Following the money: Financial services' links to deforestation and forest degradation in Australia

April 2023

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About this report

This report was commissioned by The Wilderness Society and prepared by EY. EY acknowledges the contribution of the following people in the delivery of this report:

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EY also acknowledges the contribution of the academics, scientists, investment managers and those in non-government organisations who provided input into this report through both shared research and stakeholder interviews. A full list of interviewees is set out on page 50 (Appendix D).

Release notice

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Key findings

In 2021, WWF named Eastern Australia a deforestation front, the only developed country to be listed as a hotspot. Deforestation and forest degradation is occurring across Australia with the loss of Australia's forests resulting in significant impacts to native species and ecosystem processes such as carbon sequestration, water cycling and erosion.[1] Given the nature of deforestation in Australia, there is a real risk that domestic and international investors and financiers have exposure to deforestation and forest degradation activities.

The risk of this exposure is intensified for financial institutions in Europe, where regulations such as the provisionally agreed EU Deforestation Regulation are creating an imperative for companies to understand, mitigate and report on their connections to deforestation and forest degradation. In acting on deforestation, financial institutions and companies need to be cognisant of the links between deforestation and other priorities such as decarbonisation, biodiversity and human rights, looking to maximise co-benefits and minimise unintended outcomes.

The purpose of this report is to provide financial actors with an understanding of deforestation and forest degradation in the Australian context and their potential exposure through their investment and financing relationships. This report also provides financial actors with clear guidance on the necessary actions to mitigate risk exposure. To do so, EY has utilised publicly available data to assess the scale and drivers of deforestation and degradation within the region and identified a number of deforestation and forest degradation risk sectors. Using this, and supplementary financial data, EY has assessed the financial flows into a sample of 13 listed companies in deforestation and forest degradation risk sectors in Australia to form a view of their relationship to offshore investment and financing.

Through this analysis, we have found:

1

Nature and biodiversity are critical foundations of the global economy and human existence, and are rapidly degrading (Page 10)

2

Deforestation and forest degradation are significant contributors to biodiversity and nature loss in Australia and are primarily driven by the agriculture, forestry, and land development sectors (Page 21)

3

Due to impacts and dependencies within value chains, these losses can become material financial risks for companies and their financiers without effective management (Page 11)

4

Deforestation risk sectors in Australia are linked to European and other overseas financing, particularly from North America (Page 36)

5

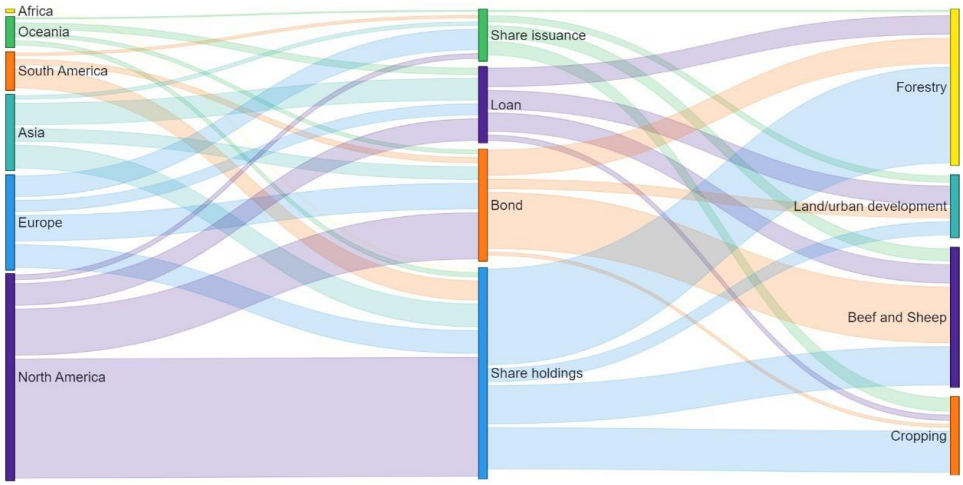
The extent of deforestation and degradation in Australia is not well understood globally, and is not considered by financiers in their current ESG screening processes (Page 19)

6

Financiers in Europe and elsewhere will be required to consider these risks in the future, so taking action now is essential (Page 40)

The Sankey diagram below (Figure 1) illustrates the flow of finance into deforestation risk sectors in Australia, based on the 13 companies analysed, from the geographic regions in which parent companies of financial institutions are located.

Figure 1: Sankey diagram showing financial flows into deforestation risk sectors in Australia



What should financial institutions with links to deforestation and degradation risk sectors in Australia do?

The impacts of deforestation and forest degradation can be more complex to measure than the impacts of climate change, however there is no shortage of guidance for financial institutions looking to mitigate risks of deforestation within their portfolio. Groups including the Accountability Framework Initiative, WWF and Ceres have all released best practice guidance for financiers and investors. This report sets out nine additional recommendations for financial institutions with exposure to Australian deforestation and forest degradation risk sectors.

Establish a position and plan

1. Research and update existing definitions of deforestation to ensure they do not exclude biodiversity and carbon impacts linked to deforestation and forest degradation in Australia.
2. Adopt a zero deforestation commitment with an appropriate baseline and target date
3. Develop guidance on risks of deforestation and degradation in Australia.

Identify and map risks

4. Conduct a portfolio risk assessment, assessing links to deforestation and degradation-risk sectors such as agriculture, forestry and land development and prioritise clients.
5. Use the Australian Federal Government's National Greenhouse Gas Inventory (NGGI) dataset to perform annual risk assessment refresh until a more comprehensive dataset becomes available, and supplement with national or state-wide landcover and trees study (SLATS) databases where possible, taking note of differences in definitions.

Corporate engagement and advocacy

6. Actively communicate expectations for vegetation management to Australian clients in deforestation and degradation-risk sectors.
7. Engage with highest risk clients in Australian deforestation and degradation risk sectors, and associated value chains.
8. Engage with the Australian and state governments on regulatory reform to increase management of deforestation and degradation risk.

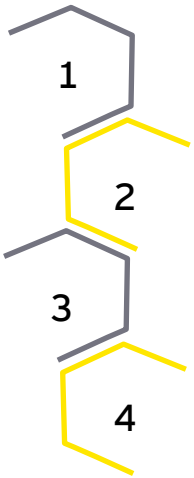
Monitoring and disclosure

9. Review existing screening criteria and confirm they apply to high-risk sectors in Australia.

Introduction

About the research

The Wilderness Society commissioned EY to develop a report on the flow of capital and investment from Europe into deforestation and forest degradation risk sectors in Australia, and the implications for Australian businesses and European investors. This report answers four fundamental questions:



How will current and emerging deforestation and biodiversity regulations and standards out of Europe impact Australian companies and their financiers?

Where is deforestation happening in Australia, and which sectors are contributing to it?

Who is financing deforestation risk sectors within Australia?

What actions should financial institutions with links to deforestation risk sectors in Australia take?

Part one of this report sets out the global and local context of emerging regulation on deforestation, the finance sector's response, and the nature, scale and governance of deforestation within Australia. **Part two** sets out the financial flows assessment and guidance for companies and financial institutions looking to respond to deforestation risk within Australia.

Who is this for?

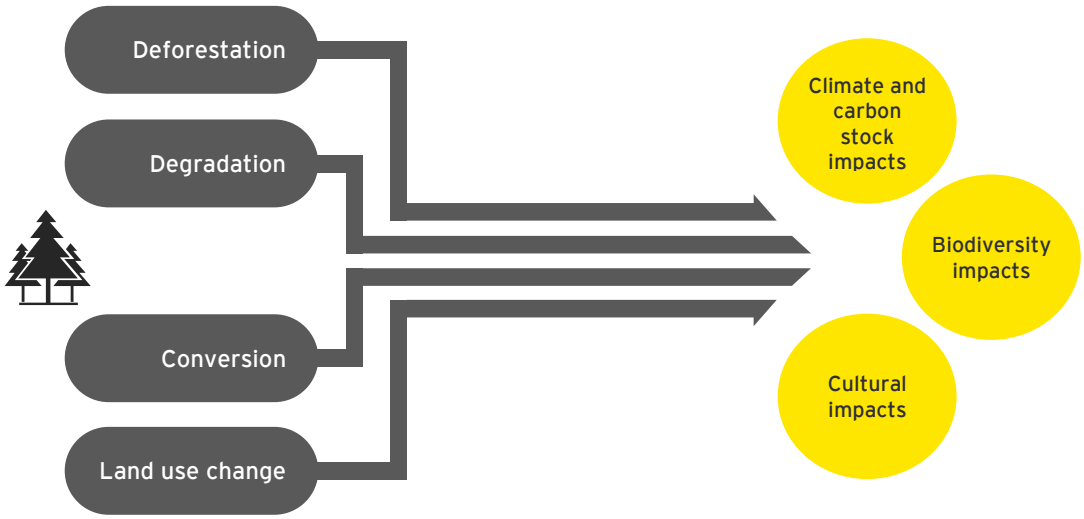
Halting and reversing deforestation and forest degradation will take significant action from a range of actors, including governments, scientists, civil society, corporates, industry bodies and financial institutions. This report is relevant to companies and financial institutions looking to drive meaningful change on deforestation or inter-related issues such as climate change, decarbonisation, human rights including Indigenous rights and nature and biodiversity. We have focused primarily on financial institutions as the sector has built significant momentum in starting to focus on nature and biodiversity and has the potential to influence its clients' and investees' relationship to nature, deforestation and forest degradation.

Defining deforestation in an Australian context

A variety of terms, including deforestation, degradation, conversion and land use change are used to describe impacts on forest environments caused by humans. These terms are often used interchangeably, and the definition of each is a common source of contention between civil society, industry and governments within Australia and globally.

Regardless of the exact definition utilised, each of these terms describes impacts on forests which lead to adverse impacts on carbon stocks, local biodiversity and ecosystems, and which may lead to an erosion of cultural value (Figure 2).

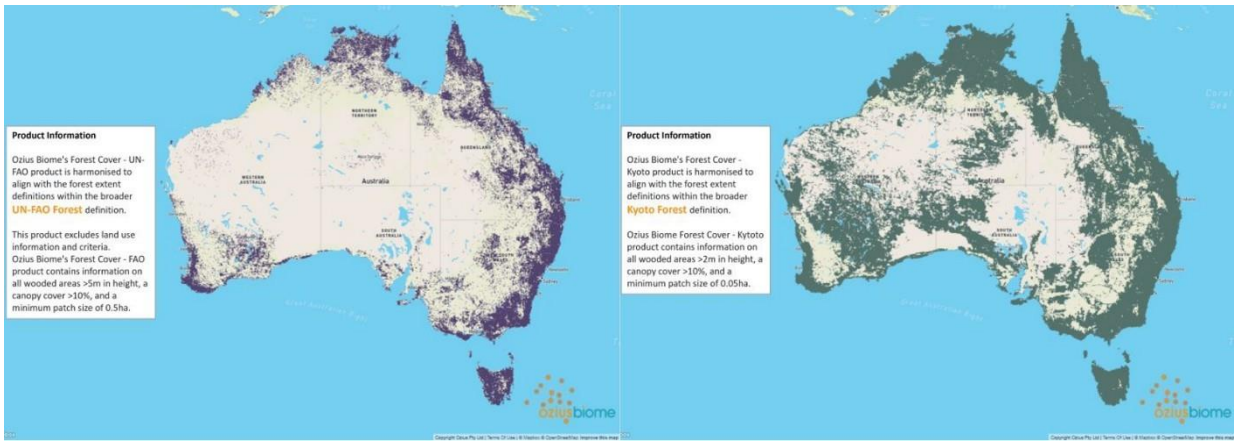
Figure 2: Impacts of deforestation



There are multiple, often divergent, views on the definition of a **forest**, and consequently, of **deforestation** in Australia. The definition used has implications for the amount and type of environmental and carbon impact identified, and so must be carefully considered when companies and investors are seeking to understand their business and financing activities. See page 40 for guidance for financiers in selecting a definition of deforestation.

For example, the maps below provide a comparison between the areas of forest according to the United Nation Food and Agriculture Organisation (FAO) definition of forest on the left, and Kyoto Protocol definition of forest on the right. The Kyoto Protocol definition identifies significantly more forest in Australia than the FAO definition, and this variance illustrates the importance of understanding and defining the parameters underpinning concurrent, and potentially competing, definitions used when identifying forests and deforestation. The FAO and Kyoto definitions both vary from the Australian Government's definition of forests.

Figure 3: How definitions influence forest datasets[1]



Source: Ozius

The Australian Government defines a forest as an area of land comprising of trees over two metres in height that occupy a minimum of 0.2 hectares (ha) of land, and which have crown cover of at least 20%. According to this definition, deforestation is considered to have occurred when land that was once forest[2] is permanently cleared to an extent that it no longer meets the definition of a forest and is not expected to return.

[1] Ozius Biome maps leverage NASA's Global Ecosystem Dynamics Investigation (GEDI) 2020 and modified data from ESA's Copernicus Program Sentinel 1 and 2, and TERN ground data.

[2] Against a 1972 baseline.

These definitions have been used to inform the identification of the deforestation risk sectors in Australia for the purposes of this report, as they are aligned to available data on national forest cover trends that the finance community is likely to use. However, these definitions do not fully capture the carbon and biodiversity impacts of land use change, and financiers should be aware of these limitations that could elevate risks as they seek to understand their exposure to deforestation and forest degradation (including nature and biodiversity loss). The Australian Government's current definition of deforestation:

- Does not capture degradation. For example, the national dataset does not capture thinning of forests as long as the crown cover remains greater than 20%. See page 28 for a discussion on degradation.
- Captures tree loss only when it occurs on a land area greater than 0.2 ha. This minimum land area component of the definition means that the loss of small areas of remnant forest, for example, is not considered deforestation.
- Does not capture forest loss if the forest is expected to return. For example, within Australia, the harvesting of native forest, or replacement of native forest with a plantation is not considered to be deforestation.
- Excludes smaller vegetation. A large proportion of Australia's native vegetation does not meet the Australian Government's definition of a forest because it fails to meet requirements around height and crown cover. Almost 30% of Australia's native vegetation consists of Hummock grasslands and Acacia shrublands that are under two metres, or with a crown cover less than 20%. These areas are excluded from national deforestation figures.

Figure 4: Interpreting deforestation datasets

What NGGI data shows	
Primary and secondary deforestation	✓
Area of forest burnt due to fire	✓
Primary and secondary deforestation across land use regions, Bureau of Meteorology (BoM) river regions, and Australian natural resource management (NRM) regions	✓
Regrowth that meets the definition of a forest on land previously cleared for non-forest land use	✓
Greenhouse gas emissions linked to primary conversion and secondary clearing	✓
Degradation where crown cover remains >20%	×
Tree loss on land areas <2ha	×
Loss of vegetation <2m in height	×
Biodiversity impact	×
Threatened species habitat loss	×
Distinction between High Conservation Value (HCV) forest loss compared to other types of forest loss	×
Native forest conversion to plantation forest	×
Native forestry and logging driven forest loss and degradation	×

Tips for interpreting deforestation data

- Deforestation datasets such as the NGGI LULUCF data are useful tools, but provide information on a very tightly defined sub-set of clearing activity and do not speak to the universe of biodiversity and carbon impacts associated with deforestation and forest degradation
- Check that the dataset you are using corresponds to a definition of deforestation which is appropriate given the location and purpose of your assessment
- Consider that different datasets may indicate different levels of deforestation or degradation depending on their definitions, methodologies and assumptions
- Consider whether international methodologies, assumptions and comparisons are appropriate for evaluating Australia's unique forests and ecosystems

Our approach

EY conducted interviews with a range of stakeholders including members of the finance sector, non-governmental organisations (NGOs), industry bodies, and academics (see Appendix D). EY also conducted a detailed literature review and mapped the financial flows into 13 listed entities in deforestation and forest degradation risk sectors in Australia. A summary of the methodology is presented below, with further detail in Appendix A.

Identifying sectors responsible for deforestation

Following discussion with the Australian Government and academics on available data sources, EY used the National Greenhouse Gas Inventory (NGGI) dataset (released in May 2022) to identify sectors of the Australian economy connected to deforestation. The Land Use, Land Use Change and Forestry (LULUCF) dataset within the NGGI data pack identifies the amount of deforestation occurring in different land use regions between 2016 and 2020.

Using the Australian Land Use and Management (ALUM) classification guidance,[2] EY attributed the land use regions with highest rates of deforestation as per the NGGI LULUCF dataset to the relevant sectors of the Australian economy. In this report, high deforestation and forest degradation risk sectors are defined as sectors of the economy that may have direct impacts on forests resulting in deforestation and/or forest degradation. The detailed methodology is set out on page 45 (Appendix A). While the NGGI dataset is considered the best available national data source for assessing deforestation, there are limitations:

- There may be multiple sectors responsible for deforestation in some land use regions. For example, while the NGGI dataset identifies deforestation occurring on land primarily used by the livestock industry (based on land use regions), other sectors may also contribute to deforestation on those lands.
- The data has come under scrutiny for potential under-reporting of deforestation and associated emissions, particularly in Queensland.[3]
- Clearing of non-native woody weeds are captured under secondary deforestation, or re-clearing, meaning that some of what is re-cleared is not 'native forest'.
- In line with the Australian Government's definition of deforestation, set out on page 6 of this report, the NGGI data does not capture forest loss if the forest is expected to return. For example, the harvesting of native forests, or replacement of native forest with a plantation is not considered to be deforestation.

Mapping financial flows into deforestation-risk sectors

From the NGGI data assessment, stakeholder engagement, literature and media review, EY shortlisted 13 domestic and internationally listed entities operating in deforestation and forest degradation risk sectors in Australia, and assessed their financial flows. The assessment covered four companies in the beef and sheep sector, three in the forestry sector, four in the cropping sector, and two in the land development sector. EY used the following criteria to select the entities: whether they were listed within Australia or overseas, their market capitalisation, prominence within the sector and, where possible, their having operations in regions with high levels of deforestation and/or degradation.

EY used data available through Refinitiv Eikon, a financial information database. To the extent possible, EY's approach followed that used by non-governmental organisations (NGOs) such as Global Witness and Forest and Finance, which have undertaken similar exercises. The assessment considered five types of financial flows: bond issuances, share issuances, loans, revolving credit facilities and shareholdings. The assessment considered outstanding bonds and loans, and current shareholdings as of 1 July 2022 and all share issuances. The assessment did not include secondary bond markets or services such as insurance, supply chain finance, and cash management.

EY did not assess the specific on-ground activities the identified finance supported. Several of the companies are multinationals with local subsidiaries operating in Australia. To the extent possible, EY assessed flows into local Australian subsidiaries, but where data was not available, EY assessed flows into the group as a whole.

This assessment was conducted over a small number of publicly listed organisations, and as such, care should be taken in using the results to make determinations about sector-wide trends, or in making assumptions about the way that findings from listed organisations may apply to privately owned organisations. Additional information on the approach is set out on page 45 (Appendix A).

