in Figure 11 are summarised below in the Australian context:

[82] ENCORE (2023) *Construction Materials: Impact Drivers*, UN Environment Programme, https://encorenature.org/en/explore?tab=dependencies
[83] Ibid.
[84] Ibid.
[85] Australian Bureau of Statistics (2013) *Division definition,* https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions

- Terrestrial ecosystems are very highly degraded by mining practices. Non-native plant species can be introduced through vehicles or reclamation programmes damaging native regrowth. Moreover, underground mining increases the chances of landslides due to seismic activities which can permanently alter landscapes. This has detrimental implications for native habitats and its inhabitants.[86] Longwall mining, which is increasingly used for underground extraction, also involves intentional subsidence that can cause surface level impacts that can damage creeks or increase the risk of acid mine drainage. Groundwater dependent ecosystems can be affected by changes to aquifer recharge and discharge rates, which can persist for decades post-mining. Tens of thousands of orphaned or abandoned mine sites across Australia pose significant risks such as altered habitats, displacement of native species, ongoing impacts on groundwater, acid mine drainage, lack of dust contamination control and risks to public safety.[87] The scope of this report excludes marine ecosystems, and so the impacts of offshore extraction and processing facilities for resources extraction are excluded from this analysis.

- Mining, steel production, metal processing, power generation and petroleum refining are the largest GHG polluters in Australia. The mining industry in particular puts nature at high material risk by emitting harmful airborne toxins during extraction such as hydrochloric acid, cyanide, dioxins and furans.[88]

- Highly concentrated wastewater containing sulphuric acid, cyanide, mercury, and arsenic can severely impact vegetation and pH sensitive wetlands. This has long lasting effects as native vegetation is unable to regrow in these affected areas.[89] If wastewater does not reach a freshwater system and settles in the surrounding soil, these chemicals will be absorbed and similarly contaminate the land.

Energy

The material impacts of the energy sector on nature are detailed in Figure 12 below.

		Land/Water/Sea Use Change			Resource exploitation		Climate Change	Pollution				Invasives and Other	
		Terrestrial ecosystem use	Freshwater ecosystem use	Marine ecosystem use	Water use	Other resource use	GHG emissions	Non-GHG air pollutants	Water pollutants	Soil pollutants	Solid waste	Disturbances	Biological alterations/ interferences
1	Nuclear and thermal power stations	ND	H	ND	VH	ND	H	H	M	M	H	H	ND

[86] ENCORE (2023) *Mining: Impact Drivers*, United Nations Environment Programme, https://encorenature.org/en/explore?tab=dependencies
[87] Cooperative Research Centre for Transformations in Mining Economies Ltd (2022) *Impact Framework*,, https://crctime.com.au/macwp/wp-content/uploads/2022/03/FINAL_CRC-TiME_Impact-Framework_23.03.22.pdf
[88] Cresswell I, Janke T, Johnston E (2021) *State of the Environment*, DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[89] ENCORE (2023) *Mining: Impact Drivers*, UN Environment Programme, https://encorenature.org/en/explore?tab=dependencies

		Land/Water/Sea Use Change			Resource exploitation		Climate Change	Pollution				Invasives and Other	
2	Electric power Generation (Include Hydropower, Wind, Biomass, Geothermal and Solar energy)	VH	H	ND	VH	ND	H	H	M	M	M	M	ND
3	Oil and gas exploration surveys	H	H	M	VH	ND	H	H	H	H	H	H	ND
4	Gas distribution	H	ND	H	ND	ND	H	ND	ND	ND	ND	ND	ND
5	Steam and air conditioning supply	H	H	ND	H	ND	H	M	L	L	M	ND	ND

Key: VH = Very High H = High M = Medium L = Low ND = No Data

Figure 12: Material impacts of energy on nature

Energy sector activities encompass electricity and gas supply, including generation and transmission of electricity and gas.[90]

Over 76% of Australian electricity is derived from fossil fuels, with coal providing a large but rapidly declining share at 54%. This represents a high material risk for nature.[91] Notably, emissions from the electricity sector have generally been declining since 2009. This has been attributed to the increase in renewable electricity generation like solar, wind and hydropower.[92]

The most material impacts of energy generation activities as identified in Figure 12 are summarised in the Australian context:

- Freshwater is an integral aspect for renewable and non-renewable energy generation activities. Fossil fuel power stations, traditionally mines, have been built in close proximity to water sources to streamline generation. Non-renewable and renewable energy generation like solar panels utilise water as a coolant during production which requires substantial quantities of water. Hydropower can also affect the amount of local water available due to diversion and extraction for energy generation.[93]

[90] Australian Bureau of Statistics, (2013) *Division definitions*, https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions
[91] Australian Government Geoscience Australia (2023) *Overview*, https://www.ga.gov.au/scientific-topics/energy/overview
[92] Cresswell I, Janke T, Johnston E (2021) *State of the Environment*, DCCEEW, https://soe.dcceew.gov.au/overview/key-findings
[93] Ibid.

- The terrestrial land required for gas distribution is significant as it requires land use for pipes, well pads and access roads that act as a physical barrier to fauna, fragmenting habitats.[94] To optimise solar energy, absorption solar panels are laid on solar farms that utilise 22.5-25.9m^2/GWh of land in Australia alone. [95]

Meeting the renewable energy demands of a net zero energy system will require careful consideration and management of impact for GBF goals and targets. While there is a risk of tension between resource optimisation in wind and solar and site placement (including access to transmission), impacts on nature can be avoided or minimised as part of the project planning and development process and by utilising the wide availability of degraded or disturbed land in Australia. However, it is important to note that a direct comparison between fossil fuel and renewable energy generation omits the fact that fossil fuel generation requires constant upstream fuel extraction.

The scope of this report excludes marine ecosystems, and so the impacts of offshore extraction and processing facilities for energy extraction are excluded from this analysis.

[94] Ibid.
[95] Ibid.

4. Australian bank lending practices to key sectors

Expectations for how financial institutions need to think about nature and biodiversity impacts are rapidly changing, evolving from historical models with limited assessment of environmental risk to a more integrated understanding of nature risk and opportunity.

Beyond the footprint of their direct operations, the most material way in which banks impact nature is through the activities that they finance. This impact manifests through financing activities that directly drive nature loss, conservation or regeneration.

Activities within the *key sectors* create the greatest pressures and drivers of nature loss within Australia. This section quantifies the amount of lending by Australian banks to *key sectors* and seeks to understand the relationship between banking financial flows and the *key sectors* impacting nature.

As set out in section 2.5 above, to identify and map financial flows of all bank lending practices in Australia into the *key sectors*, we utilised RBA data comprising monthly returns collected by APRA from Australian banks and registered financial institutions with more than $2 billion AUD in business credit, capturing over 95% of total business credit.[96]

To further understand lending to sub-sectors of the *key sectors* in Australia, we reviewed public reports from Australia's four largest banks and Rabobank with regard to lending to agriculture.

Further information on EY's methodology is at **Appendix A**. The findings of our analysis are set out below.

4.1 Lending in key sectors

The *key sectors* all materially contribute to Australia's gross value added (GVA) with a total of $462.6 billion AUD in 2023 (see Figure 13 below), as well as presenting the highest nature-related risks.

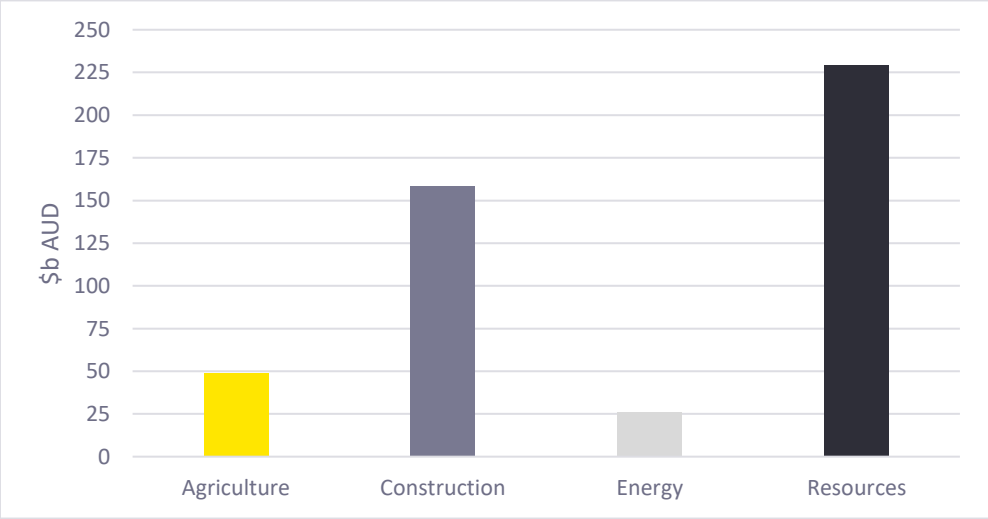


Figure 13: Contributions of key sectors to GVA in 2023 ($ billion AUD)[97]

[96] Reserve Bank of Australia (2023) Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1, https://www.rba.gov.au/statistics/tables/
[97] Australian Bureau of Statistics (2023) *Australian Industry Gross Value Added Annual*, https://www.abs.gov.au/statistics/industry/

Our analysis found that approximately 22% ($260.8 billion AUD) of all outstanding business finance as of June of 2023 was in the *key sectors*, with 10% attributable to agriculture ($118.4 billion AUD).[56]

The agriculture sector had the third highest amount of lending across all sectors in the RBA data, with only the financial and insurance, and the rental, hiring and real estate services sectors having outstanding finance higher than the agriculture sector. Figure 14 below details the amounts of outstanding business financing per sector.