Part 1

Deforestation and forest degradation as a material financial risk

Between 2004 and 2017, more than 43 million ha of forest was lost in 24 deforestation hotspots across Africa, South and Central America and Southeast Asia.[3] More than half of global GDP is moderately or highly dependent on nature; if left unmanaged, deforestation and forest degradation not only poses material risks to the environment and society but also to the economy and financial actors. To date, financiers in Europe and elsewhere have concentrated their efforts on mitigating risks of tropical deforestation in countries such as Brazil, Indonesia and the Democratic Republic of Congo; they have largely overlooked their link to deforestation and forest degradation within Australia.

Increasing regulation, such as the incoming EU Deforestation Regulation, and voluntary standards such as Taskforce for Nature-related Financial Disclosures (TNFD) will require Australian companies in deforestation and forest degradation risk sectors, and their financiers, to mitigate this risk in the near term. Failure to act poses a variety of risks not only to companies directly involved, but also to companies that depend on forests. Deforestation and forest degradation is a systemic challenge for all; risks include productivity, supply chain, and litigation risks, which in turn may also result in risks to investors, such as credit, regulatory and reputational risks.

Deforestation and forest degradation an increasingly material risk for investors

Forests provide significant cultural, economic and social value, and support essential biodiversity and ecosystem services including carbon sequestration, water filtration and the prevention of soil erosion (see description of Australian forest ecosystem services on page 21). However, deforestation continues to occur at alarming rates, with approximately 25.3 million ha of tree cover lost in 2021.[4] [4] Forest degradation and deforestation has a negative impact on the provision of ecosystem services, leading to reduced carbon capture and storage capacity, soil degradation, loss of biodiversity and increased rainfall run-off.[5] [6]

Many corporations globally, including those in the food, forestry, tourism[7] and construction[8] industries, are dependent on ecosystem services provided by forests to maintain their viability. A failure to uphold and maintain the health of the natural world poses a material risk to many sectors of the economy.[9]

More than half of global GDP is either moderately or highly dependent on nature

In 2020, the World Economic Forum (WEF) found that more than half of global GDP is either moderately or highly dependent on nature, representing $44 trillion in economic value. In Australia, approximately half of Australia's GDP ($892.9 billion AUD) is derived from sectors with a high or moderate direct dependence on ecosystem services. These sectors, particularly agriculture and resources, make up a large proportion of Australia's export earnings. The Organisation for Economic Co-operation and Development (OECD) estimates that from 1997 to 2011, the world lost approximately $4-20 trillion USD per year in ecosystem services due to land cover change, and $6-11 trillion USD per year due to land degradation.

WEF 2020; Australian Conservation Foundation 2022; OECD 2015

[3] Forest loss has a specific definition as defined by the World Wide Fund for Nature and is different from the definition of deforestation used throughout the rest of this report.

[4] Tree cover loss has a specific definition as defined by Global Forest Watch and is different from the definition of deforestation used throughout the rest of this report.

Over the last 10,000 years, Earth has lost two billion ha – or one third – of its forests, with more than half of that loss occurring after 1900.[10] Acceleration of deforestation over the past century has been driven by rapid population growth and industrialisation, both of which have placed unprecedented pressures on the environment to support expanding economies and food systems.[11] Agriculture remains a significant global driver of deforestation, with commodities such as livestock, palm oil, soy and rubber, alongside timber harvesting, responsible for the majority of deforestation globally.[12]

Companies' impacts and dependencies on nature, including on forest assets, create both risks and opportunities. Left unmanaged, these risks and opportunities can result in material financial impacts that financiers must actively consider and manage to mitigate the impact on returns. The economy interacts with natural ecosystems through two key mechanisms:

- **Impacts: A company's contribution to positive or negative changes in the state of natural ecosystems.** For example, a mining company clearing forest to make way for greenfield mines
- **Dependencies: A company's dependencies on ecosystem services provided by natural ecosystems.** For example, an agricultural company relying on water from a local watershed for irrigation.

Figure 5: Sector with significant impacts and dependencies on forests[13] [14] [15]

Sectors with significant impact on forest assets	Sectors with significant dependency on forest assets
Metals and mining, real estate and infrastructure development, agriculture, forestry	Retail and consumer staples, consumer discretionary, agriculture, forestry, tourism and water utilities

Physical, transition and systemic deforestation risks

Companies' impacts and dependencies on nature create productivity, operational, legal, regulatory, and reputational challenges, which can lead to material financial impacts for both companies and their financiers.[16] These challenges are broadly grouped into three kinds of risks: physical, transition and systemic.[17] For companies, these risks may result in significant financial impacts such as falling credit rating, reduced market access, increased premiums for insurance, increased interest rates and decreased liquidity.[18]

Figure 6: Overview of physical, transition and systemic risks linked to deforestation

Physical risks	
Description	**Physical risks** arise from changes to forests that impact their ability to deliver the ecosystem services upon which a company depends. Physical risks can be broadly categorised into three main types: productivity, availability and cost of raw materials, and business and supply chain continuity. Physical risks commonly result in direct financial losses for companies, which are passed on to the financial institutions that service them.[19] For example, the impact of over logging native forests can degrade a forest ecosystem to the point that the forest can no longer meet current and future demand. The inability to meet demand presents itself as a physical risk to forestry companies, materialising as lower revenue and profits.
Transition risks	
Description	**Transition risks** arise from changes to the legal, societal, and economic conditions and expectations relating to a company's impact on forest ecosystem services. There are five broad categories of transition risks: liability and litigation, regulation, market and credit, innovation, and reputational risks. There is a clear link between physical and transition risks, and they can interact with each other in different ways before presenting as material financial risks to companies and investors.[20] For example, a litigation risk could arise where a beef producer has illegally cleared forest in an area of national environmental significance, contravening requirements under Australia's Environmental Protection and Biodiversity Conservation Act (EPBC Act), thus exposing it to litigation, which may impact its share price.

Systemic risks	
Description	**Systemic risks** are economy-wide impacts that arise from the combined effect of cascades, linkages, and dependencies.[21] Systemic risks can be broadly categorised into three main types: loss of critical natural systems, sector-wide instability, and economy-wide instability. Deforestation is considered a systemic risk because of its links to different economic sectors and the financial system as whole, as well as its impacts on the global environment.[22] In today's globally interconnected supply chains and financial markets, deforestation risks in one sector of the economy can have ramifications across other sectors. There are three main types of systemic risks: loss of critical nature systems, portfolio-wide financial instability and system-wide financial instability. A clear example of this is the connection between deforestation risk in the agriculture sector, which is part of the upstream and downstream supply chains of many other sectors. Financiers and investors are directly exposed to systemic risks through their investment portfolios, which are sensitive to economic and ecosystem instabilities.

> "Ultimately, companies dealing effectively with deforestation and sustainability issues will perform better than those that don't.
>
> Abrdn[5]

Nature positive opportunities for financial institutions

In addition to being a material source of risk, addressing nature loss through minimising deforestation and pursuing afforestation and re-forestation presents substantial opportunities for financial institutions in the form of 'nature positive' finance. A recent report by WWF identified several different types of nature-positive finance available to financial institutions, including sustainability-linked loans (SLL), sustainability-linked bonds (SLB), green bonds, sustainable fund investments and innovative insurance products.[23]

Across the $22.1 billion USD in loans and bonds analysed through EY's assessment of financial flows (page 36), 11% were sustainability-linked, which equates to approximately $5.4 billion USD. The number of sustainability-linked products are expected to increase over time, as financiers and investors seek opportunities to move finance towards nature positive activity. In 2021, the Commonwealth Bank issued Australia's first SLL for agriculture with the Stockyard Group, an integrated pastoral and feedlot producer in Queensland. The loan terms do not reference environmental management but include sustainability performance targets for greenhouse gas emissions, animal welfare and health and safety.

How do these impacts manifest as risks and opportunities for financiers?

Financiers are exposed to physical, transition and systemic risks through their relationships with other companies, particularly those in deforestation risk sectors[6] or in deforestation-risk value chains.[24] Physical transition and systemic risks may manifest as either direct or indirect impacts on financiers, for example:

- **Direct impacts:** Financiers may be directly impacted by transition and/or systemic risks. For example, financiers themselves face transition risks in the form of increasing reputational liability for their financing of companies linked to deforestation.[25]

[5] Source: Abrdn. (2019). Deforestation leaves investors exposed. https://www.abrdn.com/en-us/investor/insights-thinking-aloud/article-page/deforestation-leaves-investors-exposed

[6] Deforestation-risk sectors are sectors of the economy that have significant direct impact on forest ecosystems. The main deforestation risk sectors in Australia include livestock (beef and sheep), cropping, forestry, and residential urban development.

- **Indirect impact:** Financiers may be indirectly exposed to physical and/or systemic risks through their business relationships. For example, unsustainable or illegal logging may lead to unstable timber supply, resulting in decreased company profits, which may manifest as a reduced share price for investors. Impacts to a company may also manifest as an impact on investors through under- or non-performing loans, resulting in a default where the client is either unable to service the loan in time or in full, decreased profitability or cashflow from investments, stranded assets, or a decrease in the value of bonds.

> "Frankly any food business that suggests they will get to net zero without needing to take action outside of their value chain either hasn't done the math right, or is being a bit disingenuous
>
> Kevin Rabinovitch, Global VP Sustainability & Chief Climate, Officer, Mars[7]

The connection between deforestation, climate, and human rights

Deforestation is inextricably linked to several other large societal and environmental challenges, including tackling climate change, and protecting and respecting human rights. Investors and financiers should take a holistic approach to tackling these issues, both through seeking co-benefits, and making sure that solutions to one issue do not undermine others, for example where actions to address deforestation may come into conflict with land use rights.

Climate change and nature loss are increasingly being recognised as 'twin crises'. Emissions from deforestation and land use change exacerbate climate change through the release of greenhouse gases. Conversely, climate change contributes to the loss of forests and biodiversity through impacts such as the increased frequency and severity of droughts, fires and floods. Climate change also impacts nature's ability to adapt to increasing land use pressures, with potential impacts on species populations, the presence of competitive species and diseases, and the health of native species.[26]

Reducing deforestation will be a critical part of achieving emissions reduction globally and within Australia. This is also true for companies looking to meet net zero emissions, particularly those in the consumer goods industry, which have a large scope 3 emissions' footprints resulting from deforestation within their supply chain. For investors and financiers, acting on deforestation will provide clear co-benefits in the form of emissions reduction, which is likely to support them in reaching decarbonisation targets. In addition to deforestation being a major source of carbon emissions, financial institutions should be conscious of the role of forests as carbon sinks that sequester and store significant amounts of atmospheric carbon. As such, deforestation should not only be considered as an emission source, but also results in the loss of vital carbon sinks.

Furthermore, companies turning to biofuels to lower their carbon emissions should consider the potential impact of biofuel production on deforestation. The production of crops such as soy and palm oil for biofuel production has been linked to deforestation in regions including Southeast Asia and South America.[27]

When considering deforestation, companies and financiers must also take into account the human rights of those who work within deforestation risk commodity supply chains and Indigenous peoples whose lands face deforestation and forest degradation threats.[28] The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) recognises Indigenous peoples' right to strengthen their relationships with, conserve and protect traditionally owned lands and environments, acknowledging the critical cultural and spiritual significance of traditionally owned lands to Indigenous custodians' wellbeing.[29] Indigenous dispossession through deforestation is a crisis in itself, and undermines the ability to overcome the concurrent climate and biodiversity crises through the loss of Indigenous knowledges and land care practices.[30]

[7] Dean Best. (2022). The challenges facing food manufacturers on Scope 3 emissions. JustFood. https://www.just-food.com/features/the-challenges-facing-food-manufacturers-on-scope-3-emissions/

Regulation is creating an imperative for financiers to act

National governments are increasingly acknowledging the interdependencies between the world's forests and international commitments related to climate, biodiversity and sustainable development. Signatories to the Glasgow Leaders' Declaration on Forests and Land Use reaffirmed their commitment to halting and reversing forest loss and degradation by 2030 in 2021.[31] Governments and standard setting bodies are also taking significant steps to address deforestation in pursuit of international goals, with the European Union (EU) leading with increasingly robust demand-side deforestation regulation such as the recently provisionally agreed EU deforestation regulation.[32] To a lesser extent, regulatory action is also being taken on the supply side, for example through the Indonesian Government's moratorium on clearing of primary forests and peatlands for forestry,[33] and Ghana's development of a timber legality verification system to drive down illegal deforestation.[34]

This evolving regulatory landscape is creating an imperative for financial institutions and companies alike to understand and mitigate their exposure to deforestation risks, regardless of whether they contribute directly to deforestation, or simply have connections to deforestation through business and banking relationships.

European Union leading regulation on deforestation due diligence

As part of the European Green Deal, the EU has developed several regulatory frameworks, some of which are aimed at preventing deforestation within the EU and within the value chains of EU companies (Figure 7). Most significantly, the provisional agreement of the EU Deforestation Regulation in December 2022 introduces strict due diligence requirements for companies selling certain goods into European markets. While not yet in force, the regulation is expected to drive increased transparency and scrutiny over selected forest value chains, including in Australia, with implications for both businesses and their financiers.

Figure 7: European regulation targeting deforestation risks in supply chains

EU Timber Regulation (adopted 2010, in force 2013)

Prohibits operators from placing illegally harvested timber and timber products on the EU market, and requires traders to conduct due diligence over the timber commodities and maintain records of suppliers and customers to maintain traceability.[35]

EU Taxonomy Regulation (adopted 2020, in force 2020)

Developed to address greenwashing, it establishes criteria relating to the economic activities or financial products that can be labelled environmentally sustainable. The regulation applies criteria including halting and preventing deforestation and forest degradation, and imposes additional disclosure obligations on companies and financial actors.[36] The European Commission is developing and releasing Delegated Acts that supplement the regulation with technical screening criteria. The first Delegated Act related to climate change adaptation and mitigation includes forest-related criteria; the Platform on Sustainable Finance's Technical Working Group advisory body published its recommendations for the further Delegated Act addressing biodiversity and ecosystems in 2022, which is currently awaiting consideration and adoption by the European Commission.[37] [38]

EU Sustainable Finance Disclosures Regulation (adopted 2019, in force 2021)

Outlines disclosure obligations for financial market participants related to sustainability risks and impacts of their financial products.[39] The Regulation was supplemented by a Delegated Act containing technical standards to support SFDR disclosure in 2022, which will be in force from 2023.[40]

EU Corporate Sustainability Reporting Directive (adopted 2022, in force from 2024)

Introduces robust sustainability reporting and assurance obligations for all large private and listed companies either based, or with a substantial operating footprint, in the EU that meet the Directive's reporting thresholds. This regulation will be rolled out from 1 January 2024.[41]

EU Corporate Sustainability Due Diligence Directive (proposed 2022)

Mandates companies and financial institutions that meet the turnover threshold to implement and publicly communicate due diligence over human rights and environmental risks in their value chains, including ecosystem destruction and deforestation, and to prevent and mitigate negative impacts.[42]

EU Deforestation Regulation (provisionally agreed 2022, expected to be in force mid 2023)

Sets mandatory due diligence requirements for companies who place certain deforestation and degradation-risk commodities and their derivatives on the EU market. The products covered by the current regulation are soy, rubber, beef, palm oil, wood, cocoa and coffee and some derived products such as leather, chocolate, charcoal, furniture and printed products. The regulation introduces a requirement for companies to produce a statement that products placed on the EU market (or exported from it) are not linked to production on land subject to deforestation or degradation anywhere in the world after 31 December 2020, and that production is compliant with local laws in the country of production. The Commission will classify countries into three risk groups: low, standard and high, and will conduct verification activities commensurate with the prescribed risk level in each country. The regulation is expected to come into force in mid-2023, followed by an 18-month implementation period for 'large' stakeholders and a 24-month period for small and medium sized enterprises.[43] The regulation has implications for financial institutions insofar as their clients will be required to comply with the regulations, and may be subject to penalties if they fail to comply. In addition, the Commission has committed to assess the need to broaden the scope of the legislation to include financial institutions within two years of it coming into force.

The EU Deforestation Regulation has received widespread attention from civil society and has been heralded as a 'paradigm shift', insofar as it introduces due diligence requirements that go beyond the legality of deforestation to include requirements for deforestation-free production and captures degradation.[44] The initial proposal was criticised by some NGOs for focussing only on forest loss, who recommended the regulation be expanded to capture other ecosystems such as grasslands and wetlands.[45] Under the latest amendments, the Commission will evaluate whether to expand the scope to include wooded land within one year of the regulation coming into force, and will evaluate the benefits of extending the regulation to additional ecosystems of high carbon and biodiversity value and other commodities within two years.[46]

Some members of the Australian agricultural industry have raised several concerns with the regulation and noted the potential for the regulation to adversely impact agricultural exports to the EU.[47] The National Farmers Federation (NFF) raised concerns on the proposed regulation, noting that their view on it would depend at least in part on how deforestation the regulation defines deforestation, including whether the definition will include forest thinning and invasive species management, and whether it will cover retrospective deforestation.[48] The industry body has not released further commentary since the adoption of the amendments in December 2022. During his January 2022 trip to the EU for ongoing free trade agreement negotiations, the Agriculture Minister, Murray Watt, expressed that Australian agricultural exports will increasingly depend on their sustainability performance to succeed in international markets.[49]

The potential impact of the proposed Australia-EU Free Trade Agreement (A-EUFTA) and Australia-UK Free Trade Agreement (A-UKFTA)

Another emerging transition risk for Australian companies is the A-EUFTA currently under negotiation. While the A-EUFTA is expected to lead to increased export opportunities for Australia's agricultural sector, it may introduce additional expectations around land management. An EU-commissioned impact assessment found that an ambitious A-EUFTA may lead to adverse climatic and biodiversity outcomes, driven primarily by an increase in land clearing linked to expanded production of Australian sheep and beef to meet European demand. The assessment included recommendations to investigate options to 'minimise land clearing for agricultural production' in light of the FTA and sharing best practice between the EU and Australia.[50]

The A-UKFTA was finalised in Australian legislation on 22 November 2022. Article 22.13 *Sustainable Forest Management and Trade* affirms the Parties' commitment of promoting the sustainable use of forests, and halting deforestation and forest degradation in relation to trade of forestry commodities.[51] It remains to be seen how this will be operationalised.

Regulatory developments outside the European Union

The UK and US are also addressing global deforestation through demand side regulation. Figure 8 below presents a selection of existing and emerging regulations that have implications for financial institutions and businesses exposed to deforestation risks.

Figure 8: Other regulation targeting deforestation risks in supply chains and financial flows

UK Environment Act (adopted 2021)

Prohibits the use of illegally produced forest risk commodities in UK commercial activities.[52] The regulation means UK importers and retailers will face increasing pressure to screen producers of high-risk commodities for illegal deforestation risks or face penalty.

US Lacey Act (adopted 1900, amended 2008)

Originally passed to prohibit the illegal removal, possession and sale of wildlife, fish or plants,[53] the Act was amended to address timber trafficking and illegal logging. This effectively created the world's first complete ban on illegal logging by making it illegal for US companies to import or sell timber that was logged in contravention of local laws in the timber's country of origin.[54]

US Fostering Overseas Rule of Law and Environmentally Sound Trade (FOREST) Act (proposed 2021)

Prohibits market access to commodities originating from illegally deforested land, banning the import of commodities such as palm oil, cocoa, soybeans, cattle, rubber and wood pulp produced from illegally deforested land.[55]

US Fossil Free Finance Act (proposed 2021)

Amends existing legislation to require covered bank holding companies to disclosure certain financed emissions and develop plans to eliminate financed emissions by 2050.[56] This would include a plan for the covered bank holding company to eliminate financing of deforestation risk commodities.[57]

Markets moving on deforestation: emerging standards and frameworks

There has been a proliferation of industry and voluntary standards and frameworks on biodiversity and nature with implications for companies linked to deforestation and their financiers. A summary of relevant frameworks and standards is set out in Table 1. Most notably, in 2022 the Taskforce for Nature Related Financial Disclosures (TNFD) was released in a beta version. The TNFD is modelled on the Taskforce on Climate-related Financial Disclosures (TCFD) and provides a framework for companies to report on their nature related risks and opportunities. While reporting standards and frameworks, such as the TNFD, are important and play a crucial role towards transparent corporate reporting, they have garnered some criticism that they could enable greenwashing. In particular, commentators have raised concern that the current draft framework does not explicitly require the disclosure or reporting of biodiversity impacts and dependencies. [58]

Table 1: Frameworks and standards to assess and disclose on nature-related impacts and dependencies

Assessment	Target-setting	Disclosure
Frameworks that provide organisations and investors with a methodology to assess nature-related impacts and dependencies	Frameworks that provide organisations and investors with a methodology to create nature-related objectives and goals	Frameworks that provided organisations and investors with a methodology to report on nature-related risks and opportunities
► The Accountability Framework Initiative	► The Accountability Framework Initiative	► The Accountability Framework Initiative
► Global Forest Watch Pro	► The Global Apex Goal for Nature	► Global Reporting Initiative (GRI 304)

Assessment	Target-setting	Disclosure
► Integrated Biodiversity Assessment Tool ► geoFootprint ► UN System of Environmental-Economic Accounting ► Natural Capital Protocol ► Natural Capital Finance Alliance	► International Finance Corporation Performance Standard 6 ► UN CBD Global Biodiversity Framework ► Science-Based Targets for Nature ► Finance for Biodiversity Pledge	► Sustainability Accounting Standards Board (SASB) Standards ► International Sustainability Standards Board (ISSB) General Sustainability-related Disclosures ► Carbon Disclosure Project Forest Program ► Taskforce on Nature-related Financial Disclosures (TNFD) ► Climate Disclosure Standards Board Biodiversity Guidance

The United Nations (UN) Biodiversity Conference of the Parties (COP 15), held in December 2022, also led to significant announcements and developments in commitments and frameworks:

- A new set of nature related goals through the post-2020 Global Biodiversity Framework.[59]
- 150 financial institutions, coordinated by the UNPRI, UNEP FI and Finance for Biodiversity Foundations, urged world leaders to adopt an ambitious post-2020 Global Biodiversity Framework.[60] [61]
- 330 companies joined the Make it Mandatory campaign to urge leaders to adopt mandatory assessment and disclosure of all large businesses and financial institutions' biodiversity-related impacts and dependencies by 2030.[62]
- The market-driven International Sustainability Standards Board announced its intent to begin developing standards relating to natural ecosystems following the final release of its Climate-related Standards in 2023, signalling the imperative for the private sector to prepare for increasing market pressure demanding nature-related disclosure.[63]
- The Australian and United States governments signed a pledge to work together to better measure the economic value of nature. This work will help to better inform natural capital accounting, the economic understanding and valuation of natural environments, and to more accurately measure the value of nature-based solutions.[64]

Certification as a control over deforestation risk

Some financial institutions and companies use certification to mitigate deforestation risks within their portfolios and supply chains. For nearly 30 years there has been a global proliferation of certification schemes, such as the Forest Stewardship Council (FSC) and the Roundtable on Sustainable Palm Oil. These schemes have sought to define the rules and requirements for sustainable production of commodities and provide confidence to the market that products traded under their banner are sustainably produced. A summary of a selection of global certification schemes that cover deforestation risk sectors is available on page 48 (Appendix C).

In Australia, the forestry sector most commonly uses certification through either the Responsible Wood scheme, recognised under the Programme for the Endorsement of Forest Certification (PEFC), or the FSC. Forestry Australia reports that approximately 11.4 million ha of Australian native and plantation forests are certified.[65] However, there has been minimal use of certification across deforestation risk sectors outside the forestry sector.

Some stakeholders have challenged the ability of market-based mechanisms such as voluntary certification standards to reduce deforestation. For example, Greenpeace's 2021 report *Destruction: Certified* identified several limitations of certification in mitigating risk, and cited several incidents where deforestation occurred in certified operations due to flaws in auditing procedures, reliance on self-reporting and weak penalties for breaches.[66] That report assessed different certification schemes for the robustness of their design and effectiveness of their implementation, finding disparity in their quality. For example, Greenpeace reported the Programme for the Endorsement of Forest Certification (PEFC) and associated national schemes' standards are weak and, at times, inconsistent in how they protect different types of HCV forests and prohibit native forest conversion to plantations. As certification requirements and monitoring processes can vary significantly between schemes, there is a risk that companies that are endorsed by less robust certifications may not meet other stakeholder expectations of sustainability.

Financial sector action on deforestation

A responsibility to act

Through financing companies in deforestation risk sectors, the finance sector is inherently exposed to the impacts of deforestation and degradation on capital through physical, transition and systemic risks. As stewards of capital, financial institutions have a responsibility to protect the long-term value of the money they look after, including the consideration of financially material environmental, social and governance (ESG) risks and opportunities such as deforestation and forest degradation in their decision-making processes.

Financial institutions have a responsibility to both drive progress and prevent inertia on nature-positive action. A 2020 Friends of the Earth report noted that three of the largest asset managers with a collective $22 trillion USD[67] under management voted against or abstained from all 16 shareholder resolutions on deforestation over the period from 2012 to 2020.[68]

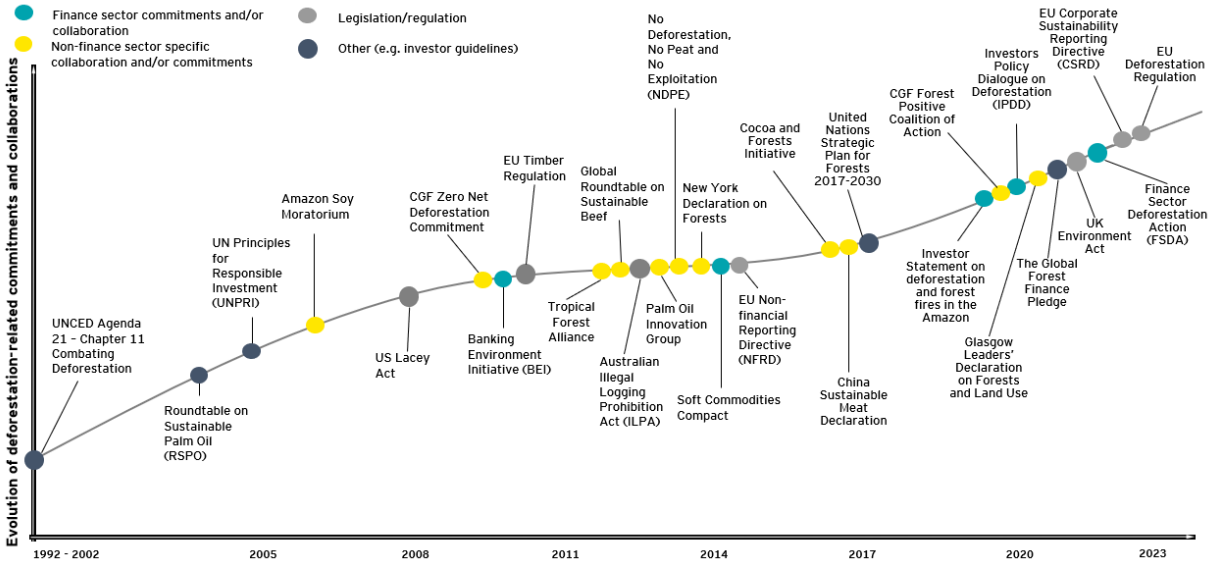
Progress to date – the gap between commitment and action

Concern about deforestation is not a new phenomenon. The 1972 UN Conference on the Human Environment in Stockholm recommended the preservation of forest biomass and noted the impact of international trade in forest products on the environment.[69] While pressure on corporate action continues to intensify, progress has not been straightforward; deforestation is continuing at a high rate, even if at a slower rate. Several prominent commitments on deforestation have failed to create the desired reduction in deforestation, or have been abandoned before they could be achieved.

For example, the New York Declaration on Forests (NYDF), adopted by governments, financial institutions and companies in 2014, included commitments to halve the rate of global natural forest loss by 2020, to end forest loss by 2030 and to meet the goal of eliminating deforestation from the production of agricultural commodities by no later than 2020.[70] Following collective agreements to end deforestation, many individual companies made their own zero net deforestation commitments for 2020 and beyond.[71] The NYDF ultimately failed to meet its 2020 targets but restated its targets in 2021 at COP 26.[72] The 2022 Forest Declaration Assessment found that no global indicators were on track to achieve the NYDF's 2030 target.[73] Similarly, the Consumer Goods Forum (CGF) did not achieve its resolution to reach zero net deforestation by 2020 in soy, palm oil, pulp/timber and beef supply chains.[74] The CGF recently launched a revised collective action, The Forest Positive Coalition for Action, in the hope of building on the shortfalls of the 2020 net deforestation goal.[75]

Despite these failures, and cognisant of nature-related business risks and the role of forests in driving emissions reduction, the corporate and finance sectors are actively making and renewing individual and collective commitments on land use and deforestation.[76] These commitments have been accompanied by a proliferation of guidance for investors and financial institutions on moving towards deforestation-free finance.

Figure 9: Collective commitments and collaborations focused on deforestation



In the midst of a proliferation of commitments, deforestation has continued relatively unperturbed, slowing only slightly. In the five-year period between 2015 and 2020, the annual rate of global deforestation was ten million ha per year compared to 12 million ha per year during the 2010-2015 period.[8] [77] Key challenges that could be reducing the efficacy and impact of the finance sector's approach include:

- **Progress in making commitments across the sector as a whole has been slow.** In 2020, more than 60% of financial institutions assessed by Forest 500 did not have a deforestation policy.[78]

- **The gap between commitment and meaningful action remains significant**. Even where investors have made commitments to zero deforestation, several exposés have raised concerns about the extent to which deforestation commitments and policies are being operationalised and upheld. In 2019, Global Witness reported that implementation of commitments lacked sufficient transparency and accountability, and that financial institutions with deforestation policies and commitments continued to provide finance to companies implicated in deforestation.[79]

- **The focus is almost exclusively on tropical deforestation**, which neglects non-tropical forests. This is likely as a result of several factors including the historically significant levels of deforestation in tropical regions and their function as biodiversity hotspots. In addition, financial institutions commonly consider local governance risk as a component of other ESG risks including deforestation, which could result in developed nations with a perceived high level of regulation being automatically deemed low risk without further consideration. As a country with significant deforestation, Australia has largely been excluded from investor action on deforestation, likely as a result of financial institutions focusing on only the very highest risk countries and commodities. This is compounded by the perception that Australia has a robust regulatory environment and by a lack of understanding of Australia's forest environment.

[8] This figure includes both primary and secondary deforestation.

The finance sector's action on deforestation faces the challenges of both an action and an efficacy deficit. This holds true within Australia, where investor focus on tropical deforestation has resulted in the oversight of deforestation within the country, to the detriment of large proportions of Australia's at-risk and high conservation value forests.

What makes an effective deforestation commitment?

The Accountability Framework Initiative (AFI) is a collaborative effort to build and scale ethical supply chains for agricultural land forestry products. The group provides guidance to companies on topics including establishing effective commitments, drafting robust policies and monitoring and disclosing on progress. Guidance for setting, implementing, monitoring and reporting on commitments, largely based on the AFI, includes:

- **No deforestation or ecosystem conversion in supply chains** – Commitments should align with eliminating deforestation from the companies' production, sourcing and financial investments. Commitments should specify a deforestation cut-off date to identify non-compliance
- **Scope** – Commitments apply broadly across all segments of the company and address risks arising from companies' operations, supply chains and financing. If not applicable to the entire business, commitments clearly define their scope in terms of product, operational and financial boundaries, and the restricted scope is supported by credible risk analysis
- **Verifiable actions and time-bound targets** – Commitments are publicly disclosed with time-bound targets and milestones reflecting deforestation's urgency, which are specific, quantitative and can be objectively evaluated and verified. Targets should align to broader sector-wide commitments or global goals
- **Terminology and definitions** – Key concepts and boundaries in commitments are clearly defined to enable comparison, monitoring and verification
- **Monitoring and verification** – Companies should monitor progress towards achieving commitments, adopting good practice verification methods and transparency of the scope of verified indicators for public disclosure
- **Report progress** – Publicly report progress on implementation of commitments regularly, ensuring accurate and verifiable quantitative and qualitative metrics. Disclose reporting methodology, data sources and any independent verification.

While targeted commitments that focus on protecting High Conservation Value (HCV) forests or concentrate on specific high-risk regions are a good starting point for financial institutions to establish their approach to deforestation, companies should be wary that commitments with narrow or restricted scopes may not be fit-for-purpose in the future as expectations of the financial sector mature. As such, companies should adopt forward-looking deforestation commitments that are broad in scope in order to support them in fulfilling stakeholder expectations, preparing for future regulatory obligations and addressing broader nature-related risks.

Deforestation in Australia

Australia's forests are some of the world's most diverse and biologically significant, covering more than 134 million ha and stretching across each of Australia's states and territories.[80] Australia has three main types of forests, native forest, commercial plantations and other forests.[9] Between 1990 and 2020, more than 6 million ha of primary forest, and 11.5 million ha of re-growth have been deforested,[81] primarily on land use regions used by the livestock, cropping and residential development sectors. While ecosystem degradation and fragmentation are difficult to measure, the activities of sectors such as the native forestry industry can severely degrade native forests without being technically considered deforestation, which in turn still leads to reductions in both biodiversity and carbon stocks.

Australia's native forests

Australia has the seventh largest forest area globally and makes up more than 3% of the world's total forest area.[10] Native forests represent the vast majority of Australia's forest landscape, covering more than 98% of Australia's total forest area to a total of 132 million ha.[82]

This report is primarily focussed on the deforestation of native forests. Native forests include temperate, tropical and sub-tropical species, including Eucalypt, Acacia, Casuarina and Rainforest. They are predominantly located on the continent's coastal areas, with Queensland, the Northern Territory and New South Wales having the highest proportion of total forest area (Figure 11).[83]

Figure 10: Agro-ecological regions across Australia

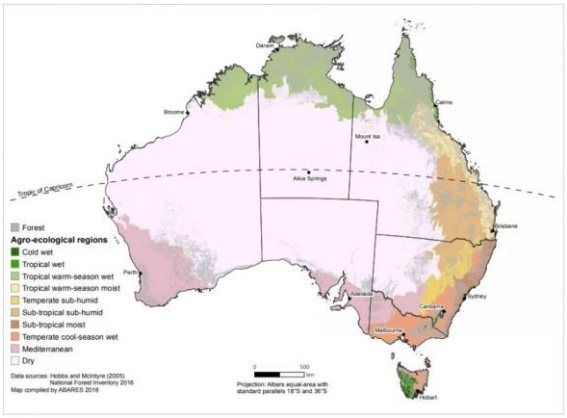
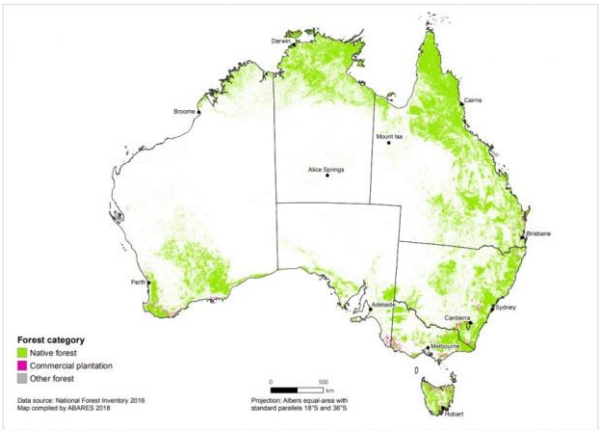


Figure 11: Forest cover by forest category across Australia

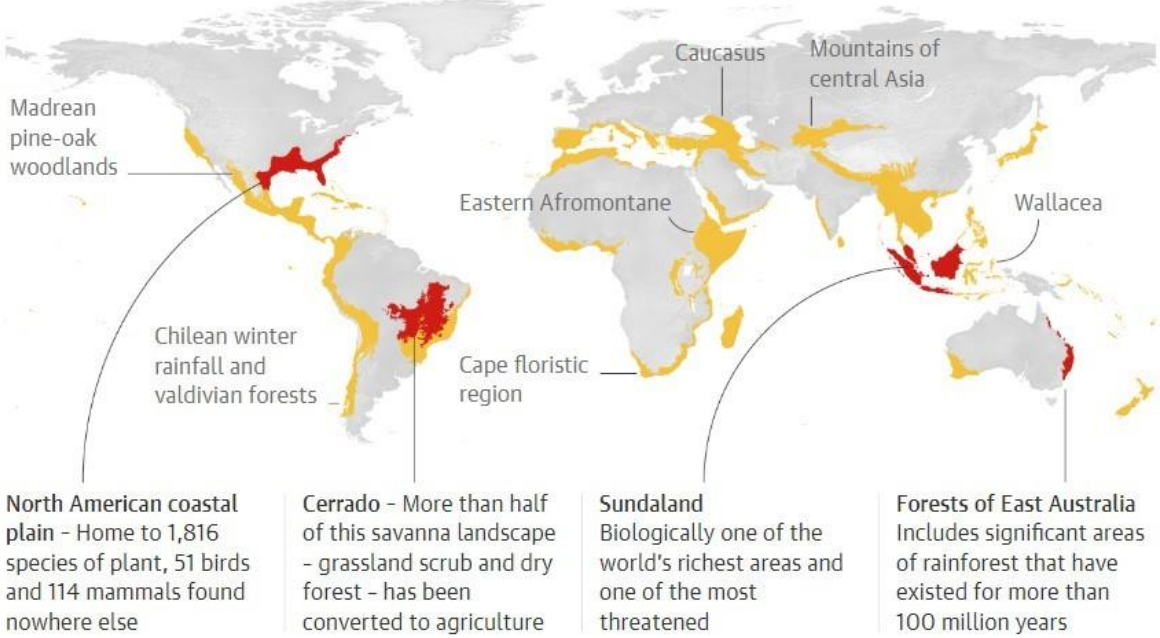


Australia's native forests are home to a wide and unique range of fauna, flora and fungi, many of which depend on healthy and intact native forests to survive. Australia is one of only 17 of the world's megadiverse countries, and responsible for 10% of the world's biodiversity.[84] Figure 12 shows the significance of Australia's forests relative to other biologically rich yet threatened regions.