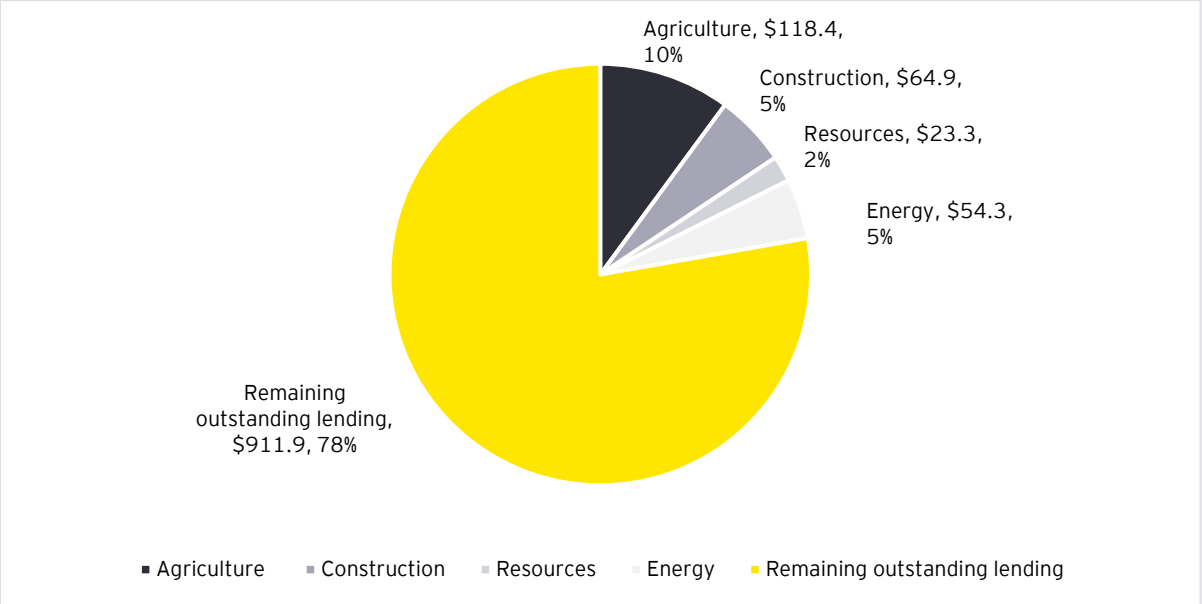


Figure 14: Lending into *key sectors* ($ billion AUD)

An analysis of the 2022 annual reports and financial statements of Australia's four largest banks found that collectively, there is approximately $167 billion AUD of outstanding loans and advances to the *key sectors* driving the impacts to nature in Australia.[98]

4.2 Sub-sector breakdown

To determine lending into sub-sectors of the *key sectors* in Australia, we reviewed public reports from Australia's four largest banks and Rabobank with regard to lending to agriculture. Our analysis revealed:

- **Agriculture:** $47.1 billion AUD to livestock, $21.7 billion AUD to crops and $8.6 billion AUD to horticulture and viticulture as of 2022.[99] These figures include data from Rabobank's lending practices in Australia
- **Property:** $7.3 billion AUD for building construction, $3.5 billion AUD for non-building construction and $9.8 billion AUD for construction services as of 2022
- **Resources:** $13.8 billion AUD for fossil fuel mining and $9.6 billion AUD for metal ore and mineral mining as of 2022
- **Energy:** $24 billion AUD for renewable energy and $5.1 billion AUD for non-renewable energy as of 2022

[98] Note: Banks analysed included Westpac, National Australia Bank, Commonwealth Bank of Australia and Australia and New Zealand Banking Group Limited and Rabobank (agriculture only) for the purposes of determining specific lending practices of these banks, as included at Figure 14 of the report above.
[99] Note: See Appendix A for details of analysis from largest Australian banks, for all sub-sector categories. Data analysis from the largest Australian banks is as of year-end financial reporting from ANZ, CBA, NAB and Westpac in 2022, noting that the dates for year-end financial reporting differ between banks. See Appendix A for further details.

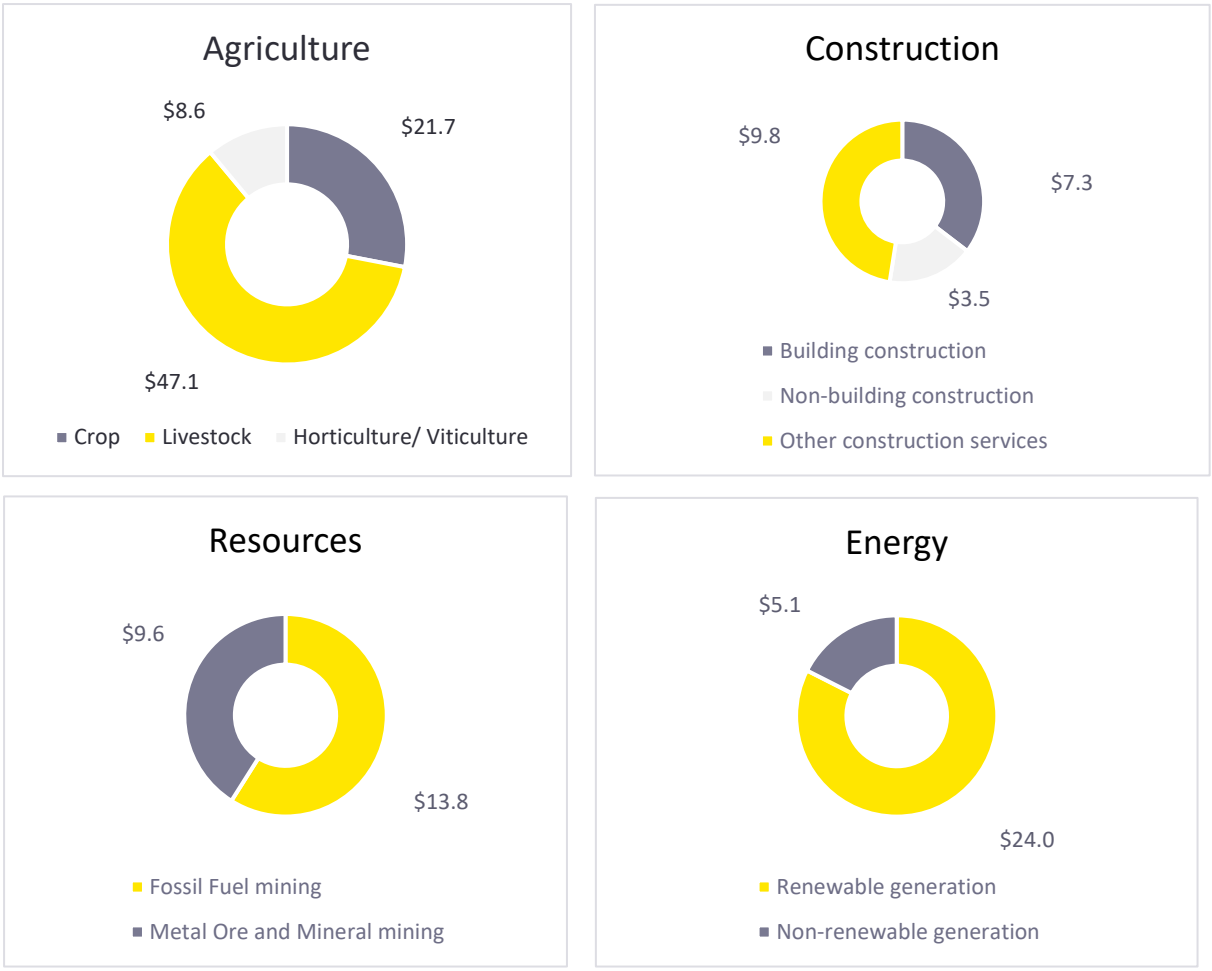


Figure 15: Distribution of lending by the four largest Australia Banks to sub-sectors, and Rabobank lending to agriculture ($ billion AUD)

4.3 How banking is approaching nature

Major banks in Australia are accelerating action on nature in response to global nature-related targets and commitments. Actions taken by banks on nature as disclosed in recent annual reports include:

- Issuing green and sustainability bonds and sustainability-linked loans with nature related outcomes embedded;[100]
- Becoming members of the TNFD forum, including the four largest Australian banks;[101]
- Issuing natural capital position statements to consider TNFD, GBF and 2021 SoE Report developments;[102]
- Commissioning natural capital projects with research organisations, such as the CSIRO, various Universities, Cooperative Research Centres, Trucost, and technology providers, to understand nature impacts and dependencies;[103]

[100] Commonwealth Bank Australia (2023) *CommBank launches Agri Green Loan, https://www.commbank.com.au/articles/newsroom/2022/08/Agri-Green-Loan.html*
[101] Taskforce on Nature-related Financial Disclosures (2023) *The TNFD Forum*, https://tnfd.global/engage/tnfd-forum/
[102] Westpac (2022) *Westpac 2022 Annual Report*, p 41, https://www.westpac.com.au/about-westpac/investor-centre/financial-information/annual-reports/
[103] National Australia Bank (2023) *Natural Capital and managing our environmental impact,* https://www.nab.com.au/about-us/sustainability/environment/natural-capacity-resource-management

- Developing partnerships to build natural capital analytical capabilities, including tools such as NatCap to better understand nature-related risks and dependencies in its financing activities;[104]

- Conducting sectoral analysis of banking dependencies and impacts on nature;[105]

- Piloting the TNFD which help identifying impacts and dependencies on nature and TNFD metrics in its business and corporate lending portfolios; [106]

- Publishing performance against TNFD disclosure metrics. [107]

[104] Commonwealth Bank Australia (2023) *2023 Climate Report*, https://www.commbank.com.au/content/dam/commbank-assets/investors/2023-08/climate/2023-climate-report-spreads.pdf
[105] Westpac (2022) *Nature positive: The new net-zero frontier*, https://www.westpac.com.au/news/making-news/2022/11/nature-positive-the-new-net-zero-frontier/
[106] Ibid.
[107] Commonwealth Bank Australia (2023) *2023 Climate Report*, https://www.commbank.com.au/content/dam/commbank-assets/investors/2023-08/climate/2023-climate-report-spreads.pdf

5. Barriers to action on nature for Australian banks

There are a number of Australian banking practices that currently drive negative impacts on nature, hindering the achievement of global biodiversity and nature goals and targets.

These barriers are a product of both structural issues impacting across the wider financial system, as well as historical and current banking practices on risk assessment, credit risk assessment and product construction. In this section, we have explored each barrier that needs to be addressed for banks to strengthen alignment to priority GBF goals and targets.

There is an imperative for banks to take action to overcome the barriers identified in this report to achieve the priority GBF goals and targets. The opportunities and recommendations presented in Section 6 of this report provide a pathway for banks to overcome these barriers and take action to transition to align practices to the GBF goals and targets. A summary of the identified barriers is below.