[9] These comprise mostly non-commercial plantations and planted forests of other types, as per Australia's State of the Forests Report 2018

[10] Figure includes both plantation, native and other forests.

Figure 12: Global biologically rich yet threatened ecosystems[85]



Source: The Guardian (Guardian graphic, data source CEPH) Note: colours used to highlight hotspots denote regions of similar type

Over the last 200 years, Australia has lost more mammal species than any other continent on Earth and more than 100 Australian species are listed as extinct under national, state and territory legislation, as well as under the International Union for the Conservation of Nature (IUCN).[86]

Figure 13: Forest biodiversity and threatened species[87]

2,486	16,836	1,420
forest-dwelling native vertebrate fauna species	**forest-dwelling native vascular flora species**	**forest-dwelling threatened fauna and flora species**

Understanding Australian landscapes

Australia's landscape is highly diverse, made of arid deserts and savannahs, temperate forests, rainforests and forest fragments, which makes it distinct from the recognisable tropical and boreal forests found across other continents. Australia's landscapes are also home to an abundance of endemic species and unique climactic conditions that form critical ecosystems found nowhere else on Earth.[88] Australia is one of the world's most megadiverse countries[89] with two of the world's biodiversity hotspots located in Southwest and Eastern Australia.[90]

Australia's landscape is unique in its dryness, aridity, and regeneration and renewal cycles, meaning its ecosystems are particularly diverse. Many of its unique woodland environments across forests and savannas may not align with what many may conceptualise when they imagine a typical forest. Consequently, not all Australian forests necessarily align with international definitions of forests that have been created based on tropical and boreal environments. This disconnect between Australian forests and international definitions of a forest has significant ramifications on what is considered deforestation and forest degradation from a global perspective. For example, Chazdon et al. identified that the different lenses through which to understand forests can greatly impact how different types of forests are acknowledged, measured and managed. They noted that the FAO Global Forest Resources Assessment's definitional change in 2000, which reduced forest height thresholds from seven metres to five, contributed to a perceived increase of 118 million ha of Australian forest due to its unique vegetation patterns.[91] Currently, the FAO defines forests as having a minimum threshold of 10% crown cover over more than 0.5 ha and at least five meters tall.[92] This differs from the Australian definition, which identifies areas of land comprising trees over two metres in height that occupy a minimum of 0.2 ha, with at least 20% crown cover. This distinction accommodates the more naturally fragmented nature of many Australian forested areas in drier savannah biomes, and lower growing woodland and shrubland species.[93] Investors and financiers should consider the definitions they use when defining a forest in an Australian context so that critical forest ecosystems are not disregarded.

The role of Australia's native forests in ecosystem function and value creation

Australia's native forests support the flow of ecosystem services including timber, carbon sequestration, water cycle maintenance and cultural value. They are the habitat of many of Australia's native species,[94] and are a significant contributor to the Australian economy and to social and cultural wealth.[95]

As with many other parts of the natural environment, native forests have significant cultural, social and in some cases, economic value for Australia's Indigenous peoples and communities. Indigenous Australians have historically played a significant role in land management through traditional burning and fire management practices, and continue to do so in some areas today. In some areas, Indigenous Australians are involved in the management or co-management of forest areas, collectively referred to as the Indigenous Forest Estate. This estate covers more than 52%, or 70 million ha of forest habitats. To date, there has not been a coordinated exercise to place an economic value on the ecosystem services provided by forests at a national level beyond valuing the forestry sector's economic contribution through employment and provisioning services. Figure 14 sets out some examples of valuations of ecosystem services derived from Australia's forests at a sub-national level.

Figure 14: Examples ecosystem services provided by Australia's native forests

Provisioning services	Regulating services	Cultural services	Supporting services
114 million AUD The annual value of wood and wood products from Victorian native forests.[96]	15.5 million AUD The estimated annual value of native forest carbon sequestration in the central highlands.[97]	905 million AUD The estimated annual contribution of forest-related tourism to Victoria's economy.[98]	129 species The number of Australian tree species listed by the FAO as forest genetic resources which are critical to protect and maintain.[11] [99]

Forest governance in Australia

A network of Commonwealth and state legislation govern forest management and conservation within Australia. Australia's policies around environmental regulation have been the subject of significant criticism and formal reviews, which have highlighted the inefficiency and inefficacy of environmental legislation in achieving its objectives and delivering environmental outcomes.[100]

Some of Australia's terrestrial ecosystems are protected through the National Reserve System (NRS), which is designed to preserve some natural landscapes home to native flora and fauna. At 30 June 2020, the NRS covered 19.75% of the country across 13,540 sites, representing 151.8 million ha.[101] The reserves are managed by diverse stakeholders, including Commonwealth, state and territory governments, private land holders and Indigenous traditional owners. In July 2022, the federal government announced that Australia would join the global coalition of countries pledging to protect 30% of land and 30% of oceans by 2030 through the establishment of protected areas.[102]

The federal policy environment

The federal government's role is limited to managing nationally and internationally significant flora and fauna under the EPBC Act and management of forestry undertaken via Regional Forest Agreements (RFAs). The EPBC Act governs the protection and management of nationally and internationally significant flora, fauna, heritage and ecological communities, referred to as matters of national environmental significance (MNES).[103] Land clearing and deforestation is primarily the responsibility of the states, and is only subject to assessment under the EPBC Act where it has the potential to significantly impact a MNES, such as threatened species.[104]

[11] Food and Agriculture Organization of the United Nations

The Samuel Review of the EPBC Act

In 2019, the EPBC Act was subject to an independent statutory review led by Professor Graeme Samuel (the Samuel Review), which identified significant opportunities to improve environmental and cultural outcomes under the Act. The Review made several observations relevant to the effective management of vegetation and forests including identifying gaps in the interaction between the EPBC Act and Regional Forestry Agreements[105] (noting the EPBC Act does not adequately manage cumulative impacts or emerging threats) and identifying a need to[106] streamline bilateral assessments and approvals in line with National Environmental Standards (NES).[107] The Australian Government provided a response the Samuel Review in December 2022 and has noted it will establish an Environment Protection Agency (EPA) at a national level as part of its Nature Positive Plan.[108]

RFAs provide for the establishment of forest and resource management areas. There are currently ten RFAs that cover publicly owned forest regions that are used for commercial forestry, which cover more than 18 per cent of Australia's forests, the majority of which are native forests.[109] There has been significant public debate about the value and effectiveness of RFAs, with several groups raising concerns about the ability of RFAs to achieve their aims.[110] In particular, groups raised concerns about:[111]

- The decline of critically endangered species such as the Leadbeaters Possum[112] and Swift Parrots[113] and other species such as Greater Gliders in areas governed by RFAs
- RFAs result in a transfer of responsibility for environmental protection from the Commonwealth to the states, which has resulted in less stringent regulatory coverage and environmental protection [114]
- The decision to renew RFAs without stronger evaluation of their historic effectiveness and the current state of forests[115]
- The way RFAs have insufficiently considered the rights and access of Indigenous groups to native forests, failing to effectively facilitate Indigenous forest management and land rights.[116]

State based regulation

State and territory governments have primary responsibility for all other aspects of forest and vegetation management, a recognition of both of their Constitutional responsibility for land use decisions and their ownership of large parts of Australia's forest estates.[117] State vegetation clearing laws have undergone various cycles of loosening and tightening over time, which has led to direct changes in land clearing and deforestation patterns.

Figure 15: State based regulations in Australia

Deforestation in Australia

In 2021, the WWF named Eastern Australia a deforestation front, placing the country alongside prominent tropical deforestation hotspots such as the Amazon, Borneo and the Congo.[118] In Australia, land clearing (which includes deforestation) is a leading cause of biodiversity loss, and contributes to adverse impacts including land erosion and greenhouse gas emissions.[119] Land erosion affects aquatic and marine ecosystems, and increased sedimentation from run-off can increase sensitivity to heat stress and decrease the resilience of coral reefs, such as the Great Barrier Reef.[120]

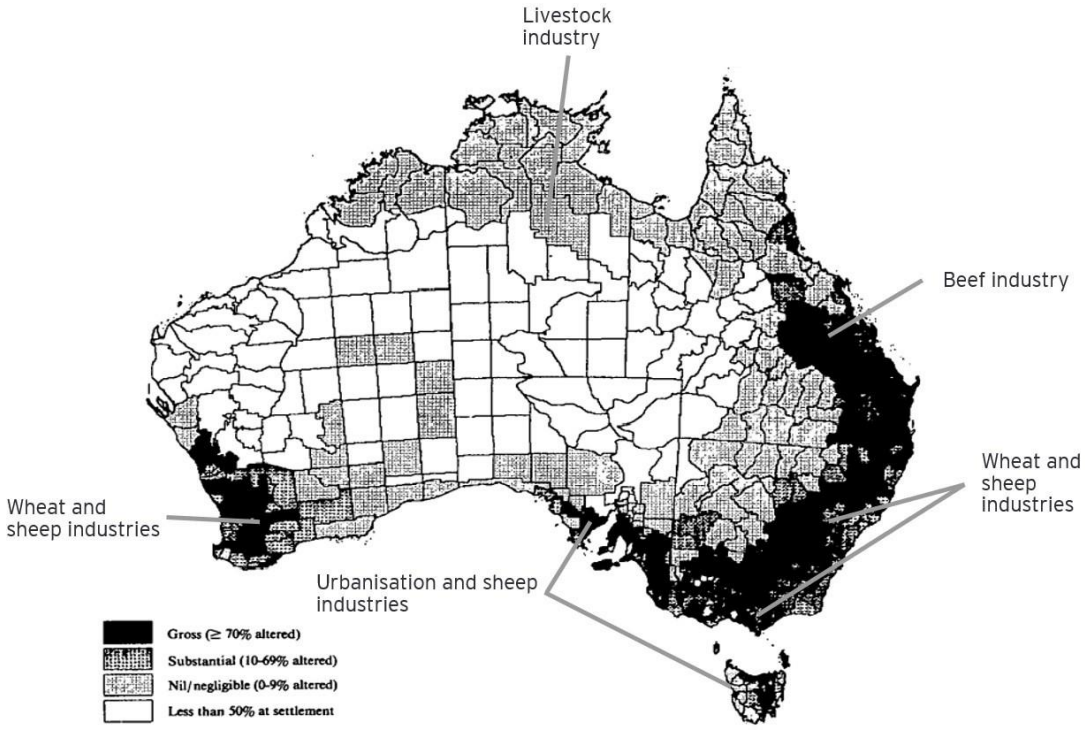
Protecting native forests is critical to achieving Australia's carbon reduction target

At June 2016, Australian forests stored some 21,949 million tonnes of CO2-e. A Griffith University study found that protecting and restoring native forests is a critical mitigation action if Australia is to meet its 43% carbon reduction target by 2030.[121] Forests play a significant role in carbon storage and carbon reduction targets, so investors and financiers with net-zero greenhouse gas emission targets will need to consider how they mitigate deforestation along their supply chain if they are to genuinely claim net-zero.

Australia's history of deforestation

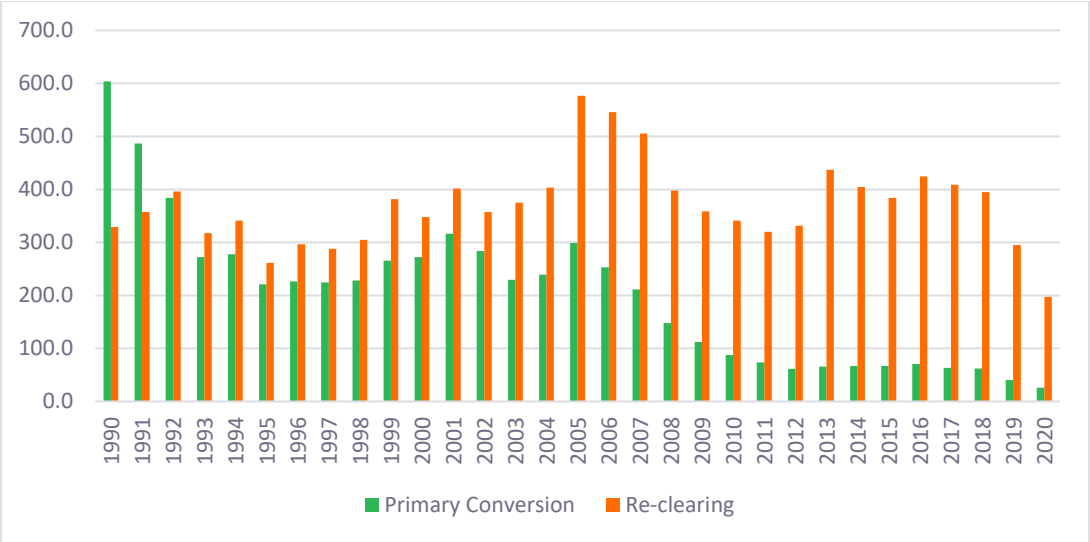
Australia has undergone significant land use change and clearing regimes since human settlement. Prior to European colonisation, Indigenous Australians influenced vegetation structure and composition through a variety of sophisticated resource management approaches that were tailored to local circumstances including 'firestick farming', plant harvesting and hunting.[122] [123] European colonisation saw the beginning of significant land clearing and deforestation, predominantly driven by agriculture such as for livestock and grains, and by settlement development. The patterns of early deforestation were most concentrated in coastal areas, which have the richest soils. Figure 16 sets out some of the historical drivers of land use change and deforestation across relevant Australian states from European settlement to 1990.

Figure 16: Historical changes to Australian forests and woodlands since European settlement to 1990[124] and corresponding primary drivers[125]



According to the NGGI dataset, more than 6,200 kha of primary forest, and 11,500 kha of re-growth have been deforested between 1990 and 2020, not including forest loss or conversion due to logging or forest degradation, with the majority (68%) occurring in Queensland.[126] While primary deforestation (deforestation of forests that have remained forests since 1972) across Australia decreased by almost 96% over the period, secondary deforestation (deforestation of forest that has since regrown after being cleared) remains a significant source of deforestation. Given the high conservation value of Australia's primary forests, and the ongoing deforestation of regrowth, deforestation risk remains a prominent and sustained risk for companies and investors alike. Please note that the figures in this section are drawn from the NGGI dataset, which has limitations that are highlighted on page 7 and page 45 (Appendix A) of this report.

Figure 17: Primary and secondary deforestation in Australia from 1990 to 2020 (kha)



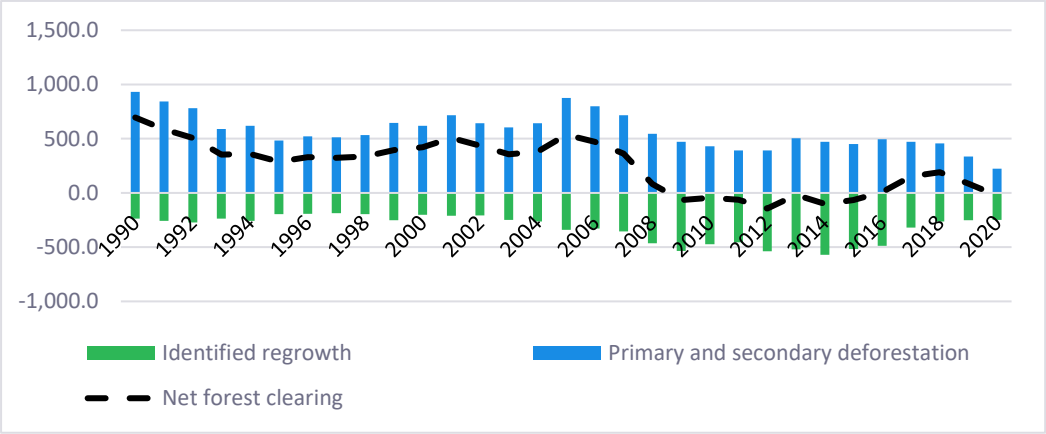
Source: Activity tables | ANGA (climatechange.gov.au)

A proportion of the forest 're-growth' identified in the NGGI data (which is subsequently cleared) may not be native forest, but invasive species such as rubber vine. The nature of this re-growth, and the proportion of which is native forest as opposed to invasive species is the subject of contention between some NGOs and industry groups.

With regards to this 're-clearing' or secondary deforestation of native forest, agricultural industry representatives argue the practice is essential to the active management of invasive species such as rubber vine and blackberry on agricultural land.[127] Infestations of rubber vine are particularly common in Queensland, and if left un-managed can have detrimental impacts on both native vegetation and biodiversity and can impede stock management. By comparison, some NGOs are of the view that a relatively high proportion of the cleared re-growth is native forest, and that only a small proportion of clearing (as little as 2%) may be linked to the management of woody weeds such as rubber vine.[128] Publicly available analysis of the proportion of re-clearing which is native forest as opposed to invasive species was not identified in the preparation of this report, and the issue remains deeply contended by both sides.

It is important to also consider afforestation and net deforestation (Figure 18). According to the NGGI dataset, Australia's total forest area has increased over the period from 2011-2018 in net terms, driven largely by a combination of reductions in primary deforestation, increases in regrowth and establishment of environmental plantings and commercial plantations in areas that did not previously hold forest.[129]

Figure 18: Net deforestation in Australia between 1990 and 2020 (kha)



Source: Activity tables | ANGA (climatechange.gov.au)

While a net increase in forest cover is a positive sign, net figures do not tell the whole story. In looking to interpret net deforestation figures, financial institutions should consider the broader carbon and biodiversity values that they are aiming to protect, namely that:

- **Primary forest tends to have a higher conservation value** than afforested areas, or newly established environmental or commercial plantings
- **Ecosystem services are often highest in old growth forest**, for example, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) found that water catchments dominated by older forests have higher water yields than those that are younger[130]
- **Older forests sequester more carbon that younger forests**, thereby playing a crucial role in supporting emissions reduction-related goals
- **A proportion of the regrowth that contributes to the net increase in forest cover is likely to be removed again** before it reaches maturity and full biodiversity value, due to cyclic land clearing trends.[131]

Degradation of native forests

In addition to contemplating deforestation, financial institutions should also consider their relationship to degradation. The extent of forest degradation is difficult to measure, but it is being increasingly recognised globally and in Australia as a significant driver of ecological damage, biodiversity loss and carbon emissions, which present physical and transition risks to investors.[132] The Australian Government defines degradation as:

> 'Loss of specific aspects of a forest ecosystem, such as tree cover, structural features or species, or of habitat characteristics that support the requirements of species or communities, short of being defined as deforestation and a reduction in the capacity of a forest to provide a range of goods and services.'[133]

Examples of degradation can include, but are not limited to, a significant reduction in canopy cover, loss of forest biomass, and the loss of habitat characteristics and structural features that support forest health.[134] The removal of mature and old-growth trees can also lead to degradation, as younger trees within the same ecosystem are unable to support the biodiversity and ecosystem services provided by the older and larger trees such as habitat, food sources and nutrient cycling.[135] In Australia, forest degradation is primarily driven by forestry, agriculture and livestock grazing, invasive species and fire. [136]

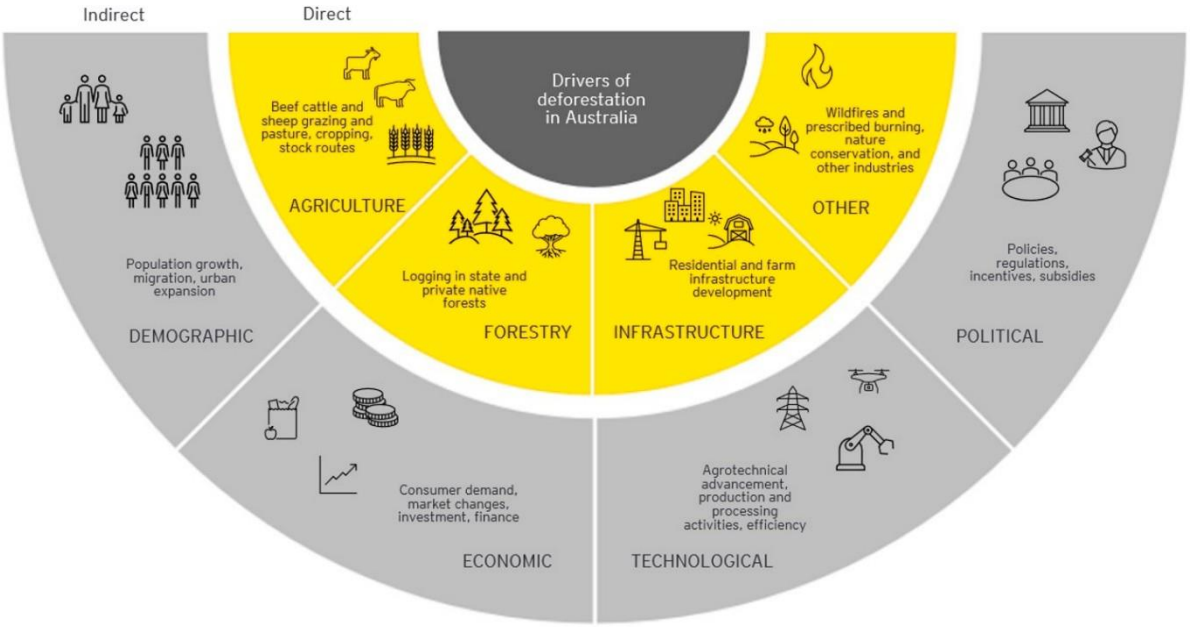
Current drivers of deforestation within Australia

Drivers of deforestation can be characterised as either direct or indirect:[137]

Direct drivers	Indirect drivers
The activities or events which directly cause deforestation and include both commercial activities such as agriculture and non-commercial activities such as conservation activities, wildfires and drought.	The demographic, technological, economic and political forces that influence and shape the direct drivers. For example, growing populations and economic development have led to increasing demand for commercial agriculture, which may lead to land clearing.

Figure 19 highlights the direct and indirect drivers of deforestation, degradation and forest loss in Australia. While not considered deforestation under the Australian Government's definition, fire (both wildfire and prescribed burns) were the most significant cause of forest loss over the period from 1990-2020. Significant deforestation also occurred on land occupied by the livestock sector, (primarily beef and sheep), followed by the cropping and residential development sectors.

Figure 19: Drivers of deforestation within Australia



Deforestation risk sectors in Australia

For this report, EY used the NGGI dataset (released in May 2022) to identify sectors of the Australian economy connected to deforestation. The LULUCF dataset within the NGGI dataset identifies the amount of deforestation occurring in each land use region between 2016 and 2020.

According to the NGGI dataset, the majority of deforestation occurred in land use regions commonly used by the livestock, cropping and land development sectors between 2016 and 2020.[12] The livestock sector (primarily beef and sheep) uses land for grazing on native vegetation and pastures, while the cropping sector uses land for a variety of crops such as grain, seeds, sugarcane, and cotton. The land development sector primarily uses land for residential land development.

[12] Other major drivers of anthropogenic deforestation excluded from this assessment include land clearing in regions tagged to resource protection and defence activities. They were excluded as they are not actively financed by areas outside the Australian Government and so are less likely to be of interest to financiers.

Figure 20: Primary deforestation in Australia (kha), excluding logging and forest degradation[13]

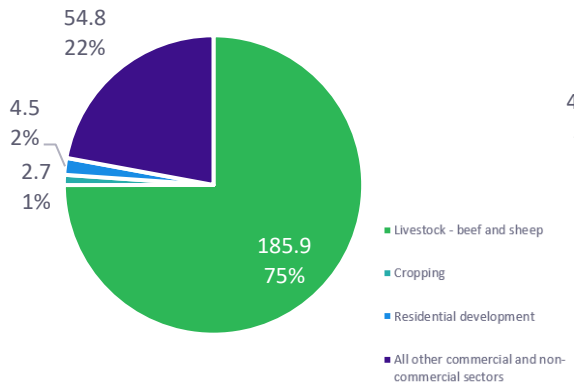
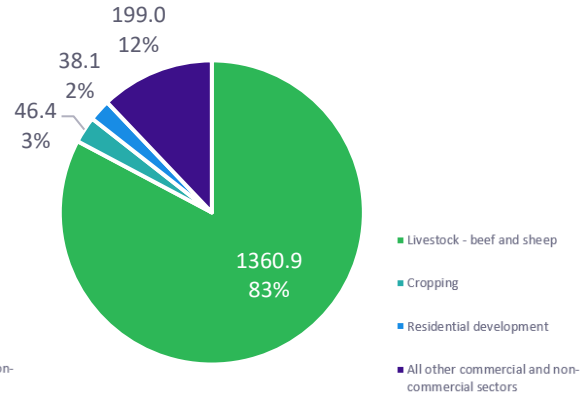


Figure 21: Secondary deforestation in Australia (kha), excluding logging and forest degradation[14]



Livestock – beef and sheep

The meat and livestock industry is a significant contributor to the Australian economy, with the red meat and livestock industry contributing approximately $17.6 billion in GDP (1.4% of Australia's key industry GDP) in 2018-19.[138] The sector makes up the vast majority of agricultural land use in Australia through its management of land used for grazing of native vegetation and modified pastures.[139]

According to the NGGI dataset, the majority of deforestation from 2016 to 2020 occurred in land use regions typically used by the livestock sector. In this period, 75% of total primary deforestation (190 kha) and 83% (1400 kha) of secondary deforestation occurred in these land use regions. The livestock sector primarily clears forests and broader vegetation for grazing. Vegetation clearing is thought to improve pasture quality and pasture availability, and is typically conducted using bulldozers and chains.[15] [140] A proportion of the secondary deforestation conducted by the livestock sector is necessary to manage invasive weeds such as rubber vine, although the proportion of the secondary deforestation which is related to weed management is contested as set out on page 27.

The role of the livestock sector in deforestation and broader land clearing is reinforced in state-level analysis of other datasets such as the QLD SLATS data. For example, The Wilderness Society analysis identified the beef sector as being responsible for 65% of total land clearing in Queensland between 2013 and 2018.[141] While NGGI data does not disaggregate by livestock type, third-party research and stakeholder interviews support the view that deforestation in the livestock sector is driven predominantly by beef grazing, followed by sheep grazing.

According to the NGGI dataset, deforestation on livestock land has decreased over the four-year period.[142] Despite this reduction, deforestation remains greatest in land use regions assigned to the livestock sector relative to any other sector as of 2020.

A recent report by the Queensland Conservation Council and the Wilderness Society, identified that while clearing may be widespread, a relatively small number of producers are responsible for the majority of deforestation in any given period. The analysis found that less than 400 producers accounted for half of all deforestation for the sector over the period from 2014-2018.[143]

The Australian livestock sector is taking steps to address its role in deforestation and land clearing, with industry associations including the National Farmers Federation and Meat and Livestock Australia active in shaping the industry's response. Work on the issue to date has included:

[13] Sectors identified in Figure 20 are those that most commonly utilised the land use regions with high level of deforestation as identified in the NGGI LULUCF dataset

[14] Sectors identified in Figure 21 are those that most commonly utilised the land use regions with high level of deforestation as identified in the NGGI LULUCF dataset

[15] Based on interviews conducted by EY with The Wilderness Society

- **Australian Beef Sustainability Framework (ABSF).** The framework includes consideration of environmental stewardship, and the group's reporting includes disclosures on tree and grass cover utilising satellite data to track changes in net vegetation.[144] The ABSF is recognised as a National Roundtable by the Global Roundtable for Sustainable Beef (GRSB), which is an international industry effort to improve the sustainability of the beef value chain.

- **Meat and Livestock Australia (MLA).** MLA is a member of the GRSB. It commissions reports into the sector's impact on land clearing and biodiversity,[145] and has set a target for the industry to be carbon neutral by 2030.[146]

- **Sheep Sustainability Framework (SSF).** The SSF includes biodiversity, including vegetation and land clearing as a material topic, although specific metrics are yet to be identified.[147]

- **National Livestock Identification System (NLIS).** While not designed to address deforestation, the NLIS provides the ability to trace livestock from birth to end of life, and may be a useful tool in enhancing the traceability and verification of 'deforestation-free' beef.

- **Australian Agricultural Sustainability Framework (AASF).** An initiative driven by the National Farmers Federation and the Australian Farm Institute, the AASF includes 17 principles for sustainable agriculture, including several relevant to deforestation and land management.

Cropping

Australia's cropping industry includes the sugar cane, cotton, grains, and seed sectors. According to the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) *Australian Crop Report 2022*, 21 million ha of land is currently used for cropping, representing approximately 0.5% of Australia's agricultural estate. While the majority of crops are exported, they are an important contributor to domestic food systems and stockfeed.[148]

Much of this prime cropping land was first cleared in the 19th and 20th centuries. However, deforestation and clearing of other vegetation in cropping land use regions remains an issue. From 2016 to 2020, 1% (2.7 kha) of all primary deforestation and 3% (46.4 kha) of all secondary deforestation occurred in land use regions typically used by the cropping sector.

Deforestation in the cropping sector (particularly in northern New South Wales) is conducted to increase the amount of arable area available, to increase crop yield, or in an attempt to increase the value of agricultural land[149]. In some parts of NSW, land cleared for cropping has been sold for two to three times the value of uncleared land.[150]

While the Northern Territory and its savanna environments have experienced lower rates of historical deforestation than other states, the Territory's cotton industry has recently drawn scrutiny for risks of land clearing and deforestation, including allegations of illegal clearing by farmers without appropriate permits. The cotton industry in the Northern Territory has expanded rapidly since its ban was lifted in 2018, which has driven up demand for cleared land for large scale cropping. This growth is expected to continue over the next decade as cotton remains in high demand from the textiles and fast fashion industry.[151]

The Australian cropping industry is in the early stages of action on deforestation and land clearing. Initiatives include:

- **Behind Better Grain - Australian Grains Industry Sustainability Framework (AGISF).** The framework's draft 2030 targets include a goal to increase biodiversity stewardship on farms, including native forest and vegetation.[152] [153]

- **International Sustainability and Carbon Certification (ISCC) program.** One of the ISCC's goals is to implement zero deforestation practices.[154] Grain Growers Australia, the Australian Oilseeds Federation and many Australian producers are members of the ISCC.

- **Planet. People, Paddock - Australian Cotton Sustainability Framework.** The framework includes a target for biodiversity to ensure native vegetation management in the cotton landscape is in line with regional priorities but does not refer to deforestation reduction targets.[155]

- **My Best Management Practices Cotton.** A voluntary, industry-led best practice management and assurance system for the Australian cotton industry, My BMP includes modules on sustainable natural assets, and best practices for soil, water and biodiversity management.[156]

- **Smartcane Best Management Practices.** Smartcane BMP offers Queensland cane farmers an optional educational module on natural systems management which includes guidance on the maintenance of native vegetation.[157]

Residential development

Between 2016 and 2020, 2% (4.5 kha) of all primary deforestation and 2% (38.1 kha) of all secondary deforestation occurred in land use regions commonly used by the residential infrastructure sector, according to the NGGI dataset. This includes the construction of residential and farm buildings and associated infrastructure such as roads.

The Australian Conservation Foundation estimates that more than 20 kha of forest that housed threatened species in urban areas was lost between 2000 and 2017,[158] and found that urbanisation of threatened species' ecosystems harms biodiversity through habitat removal and fragmentation, higher pollution and increased invasive species and diseases.

While vegetation and land clearing are regulated at both state and federal level, there have been reports of the Australian Federal Government issuing permits for property development that contradict federal policies, for example where residential property developments are issued permits in koala habitats, which are meant to be protected.[159] Some cases of land clearing for property developments have also been found to contravene the federal EPBC Act even after local government approvals were granted,[160] suggesting a disconnect between state and federal policies and regulations.

Forest degradation in Australia's forestry sector

Australia's forest industry comprises of a native and a plantation forestry sector. Forestry in Australia's native publicly owned forests is undertaken by state owned enterprises, and forestry in private plantations is undertaken by privately owned enterprises. Based on the Australian Government's definition of deforestation, the forestry sector's activities are not considered to be deforestation because the logging and removal of trees does not change how the land is used, and the forest is expected to regrow.[161]

Australia forestry sector has the potential to degrade forest ecosystems through:

- **Plantation forestry industry:** Primary native forest may be cleared to make way for a new plantation thereby effectively eliminating existing native habitat. Over the period from 2004 to 2014, the areas of plantation forests has also increased by 33% between 2004 and 2014[162]

- **Native forestry:** Primary native forest or regrowth may be thinned, cleared or burned as part of native forestry operations thereby reducing the forest's capacity to provide crucial ecosystem services such as habitat, carbon storage, water and nutrient cycling. In addition, regrowth may be thinned or cleared as part of a native forestry operations, which vastly limits the regeneration of native forests. Logging can also increase the frequency and severity of bushfires.[163]

Financial institutions with links to Australia's forestry sector should be aware that while the forestry sector in Australia is, by the government's definition, not considered to contribute to deforestation, it does directly contribute to forest degradation. There is limited data on degradation within Australia at the national level. Emerging technologies such as space technology are expected to increasingly play a role in 'hard to measure' aspects of environmental impacts, including degradation.

The forestry sector's response to mitigating its impacts on forest ecosystems has relied on the use of certification schemes such as the FSC and the Responsible Wood Certification Scheme (Responsible Wood). Discussion of certification can be found on page 17 and page 48 (Appendix C).

Considering deforestation risk in associated value chains

In considering the finance sector's exposure to deforestation risk sectors in Australia, the financiers must also consider their investment in, and subsequent exposure to, deforestation risk through the value chains of deforestation risk sectors. This should include the consideration of both domestic and overseas value chains, for example, European importers of Australian beef and wood products need to consider the effect of deforestation regulation targeting supply chains emerging in the EU for these commodities.

Figure 22: Segments of the economy linked to deforestation risk sectors

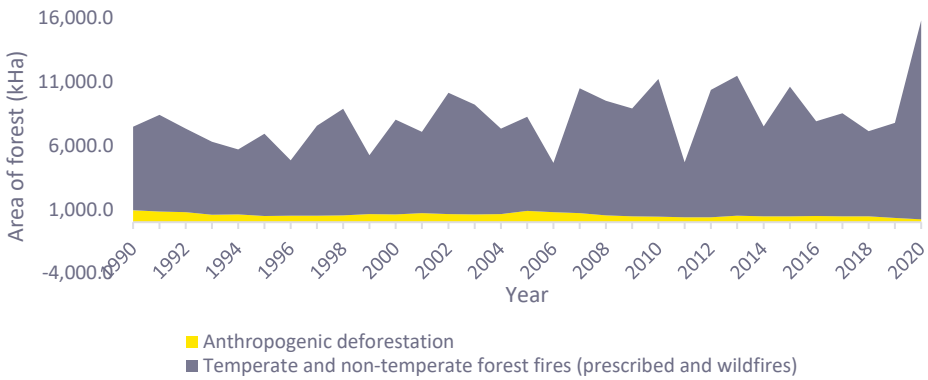
Deforestation risk-sectors	*Segments of the economy connected to deforestation risk sectors*				
Beef and sheep	Grazing	Transport	Abattoir and processing	Retail	Food service
Cropping	Cultivation	Harvest and storage	Transport	Processing	Retail/food service
Forestry	Cultivation	Harvest and milling	Paper and packaging	Furniture and Construction	Biofuels industry
Development	Land clearing	Consortium partners	Construction industry	Sales and marketing	Real estate agents

Other causes of forest loss

In addition to commercial activities, other factors including fire, drought, salinisation and diseases such as phytophthora dieback have a significant impact on the health and coverage of Australia's native forests.[164] Many of these factors have been exacerbated by human activities.

Of these, wildfire and prescribed fires are the most significant causes of forest change, contributing to the loss of more than 24,700 kha of temperate forests between 1990 and 2020. This equates to approximately 15 times the number of hectares deforested by primary and secondary deforestation of all deforestation risk sectors between 1990 to 2020, not including forest degradation. Forest loss due to wildfire and prescribed burns amounted to approximately 45,290 kha between 2016 and 2020. The majority of forests burnt during the period were non-temperate forests in Queensland, the Northern Territory and Western Australia.

Figure 23: Comparison of forest loss and deforestation caused by fire and anthropogenic activity[16] [17] [165]



The 2019-20 fire season was Australia's most destructive on record. It resulted in the loss of more than 8.19 million hectares of native forest[166] and more than three billion native animals, of which reptiles made up the vast majority.[167] As a result of climate change, forest fires continue to increase in both incidence and severity, with a projected increase in dangerous bushfire weather for southern and eastern Australia,[168] as well as an increasing number of heatwaves and dangerous fire days.[169]

The increasing frequency and intensity of bushfires affects the ability of forests to regenerate.[170] Even when unharmed by fire, climate change and associated events can degrade the quality and health of native forests by narrowing the thermal safety margin, reducing photosynthetic and metabolic ability of leaves, and affecting the ecological state of native forests.[171]

Other factors such as drought, salination and disease also have an impact on forest health and coverage, and lead to a deterioration in tree and ecosystem health by way of defoliation, dieback, invasive species colonisation and pest damage.[172]

[16] Anthropogenic deforestation includes primary and secondary deforestation from commercial and non-commercial activities such as managed resource protection and defence.