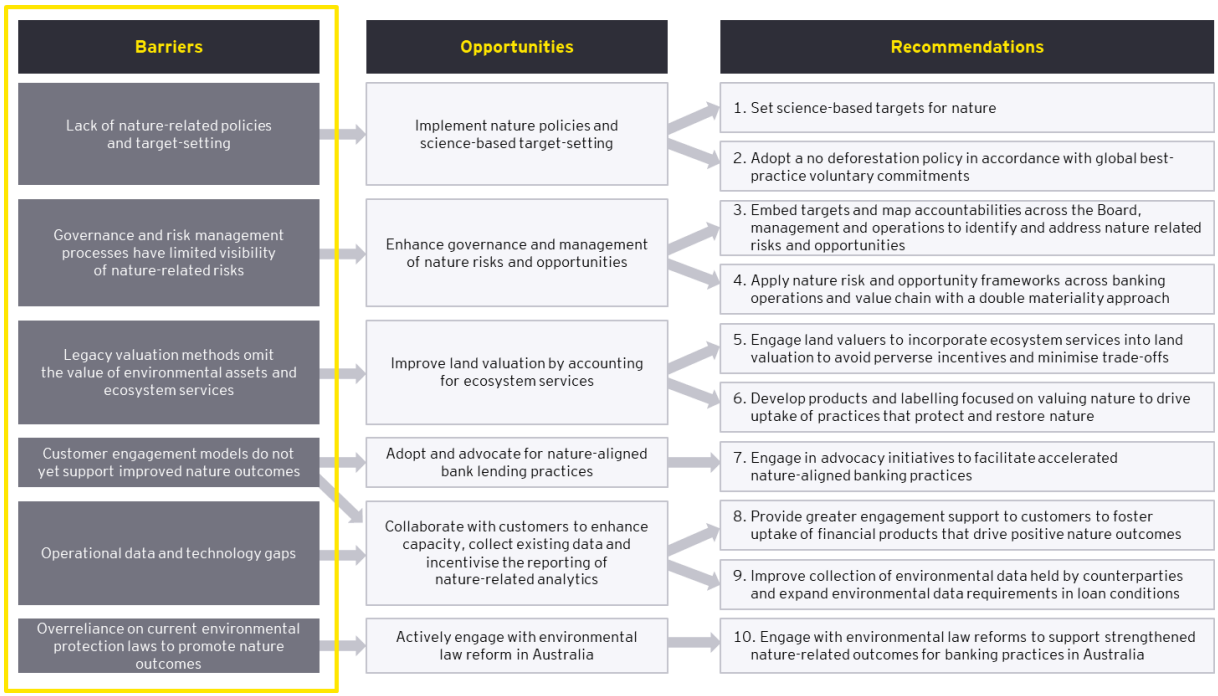


Figure 16: This image focuses on the barriers identified in this report, as mapped to opportunities and recommendations

5.1 Lack of nature-related policies and target-setting

Global nature targets and frameworks such as the GBF and TNFD are increasing expectations for businesses and financial institutions to assess and disclose nature-related risks and opportunities. Climate-related targets such as the Glasgow Financial Alliance for Net Zero (GFANZ) commitments to deliver net zero GHG emissions are also driving increased expectations for similar action on nature.[108] These frameworks are rapidly emerging and build upon ongoing stakeholder engagement on the role of banks in financing activities that raise environmental concerns.

Bank specific, portfolio, industry-specific and product-based target setting is not yet in place within most financial institutions. To date, 80% of banks have not yet set nature-related targets and only 20% of banks have a publicly stated plan to set such targets.[109] Only a small number of Australian

[108] Glasgow Financial Alliance for Net Zero (2023) *Glasgow Financial Alliance for Net Zero Home*, https://www.gfanzero.com/
[109] Australian Conservation Foundation (2022) *Risky business: How Australia's banks and super funds are responding to the nature crisis*, https://www.acf.org.au/nature

banks have deforestation and land conversion policies in place.[110] Australia's second biggest agricultural lender, Rabobank, has announced a policy of not financing cattle businesses associated with deforestation in Brazil, but no such policy or target applies across Australia.[111]

While arguably a function of the emergent nature of a new generation of risk assessment on nature, barriers associated with disclosure and target-setting are also a symptom of the other barriers discussed in sections 5.1 – 5.6 of this section. Stronger regulation, environmental valuation, market incentives and engagement will drive better nature-related governance, risk management and data and technology requirements and outcomes.

5.2 Governance and risk management processes have limited visibility of nature-related risks

In order to reduce negative impacts on nature, it is critical to build nature into bank governance and oversight across all three lines of defence (i.e., frontline bankers, credit risk and internal audit and independent assurance). This includes building board-level nature literacy, embedding nature into policies and ensuring nature is operationalised in core finance systems and processes including credit risk assessment. Challenges associated with embedding nature into governance frameworks include:[112]

- Nature competes with a number of other emerging and strategic risks that must be addressed by the board (e.g., technology and business-model disruption, changing global economic conditions, cybersecurity, climate change etc.)

- Nature is a complex and inherently systemic issue. The risks are diverse, uncertain and often not yet visible in some markets. This makes nature a complex risk and opportunity to manage

- Companies are under constant pressure to deliver short-term results, to meet investor expectations on a quarterly basis. Nature may pose longer-term risks that extend beyond the considerations of the typical business planning cycle

- Nature has not yet been prioritised as a significant material risk necessitating the same level of governance and oversight as climate change, despite the increasing recognition that company directors have a duty to exercise reasonable care to identify foreseeable and potentially material nature-related risks and to take this into account in decision-making[113]

These challenges result in a reduced understanding of the holistic nature impacts and dependencies across the banking financial value chain, creating gaps in information and incentives to take action on nature.

Regarding risk assessment, banks have historically had established practices for addressing environmental risk within their credit risk processes. However, these credit risk procedures are principally focused on ensuring compliance with minimum regulatory requirements, with some additional screening for high-risk commodities (for example, palm oil or beef). Banks may also apply additional voluntarily frameworks such as the Equator Principles for large scale, high impact projects supported through project finance activities.[114] There is a risk, however, that existing policies and processes are no longer fit-for-purpose to meet changing nature and biodiversity risk assessment expectations and will require re-evaluation.

[110] Ibid
[111] Rabobank, (2020) *Rabobank's Commitment to Sustainable Agriculture and Forests*, https://media.rabobank.com/m/52467d17b5261dfb/original/Rabobank-s-Commitment-to-Sustainable-Agriculture-and-Forests.pdf
[112] World Economic Forum (2019) *How to Set Up Effective Climate Governance on Corporate Boards,* https://www3.weforum.org/docs/WEF_Creating_effective_climate_governance_on_corporate_boards.pdf
[113] Ramos and Sedilekova (2022) Biodiversity Risk: Legal Implications for Companies and their Directors, https://commonwealthclimatelaw.org/biodiversity-risk-legal-implications-for-companies-and-their-directors/
[114] Equator Principles (2023) *Equator Principles Home*, https://equator-principles.com/

The standard 'single materiality' risk assessment approach is also insufficient to identify the complete range of nature-related risks when conducting a broad risk assessment. Methodologies for stress testing nature risk of portfolios or undertaking nature-based scenario analysis are still emerging, creating a gap in the information required to gain a deeper understanding of the physical, transition and systemic nature of nature-related risks and opportunities in the banking sector. A deeper and more multi-faceted understanding of nature-based impacts and risks would also help drive new products and client-based responses to mitigate risks and pursue emerging opportunities.

5.3 Legacy valuation methods omit the value of environmental assets and ecosystem services

Valuation concepts are based on the principle of a transaction between a willing buyer and a willing seller, based on the highest and best use of the land for the creation and monetisation of commodities.[115]

This approach can often lead to trade-offs whereby land managed to improve natural capital is given a lower valuation than land cleared for agricultural or property purposes.[116] This results in structural financial benefits to nature degradation including, at worst, perverse incentives to realise value through deforestation, for example.

While this is arguably a wider system-level issue, there is also a role for individual banks to engage with their valuation models and providers to ensure that nature is integrated fully into valuation approaches that underpin lending and investment decision-making to avoid perverse outcomes for biodiversity and nature.

5.4 Customer engagement models do not yet support improved nature outcomes

To facilitate effective relationship management, customers may also require greater support and more direct engagement to access the information and finance available to engage in lending practices that lead to reduced nature-related impacts. Relationship banking models typically only apply to larger customers, and a lack of relationship manager for banking products in sectors comprised of small businesses and vulnerable communities can lead to a risk that engagement is not appropriately supported and expectations not appropriately communicated.[117] This is particularly significant for the agricultural sector, but also applies across the property sector.

In the agriculture sector, environmental obligations attached to the underlying security (e.g., permanence obligations for carbon project attached to title) may impact land valuation and increase operational and financial risk (e.g. due to permanence risk and carbon market volatility).[118]

The shorter timeframes of lending or product-based relationships with customers do not always support improved nature outcomes. Demonstrable environmental outcomes of activities may occur over a longer time period, which can result in the need to either extend the product life of loan products (and associated risks) beyond the usual short-term structuring of 3-5 years, or the need to build greater relationship management between banks and customers to embed requirements into multiple products over a longer time period. Longer-term engagement is required to mitigate the

[115] Walton T, Moore N (2014) *PLANNING INSTITUTE OF AUSTRALIA Valuation Principles FOR PLANNERS,* https://www.planning.org.au/documents/item/6383; International Valuation Standards Council (2023) *Standards glossary*, https://www.ivsc.org/standards-glossary/
[116] New South Wales Government (2017) *Valuing rural land*, https://www.valuergeneral.nsw.gov.au/

[118] Ross A, Curran B, Robins N, Nicholls M (2023) *Sowing Seeds: How finance can support a just transition in UK agriculture*, London School of Economics, https://www.lse.ac.uk/granthaminstitute/

risk of financial instability associated with the short-term horizon for lending and monetary policy, across both climate and nature-related financial risk.[119]

5.5 Operational data and technology gaps

Traditional financial services models that aggregate data are not fit for purpose for managing and monitoring nature impacts on the ground, due to the size and scale of portfolios of assets for which location-specific information is not readily available.

For example, banks may rely on data tools such as ENCORE to screen for impacts and dependencies on natural capital associated with activities at a sector level.[120] However, this data is not location specific and so only provides a useful high-level materiality scan for impacts and dependencies across banking portfolios.

Location-specific data is a key barrier for credit risk analysis. Some banks have indicated that they are working with Digital Agricultural Services to obtain information on change in land cover for specific land parcels.[121] However, this information is not readily available. Furthermore, the lack of nationwide data presents a challenge as banks instead use satellite imagery of varying quality and differing definitions of deforestation.

Unlike climate where carbon is the key measurement metric, nature-related data is more complex and location-specific.[122] As a result, key measurement metrics for nature impacts and dependencies of an asset will vary significantly based on its physical location and its nature-related attributes. This creates challenges for standardising and aggregating nature-based data for industry sectors and different finance product or lending channels. This is further complicated by the use of classification codes such as ANZSIC which are not fit-for-purpose with respect to classifying sustainable counterparty activities (i.e., such as agroforestry or regenerative agriculture).

While challenging, location specific data is increasingly being adopted across the finance sector to inform risk and client engagement outcomes, with step one of TNFD's locate, evaluate, assess and prepare (LEAP) framework recommending a geospatial assessment of a value chain's interface with nature. While deficiencies with nature specific data and technology solutions can be interpreted as structural impediments to action, banks are in a position to address these barriers through their approach to data gathering and broader policy engagement in order to better understand and mitigate nature impacts and demonstrate alignment to GBF goals and targets.