[17] The values for temperate and non-temperate forest fires shown in Figure 23 include prescribed burns and wildfires. Prescribed burns account for 34% of all forest fires in temperate forests. Note that the NGGI used to generate Figure 23 does not specify the breakdown of prescribed burns and wildfires for non-temperate forests.


Part
2

Financing deforestation and forest degradation risk sectors in Australia

Regions such as Europe and North America are increasingly developing regulation to drive action to tackle deforestation. EY's analysis on 13 companies identified clear and material links between financiers in these regions and deforestation and forest degradation risk sectors within Australia. Across the sample, EY identified more than $29 billion USD flowing from Europe and $69 billion USD from North America into deforestation and degradation risk sectors including beef, forestry, cropping and land development in Australia.

While it is not possible to extrapolate the findings to these sectors as a whole, the findings point to European and North American investors' and financiers' exposure to deforestation and forest degradation risk. Given Australia's status as a deforestation front, exposed investors and financiers should conduct a portfolio level assessment of their exposure to deforestation and degradation risks in Australia to the same level of detail and attention afforded to other deforestation fronts globally.[173]

Financing Australia's deforestation and forest degradation risk sectors

Australia's deforestation and forest degradation risk sectors are significant contributors to the Australian economy, with the agriculture, forestry, and fishing industry accounting for almost 25 of Australia's GDP and 12% of all goods and services exported in the 2021 financial year. EY identified more than $137.6 billion USD worth of debt and equity financing flowing from approximately 1,900 financiers into the 13 companies assessed. This financing was provided in the form of equity via shareholdings (49%), followed by debt via both primary bond issuances (25%) and loans (16%), and finally by share issuances (10%). EY found that the majority of financial flows went into the beef and forestry sectors, which respectively accounted for 33% and 37% of all financial flows analysed.

The analysis identified clear and material links between financiers in regions with current and planned deforestation regulations which could create obligations for financiers, including North America and Europe. Of these, North America was the single most significant source of identified finance, with more than 51% of all funds assessed ($69.2 billion USD) flowing primarily from financiers with parent companies in Canada and the United States. This was followed by Europe with (21% of all funds assessed ($29 billion USD), and Asia with 16% of all funds assessed ($22 billion USD). The financial flows from each region and finance type into Australia's deforestation and forest degradation risk sectors are summarised in the Sankey diagram (Figure 24) below, with key findings discussed later in this chapter.

Figure 24: Financial flows into Australia's deforestation and forest degradation risk sectors

Financing for privately-owned companies in deforestation risk sectors

The analysis in this report was limited to publicly listed companies due to difficulty obtaining granular information on the financing of private companies. However, the impact of capital flowing to private companies operating in deforestation risk sectors cannot be underestimated, particularly in the Australian agriculture industry where a significant proportion of the sector is privately owned.[174] While not within the scope of this report, it is expected that private businesses in these sectors, particularly those in the agriculture sector, have a higher proportion of domestic finance than their listed peers, and particularly their internationally listed peers.

European financiers linked to deforestation and forest degradation sectors in Australia

There are clear and material links between European financiers and deforestation and forest degradation risk sectors within Australia. EY identified flows to the order of more than $29 billion USD[18] from European[19] financiers[20] into 13 companies in deforestation and forest degradation-risk sectors in Australia. This constitutes to approximately 21% of all financial flows assessed.

EY found that European financiers invest disproportionately in the beef sector, and provide finance disproportionately through bonds and share issuance. European financiers should start by reviewing their connections to deforestation and forest degradation risk sectors in Australia through these avenues.

While it is not possible to draw conclusions about the total value of European financial flows from this assessment, the results point to European financial sector's clear relationship with deforestation and forest degradation risk sectors in Australia.

[18] Note this figure includes both share issuance and share holdings. EY notes that this means that there is a degree of 'double counting' insofar as we have calculated both the value of the shares initially issued, as well as the value currently held as shareholdings.

[19] 'Europe' here refers to continental Europe. This report does not specifically differentiate between countries that are members of the European Union.

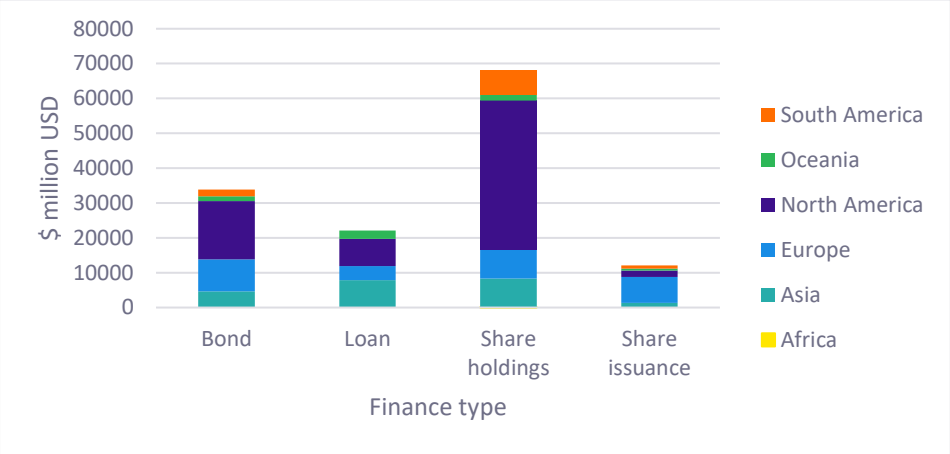
[20] Financiers with ultimate parent companies in Europe.

European financiers play a significant role in bond issuance and share holdings

European financiers are exposed to deforestation and forest degradation risk sectors in Australia primarily through bond issuances and shareholdings, as opposed to loans or share issuances (Figure 25). For example, for the 13 companies:

- 32% ($9.2b USD) of all funds originating from Europe were in the form of bond issuances
- 28% ($8.2b USD) of all funds originating from Europe were in the form of shareholdings.

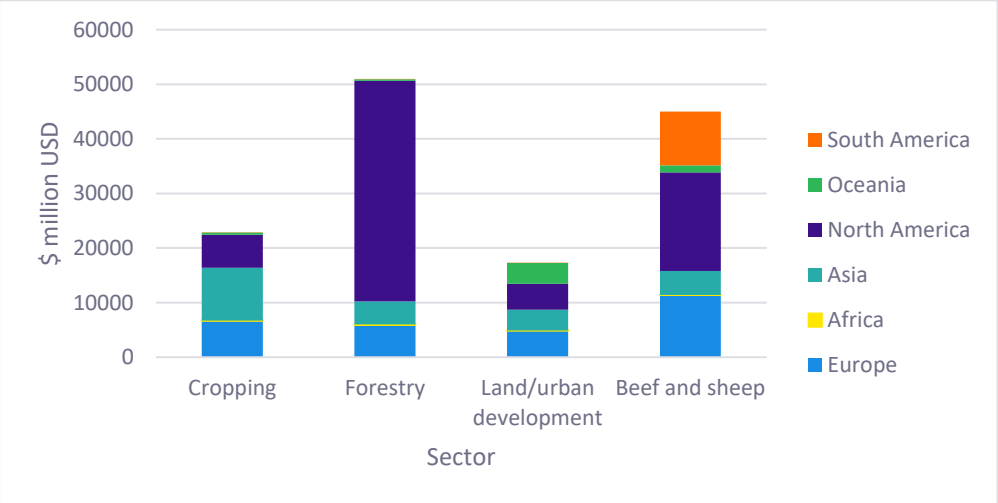
Figure 25: Breakdown of capital flows from Europe vs the rest of the world by asset type



European financiers are primarily invested in the beef sector

Of the sectors analysed, European investors were most heavily invested by total dollar amount in the beef and sheep sector, with 39% ($11.4b USD) of all funds from European financiers flowing to companies in the beef and sheep sector. Due to the small number of companies analysed, care should be taken in extrapolating the results of this report into broader industry or economic trends.

Figure 26: Breakdown of capital flows from Europe vs the rest of the world by sector (including share issuances)



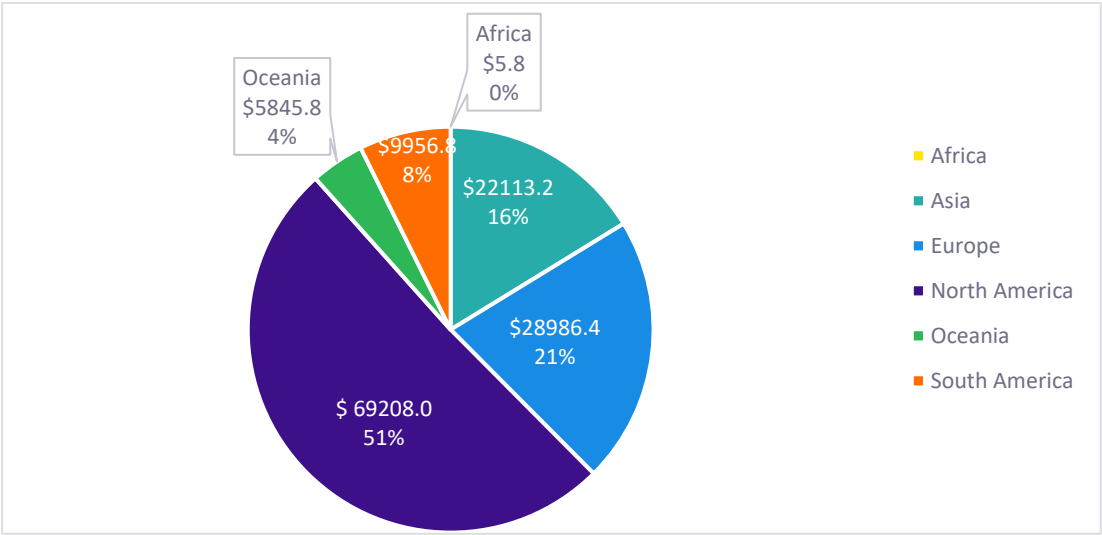
Capital flows and subsidiary financiers

While the majority of EY's assessment focused on the locale of financiers' parent companies, EY also looked at instances where financers were based in a different jurisdiction to their parent companies. EY found that 82% of all financiers operating in Europe have European parent companies, with the remaining 18% having parent companies outside Europe, and the majority of the latter having parent companies based in North America. It is anticipated that emerging European legislation such as the provisionally agreed EU Deforestation Regulation could be expanded to include financiers operating in Europe with parent companies elsewhere. As such, global investment houses should be aware of the likely transition risk associated with their subsidiaries operating in Europe.

Other finance sources of deforestation and forest degradation sectors

North America was the largest source of finance for the 13 companies assessed and responsible for 51% or $69 billion USD of all financial flows, which was used predominantly to finance companies in the forestry and beef and sheep sectors. The majority of this finance was provided in the form of shareholdings and bonds, with North America being the most significant source of both forms of finance. Financiers with parent companies in the United States (US) and Canada were the two most significant sources of finance, with the US accounting for approximately 40% of all financial flows. Appendix B on page 47 summarises the top 5 countries for each finance type by percentage and dollar amount, and the primary types of finance identified by sector.

Figure 27: Breakdown of capital flows by region (including Europe) ($ million USD)



Recommendations

Financier action plan

There is no shortage of guidance for financial institutions looking to mitigate risks of deforestation within their portfolios, with groups such as Accountability Framework Initiative, CERES and the WWF all releasing best practice guidance in recent years.[175] [176] [177] The action plan below builds on these existing frameworks, setting out guidance to support financial institutions to mitigate risks of deforestation and degradation within their Australian portfolios.

Drawing on the above guidance, there are eight key actions that financiers should take to manage their risks in high deforestation and forest degradation risk sectors[21] within Australia. Table 2 below sets out the actions all financiers should take in accordance with existing guidance, as well as additional actions to be undertaken by financial institutions with Australian portfolios.

Table 2: Actions for financial institutions looking to mitigate deforestation and forest degradation risks in Australian portfolio

Summary of financial institution action plan	
Actions for all financial institutions	**Summary of actions for financial institutions with Australian portfolios**
Establish a position and plan	
► Establish deforestation policy and exclusions ► Set deforestation commitments and targets with appropriate cut-off dates ► Establish governance and accountability for deforestation ► Communicate expectations to clients ► Capability building and training	*R1: Review existing definitions of deforestation to ensure they do not perversely exclude biodiversity and carbon impacts linked to deforestation and forest degradation in Australia.* *R2: Adopt a zero-deforestation commitment with an appropriate baseline and target date* *R3: Develop guidance on risks of deforestation and degradation in Australia and roll out to relevant parts of the business.*
Identify and map risks	
► Conduct a deforestation risk assessment across the portfolio ► Quantify exposure to high-risk sectors, regions and clients ► Assign priority level to each client with probable risk and develop engagement plan ► Develop ongoing risk assessment approach that includes best practice due diligence actions for deforestation and degradation	*R4: Conduct a portfolio risk assessment, assessing links to deforestation and degradation-risk sectors such as beef, sheep, cropping, forestry and land development and prioritise clients for engagement.* *R5: Use the Australian Federal Government's National Greenhouse Gas Inventory (NGGI) dataset to perform annual risk assessment refresh until a better dataset becomes available, and supplement with national and/or state-wide landcover and trees study (SLATS) databases where possible, taking note of the difference in definitions*
Corporate engagement and advocacy	
► Engage with clients in high-risk sectors and regions ► Advocate for regulatory reform ► Participate in cross-sectoral collaborations on deforestation and engage with ESG data providers	*R6: Communicate expectations for vegetation management to Australian clients in deforestation and degradation risk sectors.* *R7: Engage with highest risk clients in Australian deforestation and degradation risk sectors, and associated value chains.* *R8: Engage with federal and state governments on regulatory reform to improve management of deforestation and degradation risk as well as biodiversity risks more broadly.*
Monitoring and disclosure	
► Conduct due diligence on prospective and existing investments, clients, and investees in high-risk regions or sectors – for example through use of certification, GIS monitoring, supply chain traceability ► Identify and investigate instances or suspected instances of non-compliance ► Publicly disclose progress on implementation of deforestation commitments and targets	*R9: Review existing screening criteria and due diligence processes and confirm adequacy in covering high-risk sectors and regions within Australia.*

[21] As defined on page 8, high deforestation and forest degradation risk sectors in this section of the report are defined as sectors of the economy that may have direct impacts on the forests resulting in deforestation and/or forest degradation.

Establish a position and plan

All financial institutions should develop and implement clear commitments, targets and policies on deforestation risk. Financial institutions should:

Recommendation 1: Review and update existing definitions of deforestation to ensure they do not perversely exclude biodiversity and carbon impacts linked to deforestation and forest degradation in Australia.

- Institutions should avoid using definitions of deforestation that are linked solely to tropical or illegal deforestation. In many regions including Australia, legality alone is not sufficient to mitigate the environmental or carbon impact associated with deforestation.
- Review and update existing policies and screening criteria to confirm they reflect updated definitions.
- Consider building degradation into existing deforestation definitions or expanding language to capture both deforestation and degradation given environmental impacts linked to degradation.

Recommendation 2: Adopt a zero deforestation commitment with an appropriate baseline and target date

- Adopt a zero deforestation commitment at the organisational level with a clear and appropriate scope such that it does not exclude relevant deforestation and forest degradation risk activities.
- Publicly disclose adoption of and progress against the zero deforestation commitment in a transparent and clear manner, taking into consideration relevant reporting and disclosure requirements.

Recommendation 3: Develop guidance on risks of deforestation and forest degradation in Australia and roll out to relevant parts of the business.

- Develop and roll out training on deforestation and degradation risks within Australia, high-risk sectors and regions; communicate to relevant people within the business. For example, this may include roll out to the agribusiness division of a major bank.
- Consider the need to provide additional guidance to staff on relevant expectations for management of deforestation and degradation risk in Australia, including link to company commitments on deforestation (such as zero-deforestation commitments) and required screening processes.

Identify and map risks

All financial institutions should undertake portfolio deforestation risk assessments to establish an understanding of the sectors, regions and clients that are higher risk for deforestation. Financial institutions should:

Recommendation 4: Assess links to deforestation and degradation-risk sectors such as beef, sheep, cropping, forestry and land development and prioritise clients for engagement.

- Assess portfolio links to deforestation and degradation-risk sectors and associated value chains, and identify concentrations of risk within asset classes.
- Quantify risk and adverse environmental and carbon impact and prioritise clients for engagement.
- Use technology such as GIS to 'ground-truth' understanding of deforestation and forest degradation patterns for high-risk clients.
- Financial institutions should use the risk assessment as an opportunity to understand their exposure to other material environmental, social and governance risks in Australia, such as clearing of vegetation under two metres in height, water scarcity, climate and rights of Indigenous peoples.

- If your investment or lending portfolio includes native forestry, consider the credibility of any certification schemes being utilised, and consider risk factors such as adverse media, NGO and scientific reports and any historical or pending legal action associated with the logging activities. Similarly, consideration should be placed on logging activities taking place in high-conservation value forests

Recommendation 5: Use the Australian Federal Government's National Greenhouse Gas Inventory (NGGI) dataset to perform annual risk assessment refresh until a better dataset becomes available, and supplement with national and/or state-wide landcover and trees study (SLATS) databases where possible, taking note of the difference in definitions

- Review deforestation and degradation-risk sectors within Australia annually using the NGGI data. Supplement the risk assessment with more granular and accurate state datasets such as the Queensland SLATS where there is significant exposure to a particular state or territory, taking note of the differences in definitions
- Monitor state datasets, media and industry publications, as well as ongoing court cases and rulings, to stay abreast of emerging deforestation risks within Australia, for example, bauxite mining in Western Australia.

Other drivers of deforestation – bauxite mining in Western Australia

While the assessment did not find mining to be a significant national driver of primary or secondary deforestation (representing only 2% of deforestation recorded in NGGI data between 2016 and 2020), the sector's land use, particularly in ecologically important areas, is increasingly subject to media scrutiny and civil society investigation.

According to the WA Forest Alliance, bauxite mining contributed 62.5% of deforestation in Western Australia's tall and medium forests between 2010 and 2020.[178] Bauxite-driven deforestation in vulnerable forests has accelerated over the last decade and is expected to continue as Australia maintains its position as the leading global producer of bauxite.[179] The Northern Jarrah Forest in Western Australia's South West is recognised by Conservation International as a global biodiversity hotspot.[180] Up to December 2019, bauxite mining has driven the clearing of over 32,000 hectares of forest in total, with 11,290 hectares of that cleared between 2010 and 2020. This has also fragmented between 92,000 and 120,000 hectares of forest.[181] The Intergovernmental Panel on Climate Change (IPCC) identifies the Northern Jarrah Forest as vulnerable to collapse or transition from climate pressures, and its capacity to adapt is weakened by deforestation and degradation.[182]

Prevalence of illegal logging in Australia

While logging in Australia is regulated, there is still evidence of illegal logging in Australia.

For example, in the forestry sector, the Victorian state-owned forestry business, VicForests, that is currently authorised to log allocated zones of native forests, has been found in breach of logging regulations over the past five years. An audit of VicForests' activities, found that logging had occurred and was planned for areas outside of allocated coupes.[183]

As such, despite Australia having a relatively higher level of regulation than other global deforestation fronts, investors need to be cognizant that there are still risks in Australia of deforestation being not complaint with state and federal laws, particularly in the forestry sector.

Corporate engagement and advocacy

Engagement with clients and investees is a critical tool for financial institutions to use in communicating their expectations for management of nature and biodiversity and in mitigating deforestation risk. Financial institutions also have a role to play in shaping the direction and movement of industry and government action on deforestation through advocacy. Financial institutions should:

Recommendation 6: Actively communicate expectations for vegetation management to Australian clients in deforestation and degradation-risk sectors.

- Communicate expectations for vegetation management to clients and investees in high-risk sectors, through industry events, policy frameworks and regular communications.
- If adopted, communicate zero deforestation targets and the expectations of clients with regard to their vegetation management activities in relation to the target.

Recommendation 7: Engage with highest risk clients in Australian deforestation and degradation risk sectors, and associated value chains.

In addition to questions set out in existing guidance documents, in engaging with Australian companies in deforestation and degradation risk sectors, financial institutions should ask the following:

- What processes do you have in place to ensure your compliance with state and federal laws relating to vegetation clearing, and in particular the EPBC Act referral processes?
- How do you apply the mitigation hierarchy to your operations, and how do you ensure the use of offsets is appropriate?
- What metrics and targets do you use to assess and track your impact on vegetation, and any subsequent impact on threatened and endangered species?
- Are you involved in any lobbying or advocacy relating to the relaxation of state or federal environmental protections?

Financial institutions should also consider engaging with industry collectives, such as the Australian Sustainable Beef Roundtable, to understand industry wide initiatives to mitigate risk.

Recommendation 8: Engage with federal and state governments on regulatory reform to improve management of deforestation and degradation risk as well as biodiversity risks more broadly.

Priorities for advocacy include but are not limited to:

- Establishing a more accurate and appropriate national dataset for monitoring deforestation, degradation and biodiversity loss more wisely, modelled on the Queensland SLATS; and
- Supporting the reform of the national EPBC Act and actions at both the state and federal level to strengthen Australia's regulation of environmental impact and compliance with the national EPBC Act.

Monitoring and disclosure

Financial institutions should monitor deforestation risk on an ongoing basis and should report on progress annually. Financial institutions should:

Recommendation 9: Review existing screening criteria and due diligence processes and confirm they apply to high-risk sectors and regions within Australia.

- Review existing screening to ensure that they adequately capture relevant deforestation activities in Australia. For example, financial institutions may choose to require Australian companies in deforestation and degradation-risk sectors to answer additional screening questions prior to the provision of a credit line, to reduce risk that credit is used to enable deforestation.
- Review scope of ongoing due diligence relating to deforestation risk and consider broadening to include coverage of high-risk clients within Australia.
- Consider whether existing due diligence requirements for high-risk sectors or regions are appropriate in the Australian context. For example, avoid requiring certification schemes which are only available in South America or relying on certification schemes that lack broad recognition or stakeholder support. Due diligence should also take regional and local circumstances into consideration, such as the higher amount of deforestation occurring in Queensland relative to the rest of Australia.
- If issuing sustainability linked loans or green bonds, ensure adequate safeguards are in place to mitigate risks of fraud and greenwashing.

Use of the mitigation hierarchy – consideration of offsets

Use of biodiversity offsets in Australia is relatively common and is permissible under both federal and state environment policies. The Australian Government is in the process of establishing a biodiversity market, comprising both certificates. Used appropriately, offsets are an important mechanism through which companies can compensate for unavoidable environmental impact. However, within Australia offsets have often been used by default, rather than as a last resort to offset unavoidable impact.

The mitigation hierarchy is a concept widely used across different applications such as the mitigation of climate change, biodiversity, and environmental impacts. Companies should refer to the mitigation hierarchy in any decisions around deforestation and forest degradation, looking to first reduce impact, then mitigate impact, then participate in rehabilitation or regeneration before looking to the use of offsets.

Mitigation hierarchy

Next steps for Australian companies in deforestation and forest degradation risk sectors

As deforestation comes under increasing scrutiny from financial institutions, companies in deforestation and degradation-risk sectors and value chains will come under greater scrutiny. To minimise their exposure to physical and transition risks and to maintain access to capital, companies in these sectors should assess their connection to deforestation and degradation and begin actively managing identified risks.

Key actions for Australian companies in deforestation and degradation-risk sectors

- Understand your link to deforestation, degradation and broader vegetation clearing activities
- Quantify the scale of your impact, considering total area cleared and the associated carbon and biodiversity impacts of clearing
- Utilise technology such as geospatial technology to quantify impacts such as forest degradation that are difficult to interpret using traditional methods
- Set a clear commitment with appropriate cut-off date and establish a science-based policy on deforestation, degradation and broader vegetation clearing
- Establish governance and accountability for the management of nature and biodiversity risk
- Build internal and supply chain capability on deforestation, degradation and broader land clearing through targeted training
- Use the mitigation hierarchy to achieve net positive impacts on nature and to guide the use of offsets as a last resort
- Monitor and track performance over time, and disclose publicly against targets annually
- Organisations in high-risk value chains should consider use of credible certification as a potential risk mitigant
- Collaborate with other sector and value chain participants to find solutions to shared challenges such as data availability
- Look for opportunities to enhance supply chain transparency and traceability
- Engage with affected rights holders and environmental groups and provide grievance mechanisms

Appendix A Detailed methodology for mapping financial flows

In order to map the flow of capital into high deforestation risk companies operating in Australia, EY took a two-step approach.

Step 1: Identification of high deforestation risk companies operating in Australia

EY used the NGGI dataset (released in May 2022) and a broader literature search to identify sectors of the Australian economy linked to deforestation. The LULUCF dataset within the NGGI data pack identifies the amount of deforestation occurring in each land use region between 2016 and 2020. Using the ALUM classification guidance,[184] EY attributed the land use regions with highest rates of deforestation as per the NGGI LULUCF dataset to the relevant sector of the Australian economy. EY then used the land use, land use change, and forestry (LULUCF) data (from Australia's National Greenhouse Accounts broken down into land use regions (based on the ALUM Classification system) to identify the top land use regions in Australia that were driving deforestation between 2016 and 2020. Limitations of this data are set out in the executive summary on page 3.

EY conducted a review of publicly available information to identify publicly listed companies operating within high deforestation risk sectors within Australia. This included both Australian companies, and foreign companies with operations in Australia. EY sought to focus on publicly listed companies due to the inconsistent, and often limited information on privately owned organisations.

In total, this report analysed a total of 13 publicly listed companies comprising four companies in the beef and sheep sector, four companies in the cropping sector, three companies in the forestry sector, and two companies in the land development sector.

Step 2: Analysis of capital flows into high deforestation risk companies

After identifying the high deforestation risk companies, EY used Refinitiv Eikon to extract information on the way that these companies are being financed, as well as their accompanying financiers. There are a number of ways that financiers can finance and invest in a company. The analysis in this report focussed on the following:

- **Corporate and syndicated loans:** Loans are money borrowed by a company and can used to finance a particular project, fund the acquisition of another company or expansion, or to support day to day operations. Syndicated loans are a specific type of corporate loan, that due to the size and term of the loan, are funded by more than one bank. The terms of a syndicated loan vary greatly between loans, but banks usually receive fees as part of their service for arranging the loan and/or providing funds.
- **Bond issuances:** In order to issue bonds, a company will require the services of an underwriter or underwriters who will underwrite a certain number of the bonds to be issued, which is essentially buying and guaranteeing the sale of the bonds. In the event that a bond is not sold by the underwriter, the underwriter will own the bond. EY has not considered the investors to whom underwriters are selling the bonds due to the lack of available data. EY has similarly not assessed secondary bond markets due to limited publicly available information.
- **Share issuances:** Shares can be issued by companies on a stock exchange in order to raise funds. Similar to bonds, shares are underwritten by investment banks, which buy the shares initially and find shareholders to sell to. EY has not considered the investors to whom underwriters are selling the shares under the share issuance finance type.
- **Shareholdings:** Shares of a company that an investor owns are known as their shareholdings. By owning shares in a company, the investor becomes a part owner of that company until they sell their shares. Owning shares of a company gives the investor direct influence on the company's strategy, which varies based on the number of shares held. For significant shareholdings held by institutional investors and banks, the amount of influence that they can have over a company's strategy can be significant.

The assessment considered outstanding bonds and loans, current shareholdings as of 1 July 2022 and all share issuances. It should also be noted that due to the lack of available data, the secondary bond market has not been considered, but EY recognises that bonds issued by high deforestation risk companies purchased on the secondary market can form a substantial portion of a financier's portfolio.

The assessment did not assess which specific on-ground activities the identified finance supported. Several of the companies assessed are multinationals with local subsidiaries operating in Australia. To the extent possible, EY has assessed flows into local Australian subsidiaries, but where data was not available, EY has assessed flows into the group as a whole.

Apportionment of bank and underwriter contributions

Individual bank and underwriter contributions to loans and shares or bond issuances have been extracted from Refintiv Eikon where the information is available. However, typically only the total loan or issuance amount is known along with the fees for each bank, with no details regarding individual contributions or commitments for each bank.

If individual contributions or commitments for each bank are not known, then it is calculated as a proportion of the total fees collected by all participants (as detailed in below). This approach is based on the approach taken by other groups performing similar analysis, such as Forest and Finance.[185]

$$Contribution\ by\ Bank\ X = \frac{Fees\ collected\ by\ Bank\ X}{Total\ fees\ collected\ by\ all\ participants} \times (total\ loan\ or\ issuance\ amount)$$

If fee data was missing or incomplete, the contributions by banks were first divided into two groups. The first group is the contribution apportioned to bookrunners (administrators of the loan or issuance), and the second group is the contribution apportioned to other participants. The apportioning is done based on a bookratio based on the calculation detailed below.

$$Bookratio = \frac{(number\ of\ participants) - (number\ of\ bookrunners)}{(number\ of\ bookrunners)}$$

Based on the bookratio, Table 3 below details the contribution to the loan or issuance apportioned to bookrunners.

Table 3: Apportionment to bookrunner groups based on bookratio[186]

Bookratio	Loans	Issuances
>1/3	75%	75%
>2/3	60%	75%
>1.5	40%	75%
>3.0	$\frac{1}{\frac{\sqrt{Bookratio}}{1.443375673}}$	$\frac{1}{\frac{\sqrt{Bookratio}}{1.443375673}}$

The amount apportioned to the bookrunner group and other participants group are then divided equally by the number of participants in that respective group.

Appendix B Breakdown of capital flows of top 5 country by finance type (including Europe)

Table 4: Breakdown of capital flows of top 5 country by finance type (including Europe)

Bonds		
Country	**%**	**$ (USD)**
USA	27%	$9.1b
Canada	21%	$7.1b
United Kingdom	16%	$5.5b
Japan	9%	$3b
Brazil	6%	$2b

Loans		
Country	**%**	**$ (USD)**
USA	30%	$6.6b
Japan	20%	$4.4b
Australia	11%	$2.4b
United Kingdom	7%	$1.6b
Singapore	6%	$1.3b

Shareholding		
Country	**%**	**$ (USD)**
USA	54%	$37.0b
Brazil	10%	$7.0b
Singapore	8%	$5.9b
Canada	7%	$4.9b
United Kingdom	4%	$2.6b

Share issuances[22]		
Country	**%**	**$ (USD)**
Switzerland	49%	$6.5b
USA	14%	$1.8b
Brazil	7%	$0.9b
Singapore	4%	$0.5b
Australia	4%	$0.5b

[22] Note that based on data extracted from Refinitiv, financiers of approximately 9% of all funds attributed to share issuances were not available. However, the figures quoted in Table 4 take into account the funds from unknown financiers.

Appendix C Selection of global certification schemes that cover deforestation risk commodities

Table 5: Selection of global certification schemes which cover deforestation risk commodities

Description		Used in Australia	Australian deforestation risk commodities				Additional global deforestation risk commodities				
			Livestock	Cropping	Forestry	Mining	Coffee	Cocoa	Palm oil	Biofuels	Soy
FSC Forest Stewardship Council®	*The FSC develops forestry standards based on 10 principles and 56 associated criteria; FSC accreditation programs that are facilitated by independent accredited bodies.*[187]	✓	X	X	✓	X	X	X	X	X	X
	The Rainforest Alliance Sustainable Agriculture Standard developed as part of the 2020 Certification Program; includes separate Farm and Supply Chain requirements with binding annexes (must be complied with in order to be certified) and non-binding guidance. Structured around four themes: livelihoods, human rights, climate, and forests and biodiversity, and 6-7 thematic chapters with indicators.[188]	✓	X	✓	✓	X	✓	✓	X	X	X
PEFC	*Global alliance of national forest certification systems, including Responsible Wood in Australia and New Zealand. Certifies forest management aligned to 6 criteria with relevant indicators, and chain of custody to four main requirements: management systems, identification of inputs and declaration of outputs, chain of custody methods and due diligence systems.*[189]	✓	X	X	✓	X	X	X	X	X	X
SUSTAINABLE FORESTRY INITIATIVE	*Four certification standards: Forest management, fibre sourcing, chain of custody, and certified sourcing. The standards are based on a number of principles, objectives, performance measures and indicators.*[190]	✓	X	X	✓	X	X	X	X	X	X
ISCC	*Global sustainability certification system across energy, industrial applications and food and feed, with the objective of promoting fully traceable and deforestation-free supply chains with environmental, ecological and emissions monitoring criteria (ISCC: PLUS, EU, CORSIA, Solid Biomass NL, Non-GMO).*[191] *These certificates are achieved through accreditation with recognised certification bodies.*	✓	X	✓	X	X	X	X	✓	✓	✓
FAIRTRADE	*Certification developed in line with FairTrade standards and economic, environmental and social criteria. They provide standards related to small-scale producer organisations, hired labour organisations, contract production, traders, climate, textiles and gold and associated precious metals.*[192]	✓	X	✓	X	✓	✓	✓	X	X	✓

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Description		Used in Australia	Australian deforestation risk commodities				Additional global deforestation risk commodities				
			Livestock	Cropping	Forestry	Mining	Coffee	Cocoa	Palm oil	Biofuels	Soy
ProTerra FOUNDATION	*Based on the Basel Criteria on Responsible Soy and aligned to 10 principles and various criteria indicators, focused on non-GMO food and feed agricultural commodities. The standard addresses land use and forest conversion amongst its indicators.*[193]	X	X	✓	X	X	X	X	✓	X	✓
RSPO Roundtable on Sustainable Palm Oil	*Offers certification for the sustainable growth and production of oil palm, and sustainable palm oil supply chains, and a simplified standard for smallholders. One of its core impact goals is to conserve, protect and enhance ecosystems.*[194]	X	X	X	X	X	X	X	✓	X	X

The forgotten front: financing deforestation risk sectors in Australia

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Appendix D Stakeholders interviewed

The following stakeholders were interviewed during the presentation of the report. The findings in this report have not been reviewed or endorsed by these stakeholders.

Table 6: Stakeholders interviewed

Organisation	Interviewee
The Wilderness Society	Tim Beshara, Adele Chasson, Amelia Young, Tom Allen, Patrick Gardner, Richard Hughes, Gemma Plesman, Rachel Fletcher
University of New South Wales	Dr Megan Evans
Global Witness	Giulia Bondi
University of Queensland's School of Earth and Environmental Sciences	Dr Martin Taylor (Adjunct Senior Lecturer)
Rabobank	Organisational representatives
Department of Agriculture, Fisheries and Forestry - Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)	Dr Jane Stewart, Dr Steve Read
Department of Climate Change, Energy, the Environment and Water - National Inventory Systems and International Reporting	Department officials
Cadman & Norwood Environmental Consultancy	Sean Cadman
Australian Ethical	Amanda Richman
National Farmers Federation	Organisational representatives

Endnotes

[1] Australian Council of Superannuation Investors. (2021). *Biodiversity: Unlocking natural capital value for Australian Investors*.

[2] Australian Collaborative Land Use and Management Program Partners. (2016). *The Australian Land Use and Management Classification* (Version 8). Australian Government. https://www.agriculture.gov.au/sites/default/files/abares/aclump/documents/ALUMCv8_Handbook4ednPart2_UpdateOctober2016.pdf

[3] Hannam. P., Morton. A., (2022). *Australia's climate data to UN questioned as study finds land clearing in Queensland underreported*. The Guardian.

https://www.theguardian.com/australia-news/2022/may/19/australias-climate-data-to-un-questioned-as-study-finds-land-clearing-in-queensland-underreported

[4] Global Forest Watch. (n.d.). Global Deforestation Rates & Statistics by Country. https://www.globalforestwatch.org/dashboards/global/?category=forest-change&faoDeforest=eyJwYWdlIjowfQ%3D%3D&location=WyJnbG9iYWwiXQ%3D%3D&map=eyJkYXRhc2V0cyI6W3siZGF0YXNldCI6InBvbGl0aWNhbC1ib3VuZGFyaWVzIiwibGF5ZXJzIjpbImRpc3B1dGVkLXBvbGl0aWNhbC1ib3VuZGFyaWVzIiwicG9saXRpY2FsLWJvdW5kYXJpZXMiXSwiYm91bmRhcnkiOnRydWUsIm9wYWNpdHkiOjEsInZpc2liaWxpdHkiOnRydWV9LHsiZGF0YXNldCI6Ik5ldC1DaGFuZ2UtU1RBR0lORyIsImxheWVycyI6WyJmb3Jlc3QtbmV0LWNoYW5nZSJdLCJvcGFjaXR5IjoxLCJ2aXNpYmlsaXR5Ijp0cnVlLCJwYXJhbXMiOnsidmlzaWJpbGl0eSI6dHJ1ZSwiYWRtX2xldmVsIjoiYWRtMCJ9fV19&showMap=true

[5] Kasaro. D., Phiri. E., Nyambe. I. (2019). *Deforestation impact on ecosystem services in Kamfinsa sub-catchment of Kafue River Basin in Zambia*. ResearchGate.

https://www.researchgate.net/publication/335243631_Deforestation_impact_on_ecosystem_services_in_Kamfinsa_sub-catchment_of_Kafue_River_Basin_in_Zambia

[6] IUFRO_Kapitel_1_KORR_2.indd (usda.gov)

[7] Climate Council. (2018). *Icons at Risk: Climate Change Threatening Australian Tourism*. https://www.climatecouncil.org.au/uploads/964cb874391d33dfd85ec959aa4141ff.pdf

[8] Ramage.M, Burridge. H. C, Wicher. M, Fereday. G. (2017). *The wood from the trees: The use of timber in construction* (333-359). Renewable and Sustainable Energy Reviews – ResearchGate.

https://www.researchgate.net/publication/309170593_The_wood_from_the_trees_The_use_of_timber_in_construction

[9] 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

[10] Roser. M., Ritchie. H. (2020). *Deforestation and Forest Loss*. Our World in Data.

https://ourworldindata.org/deforestation

[11] Roser. M., Ritchie. H. (2020). *Deforestation and Forest Loss*. Our World in Data.

https://ourworldindata.org/deforestation

[12] Roser. M., Ritchie. H. (2021). Drivers of *Deforestation*. Our World in Data.

https://ourworldindata.org/drivers-of-deforestation#citation

[13] Southern Forest Resource Assessment. (2007). *Recreation/Tourism Sectors*. (Chp. 10, Socio-5). U.S. Department of Agriculture.

https://srs.fs.usda.gov/sustain/report/socio5/socio5-11.htm#:~:text=SFRA%20Chapter%2010%20%28SOCIO-5%29%20-%20Local%20Economic%20Impacts,and%20induced%20effects%20of%20forest-based%20recreation%20in%201997.