5.6 Overreliance on current environmental protection laws to promote nature outcomes

Currently, Australian environmental laws are not incentivising investment in nature and are falling short in arresting nature and biodiversity decline rates. The Samuel Review of Australia's primary federal environmental legislation highlighted a number of concerns regarding the ability of existing laws protect Australia's environment and heritage.[123]

The EPBC Act is arguably no longer fit-for-purpose in addressing current or future environmental challenges. The initiatives it was intended to be supported by have become disconnected over time. As a result, planning, funding and regulatory decisions are not well integrated or clearly directed towards achieving long-term environmental sustainability.[124] Cumulative impacts on 'matters of

---

[119] Speech by Mark Carney at Lloyd's of London, (2015) *Breaking the Tragedy of the Horizon – climate change and financial stability*. https://www.bankofengland.co.uk/-/media/boe/files/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.pdf

[120] ENCORE (2023) *Exploring Natural Capital Opportunities, Risks and Exposure*, United Nations Environment Programme, https://encorenature.org/en/

[121] Digital Agriculture Services. (2023). Industry in focus: Financial Services & Agri-Enterprise. ENCORE (2023) Exploring Natural Capital Opportunities, Risks and Exposure, United Nations Environment Programme, https://encorenature.org/en/

[122] ENCORE (2023) *Exploring Natural Capital Opportunities, Risks and Exposure*, United Nations Environment Programme, https://encorenature.org/en/

[123] Professor Graeme Samuel AC (2020) *Independent review of the EPBC Act*, Department of Climate Change, Energy, the Environment and Water, https://epbcactreview.environment.gov.au/resources/final-report

[124] Ibid.

national environmental significance' (MNES) are not holistically addressed at a national level, creating pressure to manage impacts at an individual project-level. [125] Most forest conversion activity in Australia is for maintaining pastures for grazing activities. The largest source of emissions in the land-use and land use change sector is land clearing, noting that emissions from and-use and land use change is not currently regulated under the EPBC Act.[126]

Strengthened environmental laws are important for ensuring that banking due diligence and compliance processes can achieve stronger environmental outcomes. However, as with climate, there are also opportunities for banks to both engage to strengthen regulatory frameworks and implement risk assessment and mitigation policies and procedures which go beyond a compliance-based approach to a value protection and generation model.

[125] Ibid.
[126] Australian Government Department of Climate Change, Energy, the Environment and Water (2022), *Australia's emissions projections 2022*, https://www.dcceew.gov.au/climate-change/publications/australias-emissions-projections-2022

6. Opportunities and recommendations for overcoming barriers and align to priority GBF goals and targets

There is an imperative for banks to take action to overcome the barriers identified in Section 5 above.

The opportunities and recommendations presented this Section 6 provide a pathway for banks to overcome these barriers and take action to transition to align practices to the priority GBF goals and targets, including taking steps to incentivise positive nature-based outcomes. A summary of the identified opportunities and recommendations is below.

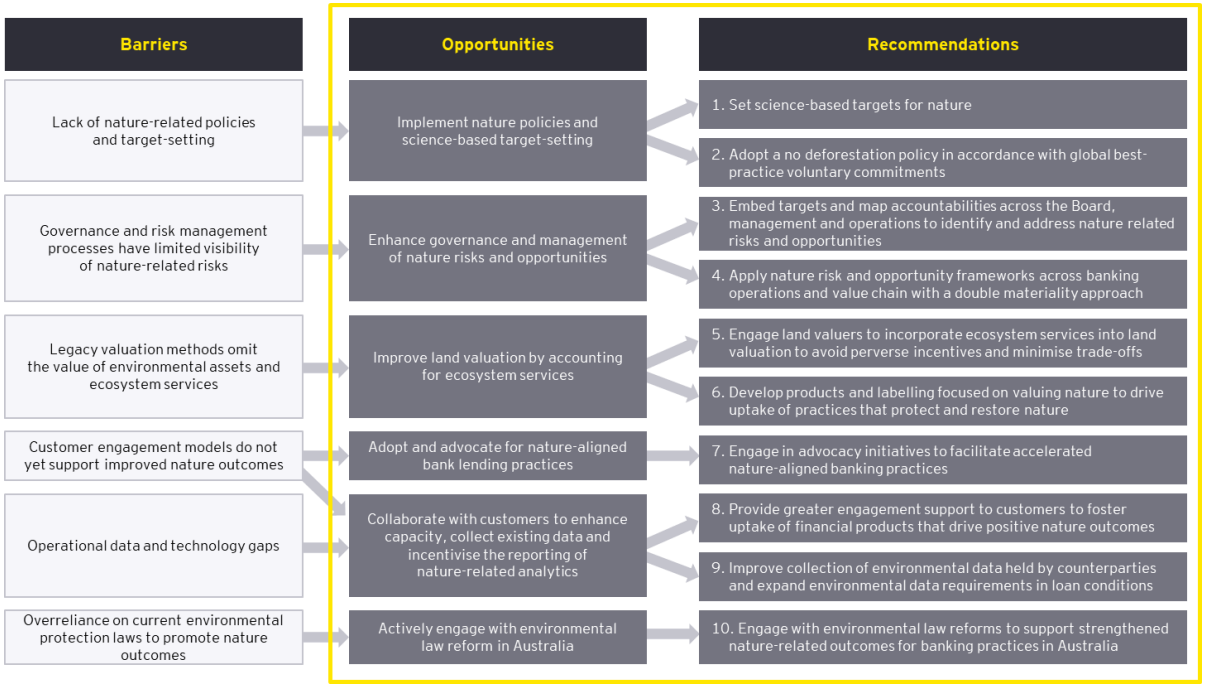


Figure 17: This image focuses on the opportunities and recommendations identified in this report, mapped in relation to barriers to need to be overcome

6.1 Implement nature policies and science-based target-setting

Banks can leverage frameworks such as the TNFD and SBTN to set effective nature policies and science-based targets which align to the GBF. There are a number of approaches that can be adopted to address interim challenges on data availability and specificity.

The TNFD has developed an integrated assessment process for nature-related risk and opportunity management specifically for financial institutions called LEAP-FI (locate, evaluate, assess and prepare for financial institutions).[127] Banks can then take steps to measure, report and set science-based nature-related targets in accordance with the SBTN framework, so that targets are set for the most material and strategic nature-related risks and opportunities.[128] The SBTN further supports the development of a robust pathway to monitor and reduce nature-related impacts over time, supporting better data and measurement across lending for activities.

[127] Taskforce on Nature-Related Financial Disclosures (2023) *Additional guidance for financial institutions: LEAP FI approach*, https://tnfd.global/wp-content/uploads/2023/08/Guidance_for_Financial_Institutions_v1.pdf?v=1695215983
[128] Ibid.

Case study: setting a science-based target on nature

SBTN uses a five-step framework for companies to use science to set measurable, actionable, and time-bound objectives and define their role in restoring nature.[129]

Banks undergo a materiality screening and value chain assessment which reveal key environmental pressures across operations and value chains. Following this, target boundaries are set, interpretated and ranked to reflect company pressures and the needs of nature and biodiversity. The objectives are then measured, set, and publicly disclosed.[130] An overview of the process is below.

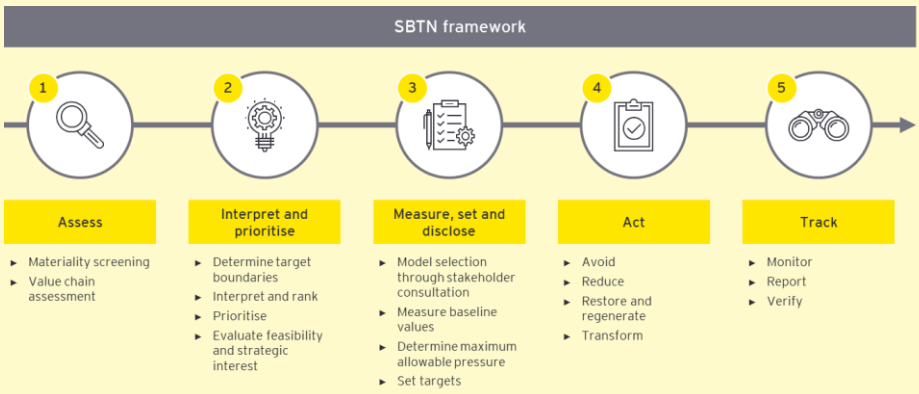


Figure 18: SBTN framework

Investing in models that facilitate appropriate aggregate data to manage and monitor nature-impacts across portfolios is key to supporting effective science-based policies and target setting within banking operations and value chains. For example, banks are utilising the NatCap tool to enhance data collection, measurement and disclosure through geospatial models.[131] The tool has been designed to align with TNFD requirements and other emerging regulations such as the EU Taxonomy.[132] By investing in data and technology capability, banks can improve natural capital accounting techniques and implement a more accurate assessment of nature-related impacts and dependencies.

Given the urgency with which action is required to achieve alignment to the priority GBF goals and targets, banks should not wait for comprehensive location-specific data to set science-based targets. Banks who wait for action will be less prepared as policies inevitably evolve, markets shift and impacts inevitably arise. Banks already engage in place-based financing (e.g., project finance for mining or clean energy technology infrastructure) and have access to location-based data, and they can therefore start at 'Locate' within the TNFD LEAP FI framework. In comparison, banks engaged in debt financing or commercial lending will likely have more limited or high-level location data. For these banks, it may be more suitable to perform a sector-level analysis and start from 'Evaluate' step of the TNFD assessment framework.

Banks should engage with clients, customers and investees to obtain reliable location data and invest in data systems which allow for ongoing management. In the interim, public data can be leveraged to create proxies for a sector-level analysis. For example, spatial data on mines and minerals industry infrastructure can be downloaded from Australian Mines Atlas and filtered by owner, operator, or commodity type. This tool can enable banks to understand the location of their clients' business activities.[133]

[129] Science Based Targets Network (2022) General Mills: Corporate insights from piloting freshwater SBTs, https://sciencebasedtargetsnetwork.org/case-studies/general-mills-corporate-insights-from-piloting-freshwater-sbts/
[130] Ibid.
[131] Natcap (2023) *Our approach,* https://natcapresearch.com/natcap-platform
[132] Ibid.
[133] Australian Government Department of Climate Change, Energy, the Environment and Water (2023) *Tackling TNFD in critical mineral mining for producing clean energy technologies,* https://www.dcceew.gov.au/sites/default/files/documents/tnfd-critical-mineral-mining.pdf

For more urgent nature-based impacts in highly material industry sectors and in anticipation of regulatory developments such as the EU Regulation on deforestation-free supply chains, policies and targets should reflect best practice. For example, the Financial Sector Commitment Letter on Eliminating Commodity-Driven Deforestation is endorsed by over 30 financial institutions representing approximately $8.7 trillion USD in assets and commits signatories to "use best efforts to eliminate forest-risk agricultural commodity-driven deforestation activities at the companies in our investment portfolios and in our financing activities by 2025," aligned with a Paris Agreement-compliant 1.5°C pathway.[134]

Case Study: Deforestation policies banks should adopt

Banks should consider adopting deforestation policies that place conditions on loans to avoid deforestation or exclude businesses engaged in deforestation.

For example, Rabobank's policy with regard to deforestation in Brazil includes:[135]

- Do not finance any deforestation, even if legally allowed
- Do not on-board or maintain customers involved in illegal deforestation that occurred after 2005
- Do not accept as collateral land in the Amazon biome which has been deforested in the last five years, even if done legally.
- Encourage and support clients to convert degraded land for agricultural production, thus discouraging deforestation. Provide attractive tailor-made services, including the AGRI3 Fund for forest protection and sustainable agriculture
- Promote the provision of ecosystem services by clients and offer financing solutions to enable a sustainable agriculture transition
- Promote innovative solutions like "payments for environmental services" to encourage farmers not to deforest and to keep native vegetation in place
- Monitor our client performance annually, including their land use through on-site visits. In addition, we will work with geospatial solutions in order to map all customer landholdings and then improve land use monitoring on a permanent basis

In another example, Barclays' deforestation policy with regard to its beef business includes:[136]

- Prohibit the production or primary processing of beef on/from areas in the Amazon cleared or converted after 2008
- Commit to achieving full traceability of their South American beef supply chain (direct and indirect) by December 2025 in Areas at High-Risk of Deforestation and Conversion, which include the Amazon, Cerrado and Chaco Biomes
- Commit to achieving a Deforestation-Free South American beef supply chain (direct and indirect) by December 2025 in Areas at High-Risk of Deforestation and Conversion, which include the Amazon, Cerrado and Chaco Biomes
- Monitor, verify and report on Deforestation-Free beef volumes by December 2025

[134] UNFCCC (2021) *FINANCIAL SECTOR COMMITMENT LETTER ON ELIMINATING COMMODITY-DRIVEN DEFORESTATION,* https://racetozero.unfccc.int/wp-content/uploads/2021/11/DFF-Commitment-Letter-.pdf
[135] Rabobank (2020) *Rabobank's Commitment to Sustainable Agriculture and Forests,* https://media.rabobank.com/m/52467d17b5261dfb/original/Rabobank-s-Commitment-to-Sustainable-Agriculture-and-Forests.pdf
[136] Barclays (2023) *Forestry and Agricultural Commodities Statement,* https://home.barclays/content/dam/home-barclays/documents/citizenship/our-reporting-and-policy-positions/Forestry-and-Agricultural-Commodities-Statement.pdf

Recommendations:

1 **Set science-based targets for nature**

2 **Adopt a no deforestation policy in accordance with global best-practice voluntary commitments**

6.2 Enhance governance and management of nature risks and opportunities

Governance for a bank needs to be focused on ensuring that all three lines of defence (i.e., front line bankers, second line credit risk and internal audit and third line independent assurance) have the right skills, tools and information they need to make informed nature-related decisions. To support this, it is important to have clearly defined responsibilities at the Board level for oversight, in management and across the business for identifying and addressing nature related risks. Board level targets and KPIs related to the achievement of the bank's nature-based strategy will also support effective governance and accountability.

Frameworks such as the TNFD provide a platform for companies and banks to develop an integrated approach to managing nature-related risks and opportunities. By assessing and disclosing the impacts and dependencies across a bank's operations and value chain through the LEAP-FI process, key areas of nature-related risk and opportunity can be identified and effectively managed through strategy development and target setting as discussed at 6.1 above.[137]

Banks should also ensure that they are engaged with related developments such as the proposed ISSB BEES standard, and how this will integrate with the TNFD and annual reporting obligations. This includes the application of a double-materiality assessment, to overcome barriers associated with a single-materiality lens, while a double materiality approach to disclosures is also required to align with Target 15 of the GBF. Banks can also leverage reporting and disclosure practices for climate, such as the Taskforce for Climate-Related Financial Disclosures (TCFD) to understand how reporting and disclosure expectations may evolve under the TNFD. This includes the Australian government's current consultation on mandatory climate disclosure frameworks.[138]

The NGFS has released a conceptual framework on nature-related financial risks to guide action by central banks and supervisors. It adopts an integrated approach, meaning that climate-related financial risks are strongly interconnected with the broader environmental-related financial risks, and therefore considered within the scope of nature-related financial risks. Banks can leverage the emerging guidance from NGFS to adopt scenario analysis across portfolios and start to consider the relevant elements of nature-related financial risks and to develop policies and actions in respect of it.[139]

Scenario analysis is an imperative for banks to finance the transition to alignment to GBF goals and targets, supporting the significant structural transformations that we will need in the banking sector to plan for and address physical, transition and systemic nature-related risks.

[137] Taskforce on Nature-Related Financial Disclosures (2023) *Additional guidance for financial institutions: LEAP FI approach*, https://tnfd.global/wp-content/uploads/2023/08/Guidance_for_Financial_Institutions_v1.pdf?v=1695215983
[138] The Australian Government The Treasury (2022) Climate-Related Financial Disclosure Consultation Paper, https://treasury.gov.au/sites/default/files/2022-12/c2022-314397_0.pdf
[139] Network for Greening the Financial System (2023) *Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors*, https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf

Case Study: PRI IRP FPS+ Climate-nature scenario analysis

The PRI IRP FPS+ has developed the first integrated nature and climate scenario for use by investors. Key findings from this analysis include:[140]

Key outcomes from the FPS + nature scenario, representing initial indications of nature- and climate-related impacts:

Food: The price of deforestation-linked commodities increases, with sustainable yield improvements potentially keeping prices for staple crops stable over time. Policy action and the development of alternative proteins could bend the demand curve for ruminant meat, with production peaking by 2035, also influencing production of animal feed

Energy: Transition to low-carbon energy together with nature-related goals supports a shift to second-generation bioenergy that changes the countries and specific locations of biomass production. Increased demand for metals and minerals and some infrastructure expansion may need to be reconciled with increased land protection

Nature-related goods, services and assets emerge as a new source of economic and financial value, driving the expansion of certified products, nature-based solutions and the emergence of new markets for biodiversity-rich land. New technologies designed to eliminate waste, reduce negative nature impacts and foster sustainability also emerge in tandem with the deepening of nature polices

Supply chains: Deforestation policies impact the production of tropical soft commodities as reputational, market access and liability risks could be passed down the value chain

Global environment: Planned policy action by governments would halt and reverse global biodiversity loss, potentially achieving 2000 levels of biodiversity intactness by 2045. Climate-related policies alone would be unlikely to improve biodiversity at a global scale and may only stabilise existing biodiversity loss

Figure 19: Key outcomes from the FPS+ nature scenario

Actively governing and managing nature-related risks and opportunities will heighten awareness and understanding, driving market demand for nature positive approaches to financing and changed banking and lending practices.

Leveraging the climate-nature nexus can also support and accelerate robust science-based nature target-setting, and related data and measurement requirements. Details of climate-related practices that banks can leverage are listed below.

Leveraging the climate-nature nexus

There are a number of practices that banks are already taking to reduce impacts on climate change, that can be leveraged to overcoming barriers for action on nature. These include leveraging:

- Carbon market products such as carbon credits with co-benefits to provide market incentives for lending practices that achieve nature-related outcomes
- KPIs for climate risk management at a Board level and scenario analysis
- Processes undertaken for climate scenario analysis, and map relevant nature-related considerations
- The TCFD to model reporting and disclosures under TNFD[141]

[140] Principles for Responsible Investment (2023) *IPR Forecast Policy Scenario + Nature*, https://www.unpri.org/inevitable-policy-response/ipr-forecast-policy-scenario--nature/10966.article

[141] The Australian Government The Treasury (2022) *Climate-related financial disclosure Consultation paper*, https://treasury.gov.au/sites/default/files/2022-12/c2022-314397_0.pdf

Recommendations:

3 **Embed targets and map accountabilities across the Board, management and operations to identify and address nature related risks and opportunities**

4 **Apply the nature risk and opportunity frameworks across banking operations and value chain with a double materiality approach**

6.3 Improve land valuation by accounting for ecosystem services

Embedding more balanced valuation and accounting models in banking policies is required to both avoid negative nature-based impacts and incentivise positive regenerative outcomes. Banking practices and products that incorporate more complete nature valuation will further incentivise market demand by reducing the risk of banking practices that negatively impact on nature.

Environmental condition accounting frameworks such as the UN System of Environmental-Economic Accounting (SEEA) and Accounting for Nature are increasingly used to account for the change in environmental condition across assets for the purposes of financing and measuring change over time.[142] Banks therefore have the opportunity to work with valuers to incorporate a higher price for natural capital and address concerns that current approaches to land valuation incentivise perverse biodiversity outcomes. Initiatives such as the *Farming for the Future* support such ambition by bringing together agricultural producers and financial institutions to integrate natural capital into financial decision-making using an evidence-based approach and demonstrating tangible, positive on-farm outcomes for the environment and profitability.[143]

Banks can also leverage improvements in environmental accounting frameworks to support financial product design, such as sustainable finance instruments that are aligned with sustainable finance taxonomy criteria e.g., green or sustainable bonds and/or sustainability linked loans. These products are loan facilities where the borrower is incentivised through the loan pricing to achieve pre-agreed sustainability performance targets. Where such targets are achieved, the borrower is rewarded with a decrease in the applicable interest rate. Banks can similarly use commercial incentives such as preferential interest rates for agri-loans for heightened sustainability-related outcomes.

Taxonomy classification systems use certain criteria to label lending products as contributing towards heightened sustainability-related outcomes. For example, the Climate Bonds Initiative (CBI) provides voluntary sector criteria guidance for labelling activities that contribute to decarbonisation targets.[144] Applying taxonomy criteria to lending products increases transparency, traceability and market clarity associated with products, resulting in reduced investment risk and greater demand.

In the absence of national criteria to achieve heightened nature outcomes, banks can leverage improved environmental condition accounting to pursue their own taxonomy criteria for labelling products that achieve heightened nature-related outcomes across lending practices. ANZSIC codes should also be amended to account for relevant sustainable activities, leveraging the work of the International Platform on Sustainable Finance (IPSF) to map classification categories from different frameworks.[145]

[142] Accounting for Nature (2023) *System of Environmental Economic Accounting,* https://www.accountingfornature.org/
[143] Australian Sustainable Finance Institute (2023). *Valuing Natural Capital*. https://www.asfi.org.au/valuing-natural-capital.
[144] Climate Bonds Initiative (2021) *Agriculture Criteria Climate Bonds Standard & Certification Scheme,* https://www.climatebonds.net/files/files/standards/agriculture/Agriculture%20Criteria%2020210622v3.pdf
[145] IPSF Taxonomy Working Group (2022) *Common Ground Taxonomy: Climate Change Mitigation*, https://finance.ec.europa.eu/

Blended approaches to banking use public or philanthropic funds to reduce the risk profile of lending practices. It is most helpful where the private sector would be willing to invest if the risk, real or perceived, were lower.[146]

Case study: Clean Energy Finance Corporation blended finance fund

Blended finance loan structure funds have been leveraged in Australia by the CEFC.

The government-backed investor provided $120 million AUD through NAB for a major new investment program to incentivise Australian businesses to cut their energy and operating costs and lift business performance.[147] Their partnership with NAB reduced the risk of lending into new and innovative markets.

The same debt financing approach could be deployed across loan or bond products focussed on delivering nature-related benefits to incentivise participants to attain finance that would otherwise be too risky.

Carbon and biodiversity markets may also drive market demand and investment in nature outcomes. For such markets to have a meaningful contribution they must deliver on positive environmental outcomes based on science and or in line with the GBF. Such markets should also deliver integrity, scale, price and demand.[148] Carbon and biodiversity market products should not be used to compensate for avoidable emissions or biodiversity loss.

The recent review into the integrity of Australian Carbon Credit units (ACCUs) (Chubb Review) recommended that legislation governing carbon markets be amended to maximise transparency, data access and data sharing, while enabling protection of privacy and commercial-in-confidence information, to support greater public trust and confidence in scheme arrangements.[149]

The Chubb Review recommended that co-designing carbon methodologies, supporting the expert committee and procuring ACCUs be excluded from the Clean Energy Regulator function to promote integrity and independence.[150] This approach should also be adopted when designing nature-markets, such as the Australian Government's proposed nature repair market.[151] Transaction costs can be reduced through data and technological methods, such as geospatial approaches, see Section 6.1 above.

While nature-based climate solutions can complement the emissions reduction needed for Paris-aligned warming, there remain integrity concerns around existing methods such as human induced regeneration and avoided deforestation.[152]

Case study: Queensland Land Restoration Fund

The Queensland Government's $500 million Land Restoration Fund aims to expand carbon farming in the state by investing in land-sector projects that generate carbon credits and deliver clear environmental, social, and economic co-benefits.[153] The fund also invests in research, innovation and market development opportunities which reduce the barriers to carbon farming opportunities in Queensland.

---

[146] Earth Security (2021) *THE BLENDED FINANCE PLAYBOOK FOR NATURE-BASED SOLUTIONS*, https://www.earthsecurity.org/
[147] Clean Energy Finance Corporation (2015) *CEFC and NAB in $120 million investment program to incentivise businesses to cut energy costs*, https://www.cefc.com.au/media/media-release
[148] Zadek S, Herr D (2023) *The Future of Biodiversity Credit Markets*, Nature Finance, https://www.naturefinance.net/wp-content/uploads/2023/02/TheFutureOfBiodiversityCreditMarkets.pdf
[149] Chubb I, Bennett A, Gorring A, Hatfield-Dodds S (2022) *Independent Review of ACCUs*, DCCEEW, https://www.dcceew.gov.au/sites/default/files/documents/independent-review-accu-final-report.pdf.
[150] Ibid.
[151] Parliament of Australia Department of Parliamentary Services (2023) *Nature Repair Market Bill 2023 [and] Nature Repair Market (Consequential Amendments) Bill 2023*
[152] Burns D, Langer P, Seymour F, Taylor R, Czebiniak R, Hanson C, Ranganathan J (2022) *Guidance on Voluntary Use of Nature-based Solution Carbon Credits Through 2040,* World Resources Institute, https://www.wri.org/
[153] The Queensland Government (2023) *The Land Restoration Fund.* https:// https://www.qld.gov.au/environment/climate/climate-change/land-restoration-fund

The fund has three stated investment priorities:

1. Land restoration to improve the health of wetlands and coastal ecosystems, Including the Great Barrier Reef
2. Land restoration for threatened species and ecosystems
3. Land restoration for social and economic sustainability

Recommendations:

5 **Engage land valuers to incorporate ecosystem services into land valuation to avoid perverse incentives and minimise trade-offs**

6 **Develop products and labelling focused on valuing nature to drive uptake of practices that protect and restore nature**

6.4 Adopt and advocate for nature-aligned bank lending practices

Banks can play an important role in advocating and collaborating to overcome structural barriers to market engagement and participation, and accelerating nature-aligned banking practices.

Within banks, there is a need to support knowledge and capacity building on managing nature-related risks and opportunities across the business, ensuring that risks are embedded into credit risk frameworks policies and systems. This will ensure that impacts are properly identified and mitigated at the point of decision-making and in the pricing of risks appropriately.

Improving such risk management approaches will be predicated on the development of industry-wide approaches to metrics and risk-based frameworks (e.g., like the Equator Principles) incorporating best practice outcomes or collaborative banking initiatives such as the United Nations Environment Programme Finance Initiative (UNEP-FI).

Collaboration could further be supported by leveraging similar initiatives such as Nature Action 100, where 100 global investors have come together to address urgent nature crisis and impacts on longer-term shareholder value.[154] Engaging with the top 100 clients in Institutional or Commercial banking that are most exposed to nature risks and impacts to strategically engage and create a nature regeneration plan is an achievable opportunity.

Action will be imperative for banks to finance the transition to alignment to GBF goals and targets, supporting the significant structural transformations that we will need in the banking sector to address physical, transition and systemic nature-related risks. Notably, banks will need to balance issues around competitiveness and collaboration, but the sharing of information through government or industry initiatives will support accelerated action across the sector.

Recommendations:

7 **Engage in advocacy initiatives to facilitate accelerated nature-aligned banking practices**

[154] Nature Action 100 (2023) Nature Action 100 releases investor expectations to support urgent corporate action on nature loss, https://www.natureaction100.org/nature-action-100-releases-investor-expectations-to-support-urgent-corporate-action-on-nature-loss/

6.5 Collaborate with customers to enhance capacity, collect existing data and incentivise the reporting of nature-related analytics

Banks have an opportunity to collaborate with their clients and customers to support action on nature, build capacity, collect data and incentivise the reporting of nature-related data.

Agriculture, property, resources and energy clients will likely have existing data relating to their nature-related impacts that can be unlocked to understand nature related risks and opportunities under the TNFD framework. Banks should identify priority clients to consult to get location specific data based on portfolio share, size of investments or whether financed activities are occurring in priority locations

Noting the urgency with which action should be taken, sector-level data can be useful to gain a high-level understanding of impacts and dependencies where location specific data is unavailable.[155]

Banks should also include environmental data within loan requirements to incentivise the collection and reporting of location-specific data. Data requirements should align to metrics and indicators identified within the TNFD and SBTN frameworks for setting targets and measuring and disclosing progress over time.

Banks have a unique position of trust with their clients and are well placed to engage and collaborate to identify and address nature related impacts and opportunities to facilitate improved outcomes.

Recommendations:

8 **Provide greater engagement support to customers to foster uptake of financial products that drive positive nature outcomes**

9 **Improve collection of environmental data held by counterparties and expand environmental data requirements in loan conditions**

6.6 Actively engage with environmental law reform in Australia

There is an opportunity for banks to engage with the current environmental law reform process in Australia to strengthen environmental protection and facilitate uplift in nature-related outcomes of compliance-focused banking credit risk processes.

This would include engaging with the following proposed reforms to ensure that changes to environmental law and policy accurately reflect the needs of the banking sector and facilitate changes to banking practices to achieve improved nature outcomes:[156]

- National standards in a reformed EPBC Act could support better environmental protection and compliance outcomes associated with banking due diligence processes

[155] Australian Government Department of Climate Change, Energy, the Environment and Water (2023) *Tackling TNFD in critical mineral mining for producing clean energy technologies,* https://www.dcceew.gov.au/sites/default/files/documents/tnfd-critical-mineral-mining.pdf
[156] Professor Graeme Samuel AC (2020) *Independent review of the EPBC Act*, Department of Climate Change, Energy, the Environment and Water, https://epbcactreview.environment.gov.au/resources/final-report

- Banks should also engage with the proposed development of the new national Environmental Protection Agency to advocate for an independent regulator and stronger frameworks to protect nature

By supporting more effective environmental laws, banks will be better placed to effectively manage nature-related risks and opportunities through improved industry guidance and strengthened risk assessment in lending processes.

Stronger environmental laws and effective structural transformation will support banks to effectively finance the transition to align to the priority GBF goals and targets, effectively redirecting profits into supporting their customers to transform and redirecting away from activities that increase nature-related financial risks to the banking sector.

Engaging with broader policy initiatives such as the TNFD to support better information to guide decision making on sustainability attributes will also support this broader aim.

Recommendations:

10 Engage with environmental law reforms to support strengthened nature-related outcomes of banking practices in Australia

Appendix A Methodology

To prepare this report, EY conducted interviews with key stakeholders including institutional investors, banks and academics for industry insights.

EY also conducted a detailed literature review and mapped the financial flows of Australia's four largest banks into the *key sectors*. EY also mapped financial flows of Rabobank into the agriculture sector.

Identifying impacts on nature

To understand the impacts of banking on key sectors with a high-risk of nature impacts, EY mapped the *key sectors* to the relevant ANZSIC codes.[157] The ANZSIC code definitions followed throughout the report are:

- Agriculture – Division A: Agriculture, Forestry and Fishing: Units mainly involved in growing crops, raising animals, growing, and harvesting timber, and harvesting fish and other animals from farms or their natural habitats. The division makes a distinction between two basic activities: production and support services to production. Included as production activities are horticulture, livestock production, aquaculture, forestry and logging, and fishing, hunting, and trapping.

- Construction – Division E (referred to as Property throughout the report): Construction: Construction of buildings and other structures, additions, alterations, reconstruction, installation, and maintenance and repairs of buildings and other structures. Demolition or wrecking of buildings and other structures, clearing of building sites, blasting, test drilling, landfill, levelling, earthmoving, excavating, land drainage and other land preparation are included in Division E.

- Resources – Division B: Mining: The extraction of naturally occurring mineral solids, such as coal and ores; liquid minerals, underground or open cut mining; dredging; quarrying; well operations or evaporation pans; recovery from ore dumps or tailings as well as beneficiation activities (i.e., preparing, including crushing, screening, washing and flotation) and other preparation work customarily performed at the mine site, or as a part of mining activity.

- Energy – Division D: Electricity, Gas, Water and Waste Services: Electricity supply activities include generation and transmission. Gas supply includes the distribution of gas, such as natural gas or liquefied petroleum gas, through mains systems.

Details of the relevant ANZSIC codes are below:

A Agriculture, Forestry and Fishing
01 Agriculture
011 Nursery and Floriculture Production
012 Mushroom and Vegetable Growing
013 Fruit and Tree Nut Growing
014 Sheep, Beef Cattle and Grain Farming
015 Other Crop Growing
016 Dairy Cattle Framing
017 Poultry Farming

[157] Australian Bureau of Statistics (2013) *Division definitions*. https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions

018 Deer Farming
019 Other Livestock Farming
05 Agriculture and Fishing Support Services
051 Forestry Support Services
052 Agriculture and Fishing Support Services
B Mining
06 Coal Mining
060 Coal Mining
07 Oil and Gas Extraction
070 Oil and Gas Extraction
08 Metal Ore Mining
080 Metal Ore Mining
09 Non-Metallic Mineral Mining
091 Construction Material Mining
099 Other Non-Metallic Mineral Mining and Quarrying
10 Exploration and Other Mining Support Services
101 Exploration
109 Other Mining Support Services
D Electricity, Gas, Water and Waste Services
26 Electricity Supply
261 Electricity Generation
262 Electricity Transmission
263 Electricity Distribution
27 Gas Supply
270 Gas Supply
E Construction
30 Building Construction
301 Residential Building Construction
31 Heavy and Civil Engineering Construction
310 Heavy and Civil Engineering Construction
32 Construction Services
321 Land Development and Site Preparation Services
322 Building Structure Services
323 Building Installation Services
324 Building Completion Services
329 Other Construction Services

EY then utilised the ENCORE and SBTN materiality tool to understand material nature risks across the *key sectors*.[158] To understand how these risks manifest in the Australian context, EY cross-referenced these risks to the 2021 SoE Report.[159]

[158] Science Based Targets Network (2023), *Science Based Targets For Nature*, *Resources,* https://sciencebasedtargetsnetwork.org/resources/
[159] Cresswell I, Janke T, Johnston E (2021) *State of the Environment,* DCCEEW, https://soe.dcceew.gov.au/overview/key-findings

EY then undertook a literature review of public reports from ANZ, CBA, NAB and Westpac, to inform understanding of the current state of banking practices that could impact on nature or create opportunities for alignment to the priority GBF goals and targets. EY also reviewed Rabobank's international banking practices to obtain insights and information on international best practice.

Mapping financial flows into key sectors

To identify and map financial flows of bank lending practices into the *key sectors* EY utilised data from the RBA.[160]

RBA data used comprises monthly returns collected by APRA from banks and registered financial institutions with more than $2 billion AUD in business credit, capturing over 95% of total business credit. Data is compiled based on monthly returns providing details of the total outstanding business finance of each lender participating in the Economic and Financial Statistics (EFS) collection and measures the value of lending to resident non-related businesses. Lending includes loans, finance leases and bill acceptances. It excludes reverse repos.[161]

To further understand lending to sub-sectors of the key sectors in Australia, EY reviewed public reports from Australia's four largest banks and Rabobank with regard to lending to agriculture.

Limitations in data availability for mapping financial flow information for the purposes of this report is as follows:

- ANZSIC data relating to logging, aquaculture and fishing is excluded where possible in accordance with instructions from ACF on the scope of this report
- RBA data does not disaggregate beyond the agriculture ANZSIC code, and so RBA data for agriculture includes lending data for logging, aquaculture, and fishing
- Data presented in this report was sourced from a number of different public sources and compiled for the purposes of this report. This has led to a number of limitations. For example, CBA does not disclose lending to horticulture or viticulture sub-sectors, and so CBA sub-sector data for agriculture does not include lending to horticulture or viticulture.
- Data obtained from Rabobank was converted from EUR to AUD utilising the exchange rate at 30 June 2022.[162]

[160] Reserve Bank of Australia (2023) Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1, https://www.rba.gov.au/statistics/tables/
[161] Ibid.
[162] Xe (2023), Currency tables: EUR – Euro, https://www.xe.com/currencytables/?from=EUR&date=2022-06-30#table-section

Appendix B Glossary

Term	Definition
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ACCUs	Australian Carbon Credit Units
ANSZIC	Australian and New Zealand Standard Industrial Classification
APRA	Australian Prudential Regulation Authority
AUD	Australian Dollar
BEES	ISSB proposed Biodiversity, Ecosystems and Ecosystem Services standard
ENCORE	Exploring Natural Capital Opportunities, Risks and Exposure
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EU	European Union
GBF	Global Biodiversity Framework
GDP	Gross Domestic Product
GFANZ	Glasgow Financial Alliance for Net Zero
GHG	Greenhouse Gas
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPR	Inevitable Policy Response
ISIC	International Standard Industrial Classification of All Economic Activities
ISSB	International Sustainability Standards Board
MNES	Matters of National Environmental Significance
NBSAPs	National Biodiversity Strategies and Action Plans
NGFS	Network for Greening the Financial System
NGO	Non-government organisation
PRI	Principles for Responsible Investment
RBA	Reserve Bank of Australia
SBTN	Science-based Targets Network
SoE	State of the Environment Report 2021
TCFD	Taskforce for Climate-related Financial Disclosures
TNFD	Taskforce for Nature-related Financial Disclosures
UNEP-FI	United Nations Environment Programme – Finance Initiative

Appendix C Reference list

1. Australian Bureau of Agricultural and Resource Economics and Sciences (2022) *Agricultural lending data*, https://www.agriculture.gov.au/abares/research-topics/surveys/farm-debt
2. Australian Bureau of Statistics (2023) *Agricultural Commodities, Australia*, https://www.abs.gov.au/statistics/industry/agriculture/agricultural-commodities-australia/2021-22#australian-farms
3. Australian Bureau of Statistics (2023) *Australian Industry*, https://www.abs.gov.au/statistics/industry/industry-overview/australian-industry/latest-release
4. Australian Bureau of Statistics (2013) *Division definitions*. https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/division-definitions
5. Australian Bureau of Statistics (2008) *4610.0.55.007 - Water and the Murray-Darling Basin - A Statistical Profile, 2000-01 to 2005-06*, https://www.abs.gov.au/ausstats/abs@.nsf/latestproducts/94F2007584736094CA2574A50014B1B6?opendocument
6. Australian Conservation Foundation (2022) *Risky business: How Australia's banks and super funds are responding to the nature crisis* https://www.acf.org.au/nature
7. Australian Government Department of Agriculture, Fisheries and Forestry (2023) *Snapshot of Australian Agriculture 2023*, https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture
8. Australian Government Department of Climate Change, Energy, the Environment and Water (2023) *A New Global Biodiversity Framework: Kunming-Montreal Global Biodiversity Framework* https://www.dcceew.gov.au/environment/biodiversity/international/un-convention-biological-diversity/global-biodiversity-framework
9. Australian Government Department of Climate Change, Energy, the Environment and Water (2022), *Australia's emissions projections 2022*, https://www.dcceew.gov.au/climate-change/publications/australias-emissions-projections-2022
10. Australian Government Department of Climate Change, Energy, the Environment and Water (2023) *Financing Solutions for Nature*, https://www.dcceew.gov.au/climate-change/policy/nature-based-solutions-for-climate/financing-solutions
11. Australian Government Department of Climate Change, Energy, the Environment and Water (2023) *Independent reviews of the EPBC Act*, https://www.dcceew.gov.au/environment/epbc/our-role/reviews.
12. Australian Government Department of Climate Change, Energy, the Environment and Water (2022) *Nature Positive Plan: better for the environment, better for business*, https://www.dcceew.gov.au/sites/default/files/documents/nature-positive-plan.pdf
13. Australian Government Department of Climate Change, Energy, the Environment and Water (2023) *Tackling TNFD in critical mineral mining for producing clean energy technologies,* https://www.dcceew.gov.au/sites/default/files/documents/tnfd-critical-mineral-mining.pdf
14. Australian Government Geoscience Australia (2023) *Overview* https://www.ga.gov.au/scientific-topics/energy/overview
15. Australian Government The Treasury (2023) *Climate-related financial disclosure*, https://treasury.gov.au/consultation/c2022-314397
16. Australian Government Treasury (2022) *Climate-related financial disclosure Consultation paper*, https://treasury.gov.au/sites/default/files/2022-12/c2022-314397_0.pdf
17. Australian Prudential Regulation Authority (2019) *Climate change: Awareness to action*, https://www.apra.gov.au/sites/default/files/climate_change_awareness_to_action_march_2019.pdf
18. Australian Sustainable Finance Institute (2023) *Natural Capital*, https://www.asfi.org.au/natural-capital
19. Barclays (2023) *Forestry and Agricultural Commodities Statement,* https://home.barclays/content/dam/home-barclays/documents/citizenship/our-reporting-and-policy-positions/Forestry-and-Agricultural-Commodities-Statement.pdf

20. Bradshaw, (2012). Little left to lose: deforestation and forest degradation in Australia since European colonization. https://academic.oup.com/jpe/article/5/1/109/1294916

21. Brondizio E S, Settele J, Díaz S, Ngo, H T (2019) *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*, IPBES, https://doi.org/10.5281/zenodo.3831673

22. Burns D, Langer P, Seymour F, Taylor R, Czebiniak R, Hanson C, Ranganathan J (2022) *Guidance on Voluntary Use of Nature-based Solution Carbon Credits Through 2040*, World Resources Institute, https://www.wri.org/

23. Chubb I, Bennett A, Gorring A, Hatfield-Dodds S (2022) *Independent Review of ACCUs*, DCCEEW, https://www.dcceew.gov.au/sites/default/files/documents/independent-review-accu-final-report.pdf

24. Clean Energy Finance Corporation (2015) *CEFC and NAB in $120 million investment program to incentivise businesses to cut energy costs*, https://www.cefc.com.au/media/media-release

25. Climate Bonds Initiative (2021) *Agriculture Criteria Climate Bonds Standard & Certification Scheme* https://www.climatebonds.net/files/files/standards/agriculture/Agriculture%20Criteria%2020210622v3.pdf

26. Climate Council (2021) *Agriculture's contribution to Australia's GHG emissions*,https://www.climatecouncil.org.au/resources/australia-agriculture-climate-change-emissions-methane/

27. Commonwealth Bank Australia (2023) *2023 Climate Report*,https://www.commbank.com.au/content/dam/commbank-assets/investors/2023-08/climate/2023-climate-report-spreads.pdf

28. Commonwealth Bank Australia (2023) CommBank launches Agri Green Loan, https://www.commbank.com.au/articles/newsroom/2022/08/Agri-Green-Loan.html

29. Cooperative Research Centre for Transformations in Mining Economies Ltd (2022) *Impact Framework*, https://crctime.com.au/macwp/wp-content/uploads/2022/03/FINAL_CRC-TiME_Impact-Framework_23.03.22.pdf

30. Cresswell I, Janke T, Johnston E, (2021) *State of the Environment*, DCCEEW, https://soe.dcceew.gov.au/overview/key-findings

31. Earth Security (2021) The Blended Finance Playbook for Nature-based Solutions https://www.earthsecurity.org/

32. ENCORE (2023) *ENCORE Home,* https://encorenature.org/en/explore?tab=dependencies

33. Equator Principles (2023) *Equator Principles Home* https://equator-principles.com/

34. European Commission (2023) *EU taxonomy for sustainable activities*, https://finance.ec.europa.eu/sustainable-finance

35. European Commission (2023) *Green Deal: New law to fight global deforestation and forest degradation driven by EU production and consumption enters into force*, https://environment.ec.europa.eu

36. Finance for Biodiversity Foundation (2022) *The why and how of biodiversity integration by financial institutions*, https://www.financeforbiodiversity.org/wp-content/uploads/FfB-Foundation_Act-now_Guide-on-biodiversity-integration.pdf

37. Forest Stewardship Council (2023) *Forest Stewardship Council Home Page*, https://anz.fsc.org/

38. Glasgow Financial Alliance for Net Zero (2023) *Glasgow Financial Alliance for Net Zero Home Glasgow Financial Alliance for Net Zero* https://www.gfanzero.com/

39. Grooten M, Almond R (2018) *Living planet report 2018*, WWF. https://www.worldwildlife.org/pages/living-planet-report-2018

40. HSBC (2022) *HSBC Statement on Nature,* https://www.hsbc.com.au/

41. IFRS Foundation (2023) *ISSB prepares to consult on future priorities and international applicability of the SASB Standards,* https://www.ifrs.org/news-and-events/news/2023/04/issb-prepares-to-consult-on-future-priorities-and-international-applicability-of-sasb-standards/

42. Jong H (2022) *In new climate deal, Norway will pay Indonesia $56 million for drop in deforestation, emissions*, Mongabay, https://news.mongabay.com/2022/11/in-new-climate-deal-norway-will-pay-indonesia-56-million-for-drop-in-deforestation-emissions

43. Natcap (2023) *Our approach*, https://natcapresearch.com/natcap-platform

44. National Australia Bank (2023) *Natural Capital and managing our environmental impact*, https://www.nab.com.au/about-us/sustainability/environment/natural-capacity-resource-management

45. National Environment Science Programme (2019) *A review of listed extinctions in Australia*, https://www.nespthreatenedspecies.edu.au/news-and-media/latest-news/a-review-of-listed-extinctions-in-australia

46. Nature Action 100 (2023) *Nature Action 100 releases investor expectations to support urgent corporate action on nature loss*, https://www.natureaction100.org/nature-action-100-releases-investor-expectations-to-support-urgent-corporate-action-on-nature-loss/

47. Network for Greening the Financial System (2023) *Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors*, https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf

48. New South Wales Government (2017) *Valuing rural land*, https://www.valuergeneral.nsw.gov.au/

49. Parliament of Australia Department of Parliamentary Services (2023) *Nature Repair Market Bill 2023 [and] Nature Repair Market (Consequential Amendments) Bill 2023*.

50. Perrings C, Kinzig A (2021) *Conservation: Economics, Science and Policy, Ch 8 Environmental Public Goods* pp 185-206, https://academic.oup.com/book/39453/chapter-abstract/339212304?redirectedFrom=fulltext

51. Principles for Responsible Investment (2023) *The Inevitable Policy Response to climate change*, https://www.unpri.org/sustainability-issues/climate-change/inevitable-policy-response

52. Queensland Government (2023) *The Land Restoration Fund*, https:// https://www.qld.gov.au/environment/climate/climate-change/land-restoration-fund

53. Rabobank, (2020) *Rabobank's Commitment to Sustainable Agriculture and Forests*, https://media.rabobank.com/m/52467d17b5261dfb/original/Rabobank-s-Commitment-to-Sustainable-Agriculture-and-Forests.pdf

54. Rabobank (2022) *Our impact in 2022*, https://rabobank-impact2022.nl/en/index.html

55. Ramos and Sedilekova (2022) Biodiversity Risk: Legal Implications for Companies and their Directors, https://commonwealthclimatelaw.org/biodiversity-risk-legal-implications-for-companies-and-their-directors/

56. Reserve Bank of Australia (2023) *Frequency of Statistical Releases*, https://www.rba.gov.au/statistics/tables/frequency-statistical-releases.html

57. Reserve Bank of Australia (2023) *Statistical Tables: Lending to Business – Finance Outstanding by Business Size and Industry – D14.1*, https://www.rba.gov.au/statistics/tables/

58. Ross A, Curran B, Robins N, Nicholls M (2023) *Sowing Seeds: How finance can support a just transition in UK agriculture*, London School of Economics, https://www.lse.ac.uk/granthaminstitute/

59. Science Based Targets for Nature (2023) *Resources*, https://sciencebasedtargetsnetwork.org/resources/

60. Setzer J, Higham C (2023) *Global trends in climate change litigation: 2023 snapshot*, London School of Economics, https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2023/06/Global_trends_in_climate_change_litigation_2023_snapshot.pdf

61. Taskforce on Nature-Related Financial Disclosures (2023) *Additional guidance for financial institutions: LEAP FI approach*, https://tnfd.global/wp-content/uploads/2023/08/Guidance_for_Financial_Institutions_v1.pdf?v=1695215983

62. Taskforce on Nature-related Financial Disclosures (2023) *Concepts and Definitions*, https://framework.tnfd.global/concepts-and-definitions/definitions-of-nature/

63. Taskforce on Nature-related Financial Disclosures (2023) *The TNFD Forum*, https://tnfd.global/engage/tnfd-forum/

64. The National Archives (2021) GLASGOW LEADERS' DECLARATION ON FORESTS AND LAND USE, United Nations Climate Change Conference UK 2021, https://webarchive.nationalarchives.gov.uk/

65. United Nations Convention on Global Biodiversity (2022) *COP15: Final Text of Kunming-Montreal Global Biodiversity Framework*, https://www.cbd.int/article/cop15-final-text-kunming-montreal-gbf-221222

66. United Nations Environment Programme Finance Initiative (2022) *Unboxing Nature-related Risks*, https://www.unepfi.org/wordpress/wp-content/uploads/2023/04/Unboxing-Nature-related-Risks-sub-report.pdf

67. Walton T, Moore N (2014) Planning Institute of Australia *Valuation Principles for Planners*, https://www.planning.org.au/documents/item/6383; International Valuation Standards Council (2023) *Standards glossary*, https://www.ivsc.org/standards-glossary/

68. Welcome to Country (2019) *Connection to Country*, https://experience.welcometocountry.com/blogs/learning/connection-to-country

69. Westpac (2023) *Agribusiness Position Statement*, https://www.westpac.com.au/docs/pdf/aw/sustainability/Agribusiness_Position_Statement.pdf

70. Westpac (2022) *Nature positive: The new net-zero frontier*, https://www.westpac.com.au/news/making-news/2022/11/nature-positive-the-new-net-zero-frontier/

71. Westpac (2022) *Westpac 2022 Annual Report*, p 41, https://www.westpac.com.au/about-westpac/investor-centre/financial-information/annual-reports/

72. World Economic Forum, (2023) *Businesses to Drive Green Transition of China's Beef, Paper, Palm Oil and Soy Supply Chains*, https://www.weforum.org/press/2023/06/businesses-to-drive-green-transition-of-china-s-beef-paper-palm-oil-and-soy-supply-chains

73. World Economic Forum (2021) *Consultation: Nature and Net Zero*, https://www.mckinsey.com/~/media/mckinsey/business%20functions/sustainability/our%20insights/why%20investing%20in%20nature%20is%20key%20to%20climate%20mitigation/nature-and-net-zero-vf.pdf

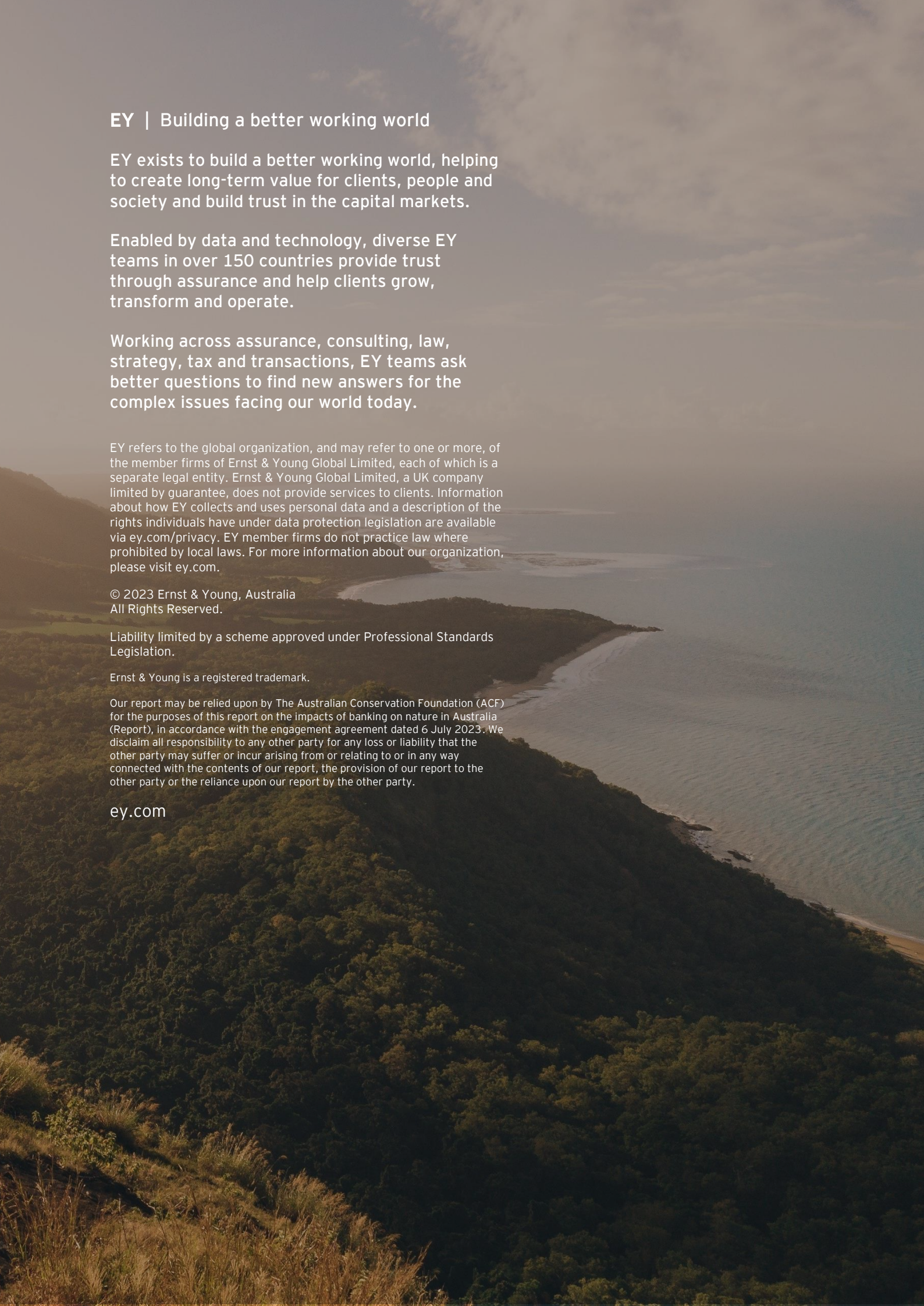
74. World Economic Forum (2019) *How to Set Up Effective Climate Governance on Corporate Boards*, https://www3.weforum.org/docs/WEF_Creating_effective_climate_governance_on_corporate_boards.pdf

75. World Economic Forum (2020) *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*, https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf

76. World Economic Forum (2023) *The Global Risks Report 2023*, https://www.weforum.org/reports/global-risks-report-2023/

77. Xe (2023), Currency tables: EUR – Euro, https://www.xe.com/currencytables/?from=EUR&date=2022-06-30#table-section

78. Zadek S, Herr D (2023) *The Future of Biodiversity Credit Markets*, Nature Finance, https://www.naturefinance.net/wp-content/uploads/2023/02/TheFutureOfBiodiversityCreditMarkets.pdf



EY | Building a better working world

EY exists to build a better working world, helping to create long-term value for clients, people and society and build trust in the capital markets.

Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.

Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.

ey.com