[14]Science Based Targets Network. (2020). *Science-Based Targets for Nature: Initial Guidance for Business*.

https://sciencebasedtargetsnetwork.org/wp-content/uploads/2020/09/SBTN-initial-guidance-for-business.pdf

[15] Carbon Disclosure Project. (2016). *Revenue at Risk: Why Addressing Deforestation is Critical to Business Success*.

https://cdn.cdp.net/cdp-production/cms/reports/documents/000/001/328/original/CDP_2016_forests_report.pdf?1482313940

[16] Australian Council of Superannuation Investors. (2021). *Biodiversity: Unlocking natural capital value for Australian Investors*.

https://acsi.org.au/wp-content/uploads/2021/11/ACSI-Biodiversity-Research-Report.Nov21_Final.pdf

[17] Task Force on Climate-Related Financial Disclosures. (2022). *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework*. (Beta v0.1 Release).

[18] Australian Council of Superannuation Investors. (2021). *Biodiversity: Unlocking natural capital value for Australian Investors*.

https://acsi.org.au/wp-content/uploads/2021/11/ACSI-Biodiversity-Research-Report.Nov21_Final.pdf

[19] Dominguez-Delmas. M., (2020). *Seeing the Forest for the Trees: New approaches and challenges for dendroarchaeology in the 21st century*. (62:125731). ResearchGate.

342654217_Seeing_the_forest_for_the_trees_New_approaches_and_challenges_for_dendroarchaeology_in_the_21st_century

[20] Task Force on Climate-Related Financial Disclosures. (2022). *The TNFD Nature-related Risk & Opportunity Management and Disclosure Framework*. (Beta v0.1 Release).

https://framework.tnfd.global/wp-content/uploads/2022/06/TNFD-Full-Report-Mar-2022-Beta-v0-1.pdf

[21] CFA Institute. (2022). *Systemic Risk & Management in Finance* [CFA Institute].

https://www.cfainstitute.org/en/advocacy/issues/systemic-risk#sort=%40pubbrowsedate%20descending

[22] Mammadova. A., Behagel. J., Masiero. M., Pettenella. D. (2022). *Deforestation as a Systemic Risk: The Case of Brazilian Bovine Leather*. Wageningen University & Research.

https://research.wur.nl/en/publications/deforestation-as-a-systemic-risk-the-case-of-brazilian-bovine-lea

[23] Dominguez-Delmas. M., (2020). Seeing the Forest for the Trees: New approaches and challenges for dendroarchaeology in the 21st century. (62:125731). ResearchGate.

342654217_Seeing_the_forest_for_the_trees_New_approaches_and_challenges_for_dendroarchaeology_in_the_21st_century

[24] Australian Council of Superannuation Investors. (2021). *Biodiversity: Unlocking natural capital value for Australian Investors*.

https://acsi.org.au/wp-content/uploads/2021/11/ACSI-Biodiversity-Research-Report.Nov21_Final.pdf

[25] Global Witness. (2019). *Money to Burn: how iconic banks and investors fund destruction of rainforests*.

https://www.globalwitness.org/en/campaigns/forests/money-to-burn-how-iconic-banks-and-investors-fund-the-destruction-of-the-worlds-largest-rainforests/

[26] Australian Council of Superannuation Investors. (2021). *Biodiversity: Unlocking natural capital value for Australian Investors*.

https://acsi.org.au/wp-content/uploads/2021/11/ACSI-Biodiversity-Research-Report.Nov21_Final.pdf

[27] Nelsen, A. (2021). *EU biofuels goals seen behind deforested area as big as the Netherlands*. Reuters.

https://www.reuters.com/article/us-biofuels-deforestation-europe-idUSKCN2EB0B9

[28] Global Canopy. (2022). *The hidden human rights abuses linked to deforestation*.

https://globalcanopy.org/insights/insight/the-hidden-human-rights-abuses-linked-to-deforestation/

[29] UN General Assembly. (2007). *United Nations Declaration on the Rights of Indigenous Peoples.* United Nations. https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

[30] UN Environment Programme. (2021). *How indigenous knowledge can help prevent environmental crises*. United Nations.

https://www.unep.org/news-and-stories/story/how-indigenous-knowledge-can-help-prevent-environmental-crises

[31] UN Climate Conference of the Parties. (2021). *Glasgow Leaders' Declaration on Forests and Land Use*. https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use

[32] Li. B., Schneider. T., Stolle. F., Veldhoven. S. (2022). *How a New EU Regulation Can Reduce Deforestation Globally*. World Resources Institute.

https://www.wri.org/insights/eu-deforestation-regulation

[33] Jong. N. (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/#:~:text=This%20year%2C%20Norway%20will%20pay%20Indonesia%20%2456%20million,will%20turn%20into%20a%20carbon%20sink%20by%202030.

[34] VPA Africa-Latin America. (2022). *Ghana - VPA Facility*.
https://flegtvpafacility.org/countries/ghana/background/

[35] European Commission. (2022). *Timber Regulation*

https://ec.europa.eu/environment/forests/timber_regulation.htm

[36] European Commission. (2022). *EU taxonomy for sustainable activities*

https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en

[37] European Commission. (2022). *EU taxonomy for sustainable activities*

https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en

[38] Platform on Sustainable Finance. (2022). *Technical Working Group, Part A: Methodological Report*. https://finance.ec.europa.eu/system/files/2022-04/220330-sustainable-finance-platform-finance-report-remaining-environmental-objectives-taxonomy_en.pdf

[39] Official Journal of the European Union. (2021). *Regulations.* The European Commission.

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R2139&from=EN

[40] European Commission. (2022). *Sustainability-related disclosure in the financial services sector*.

https://finance.ec.europa.eu/sustainable-finance/disclosures/sustainability-related-disclosure-financial-services-sector_en

[41] European Parliament. (2022). *Sustainable economy: Parliament adopts new reporting rules for multinationals* [European Parliament]

https://www.europarl.europa.eu/news/en/press-room/20221107IPR49611/sustainable-economy-parliament-adopts-new-reporting-rules-for-multinationals

[42] European Commission. (2022). *Corporate sustainability due diligence*.

https://ec.europa.eu/info/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence_en

[43] European Parliament. (2022). *Deal on new law to ensure products causing deforestation are not sold in the EU.* https://www.europarl.europa.eu/news/en/press-room/20221205IPR60607/deal-on-new-law-to-ensure-products-causing-deforestation-are-not-sold-in-the-eu

European Climate. (2022). *Climate change: new rules for companies to help limit global deforestation*.

https://www.europarl.europa.eu/news/en/press-room/20220909IPR40140/climate-change-new-rules-for-companies-to-help-limit-global-deforestation

[44] International Institute for Sustainable Development. (2022). EU Paves Way for Landmark Deforestation-free Products Regulation. *https://sdg.iisd.org/news/eu-paves-way-for-landmark-deforestation-free-products-regulation/#:~:text=Commentators%2520have%2520described%2520the%2520EU%2520regulation%2520as%2520a,deforestation%252C%2520moving%2520from%2520voluntary%2520initiatives%2520towards%2520mandatory%2520legislation.*

[45] WWF. (2022). *European Parliament votes for a strong EU Deforestation law*. WWFCEE.

https://www.wwf.eu/?7534916/European-Parliament-votes-for-a-strong-EU-Deforestation-law

[46] European Parliament. (2022). *Deal on new law to ensure products causing deforestation are not sold in the EU.* https://www.europarl.europa.eu/news/en/press-room/20221205IPR60607/deal-on-new-law-to-ensure-products-causing-deforestation-are-not-sold-in-the-eu

[47] Butler. J. (2022). *Australian farmers fear exports could be hurt by new EU land-clearing laws.* The Guardian.

https://www.theguardian.com/australia-news/2022/sep/16/australian-farmers-fear-exports-could-be-hurt-by-new-eu-land-clearing-laws

[48] Foley. M. (2022). *Aussie farmers fear export beef after Europe's land-clearing crackdown*. Sydney Morning Herald.

https://www.smh.com.au/politics/federal/aussie-farmers-fear-export-beef-after-europe-s-land-clearing-crackdown-20220915-p5bidj.html

[49] Foley. M. (2022). *Farmers told to beef up green credentials to trade with Europe.* Sydney Morning Herald. https://www.smh.com.au/politics/federal/farmers-told-to-beef-up-green-credentials-to-trade-with-europe-20230116-p5ccub.html

[50] European Commission. (2021). *Trade Sustainability Impact Assessment in support of the FTA negotiations between the European Union and Australia*.
https://trade.ec.europa.eu/doclib/docs/2021/july/tradoc_159745.pdf

[51] Department of Foreign Affairs and Trade. (2022). *Australia-UK FTA Chapter 22 Environment*. DFAT. https://www.dfat.gov.au/trade/agreements/not-yet-in-force/aukfta/official-text/australia-uk-fta-chapter-22-environment#article-22-6-environmental-goods-and-services

[52] UK Legislation. (2021). *Environment Act 2021.Environment Act 2021*. UK Parliament.

https://www.legislation.gov.uk/

[53] United States Code. (2015). *Title 16 - CONSERVATION*. U.S. Government

https://www.govinfo.gov/content/pkg/USCODE-2009-title16/html/USCODE-2009-title16.htm

[54] Lee. Y. (2014). *The Lacey Act Amendments of 2008: The World's First Ban on Illegal Logging Combats Deforestation But Gets Stumped by Foreign Laws*. (Vol. 5). University of San Diego.

https://digital.sandiego.edu/jcel/vol5/iss1/8/

[55] U.S. Congress. (2021). *S.2950 - FOREST Act of 2021*. U.S. Government.
https://www.congress.gov/bill/117th-congress/senate-bill/2950/text?r=2&s=2

[56] U.S. Congress. (2021). *Fossil Free Finance Act*. (H.R. 5253). U.S. Government.
https://www.govtrack.us/congress/bills/117/hr5253

[57] U.S. Congress. (2021). *Fossil Free Finance Act*. (H.R. 5253). U.S. Government.
https://www.govtrack.us/congress/bills/117/hr5253

[58] Forests and Finance. (2022). TNFD Greenwash Risks. Latest draft shows that TNFD's reputation as 'the next frontier in corporate greenwashing on nature' remains solidly intact - Forests & Finance (forestsandfinance.org)

[59] United Nations Environment Program. (2022). *UN Biodiversity Conference (COP 15)*.
https://www.unep.org/events/conference/un-biodiversity-conference-cop-15

[60] United Nations Environment Program Finance Initiative. (2022). *150 financial institutions, managing more than $24 trillion, call on world leaders to adopt ambitious Global Biodiversity Framework at COP15*.
https://www.unepfi.org/themes/ecosystems/cop15statement

[61] United Nations Environment Program Finance Initiative. (2022). *'Moving together on nature': Statement from the Private Financial Sector to the Conference of the Parties to the Convention on Biological Diversity*.
https://dwtyzx6upklss.cloudfront.net/Uploads/u/h/u/cop15_statement_from_the_financial_sector_signatories_456325.pdf

[62] Business for Nature. (2022). *Make it Mandatory campaign*. https://www.businessfornature.org/make-it-mandatory-campaign

[63] Binnie. I. (2022) *Global sustainability rules body steps up focus on biodiversity*. Reuters.
https://www.reuters.com/article/global-environment-summit-finance-standa-idCAL8N3336HE

[64] Plibersek. T. (2022). *Australia and the United States to work together on measuring the economic value of nature*. Department of Climate Change, Energy, the Environment and Water.
https://minister.dcceew.gov.au/plibersek/media-releases/media-statement-australia-and-united-states-work-together-measuring-economic-value-nature

[65] Forestry Australia. (n.d). Forest Certification. https://www.forestry.org.au/forest-certification/

[66] Greenpeace International. (2021). *Destruction Certified*. Green Peace.
https://www.greenpeace.org/international/publication/46812/destruction-certified/

[67] Manjoo. F. (2022). *BlackRock, Vanguard and State Street Control a Piece of Nearly Everything*. The New York Times
https://www.nytimes.com/2022/05/12/opinion/vanguard-power-blackrock-state-street.html

[68] Conant. J., Madan. J., (2020). *Doubling Down on Deforestation*. Friends of the Earth Australia.
https://foe.org/wp-content/uploads/2020/09/DD_Deforestation.pdf

[69] United Nations. (1973). *Report of the United Nations Conference on the Human Environment*.
https://digitallibrary.un.org/record/523249?ln=en

[70] Rakotonirina. M., Jeng. F., Omugar. T., Lebea. C. (2017). *New York Declaration on Forests*. United Nations.
https://unfccc.int/documents/16928

[71] Forest 500. (2021). *2021 Annual Report*. Global Canopy.
https://forest500.org/reports

[72] Global Witness. (2021). *COP26 Glasgow Leaders' Declaration on Forests and Land Use risks being a reiteration of previous failed commitments on deforestation*.
https://www.globalwitness.org/en/press-releases/cop26-glasgow-leaders-declaration-on-forests-and-land-use-risks-being-a-reiteration-of-previous-failed-commitments-on-deforestation/

[73] Climate Focus. (2022). *Forest Declaration Assessment: are we on track for 2030?*.
https://climatefocus.com/publications/forest-declaration-assessment-are-we-on-track-for-2030/

[74] Banktrack. (2020). Soft Commitments, Hard Lessons: an analysis of the Soft Commodities Compact.
https://www.banktrack.org/download/soft_commitments_hard_lessons_an_analysis_of_the_soft_commodities_compact/201130_scc_report_3.pdf

[75] Cooper. B. (2020). *Why new industry deforestation coalition could be positive move*. Just Food.
https://www.just-food.com/analysis/why-new-industry-deforestation-coalition-could-be-positive-move/

[76] Climate Champions. (2022). *Tackling Deforestation and Scaling Nature-based Solutions*. UNFCC.
https://climatechampions.unfccc.int/system/nature-and-tackling-deforestation/

[77] Food and Agriculture Organization. (2020). *Global Forest Resources Assessment 2020*. United Nations.

https://www.fao.org/forest-resources-assessment/2020/en/

[78] Forest 500. (2021). *2021 Annual Report*. Global Canopy.
https://forest500.org/reports

[79] Global Witness. (2019). *Money to Burn: how iconic banks and investors fund destruction of rainforests*.
https://www.globalwitness.org/en/campaigns/forests/money-to-burn-how-iconic-banks-and-investors-fund-the-destruction-of-the-worlds-largest-rainforests/

[80] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government.
https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[81] Department of Climate Change, Energy, the Environment and Water. (n.d.). *Data on Australia's greenhouse gas emissions*. https://ageis.climatechange.gov.au/

[82] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government.
https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[83] Department of Agriculture, Fisheries and Forestry. (n.d.). *Australia's State of the Forests Report 2018*.
https://www.agriculture.gov.au/abares/forestsaustralia/australias-forests/profiles/australias-forests-2019;

[84] OECD. (2019, January 30). *OECD Environmental Performance Reviews: Australia 2019*.
https://doi.org/10.1787/9789264310452-en

[85] The Guardian. (2022). We need a breakthrough deal on biodiversity': can Montreal summit deliver for nature?. https://www.theguardian.com/environment/2022/nov/27/biodiversity-montreal-summit-nature-earth-wildlife-canada?CMP=Share_AndroidApp_Other

[86] Murphy, H., & van Leeuwen, S. (2021). *Australia State of the Environment 2021: biodiversity*.
https://soe.dcceew.gov.au/sites/default/files/2022-07/soe2021-biodiversity.pdf

[87] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government.
https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[88] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government.
https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[89] OECD. (2019, January 30). *OECD Environmental Performance Reviews: Australia 2019*.
https://doi.org/10.1787/9789264310452-en

[90] Critical Ecosystem Partnership Fund. (n.d.). *Biodiversity Hotspots*. https://www.cepf.net/our-work/biodiversity-hotspots

[91] Chazdon, R., Brancalion, P., Laestadius, L., Bennet-Curry, A., Buckingham, K., Kumar, C., Moll-Rocek, J., Vieira, I., & Wilson, S. (2016). When is a forest a forest? Forest concepts and definitions in the era of forest and landscape restoration. *Ambio*, 45(5), 538-550. https://link.springer.com/article/10.1007/s13280-016-0772-y

[92] Food and Agriculture Organization. (2022). *The State of the World's Forests 2022: Chapter 2 Forests and trees provide vital goods and ecosystem services but are undervalued in economic systems*. United Nations.
https://www.fao.org/3/cb9360en/online/src/html/deforestation-land-degradation.html#:~:text=According%20to%20the%20definition%20used,use%2C%20not%20in%20tree%20cover.

[93] Department of Industry, Science, Energy and Resources. (2022). *National Inventory Report 2020: The Australian Government Submission to the United Nations Framework Convention on Climate Change.* Australian Government. https://www.dcceew.gov.au/sites/default/files/documents/national-inventory-report-2020-volume-2.pdf

[94] Department of Environment, Land, Water and Planning. (2019). *Ecosystem services from forests in Victoria: Assessment of Regional Forest Agreement regions* [Fact sheet].
https://www.environment.vic.gov.au/__data/assets/pdf_file/0033/459573/Fact-sheet-Ecosystem-services-from-forests-in-Victoria.pdf

[95] Australian Council of Superannuation Investors. (2021). *Biodiversity: Unlocking natural capital value for Australian investors*. https://acsi.org.au/wp-content/uploads/2021/11/ACSI-Biodiversity-Research-Report.Nov21_Final.pdf

[96] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government. https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[97] Keith, H., Vardon, M., Stein, J.A., Stein, J.L., & Lindenmayer, D. (2017). Ecosystem accounts define explicit and spatial trade-offs for managing natural resources. *Nature Ecology and Evolution, 1*(11), 1683-1692. https://doi.org/10.1038/s41559-017-0309-1

[98] Department of Environment, Land, Water and Planning. (2019). *Ecosystem services from forests in Victoria: Assessment of Regional Forest Agreements regions*. The State of Victoria. https://www.environment.vic.gov.au/__data/assets/pdf_file/0034/459574/Ecosystem-services-from-forests-in-Victoria-Assessment-of-Regional-Forest-Agreement-regions.pdf

[99] Lott, R., & Read, S. (2021). *Status of Australia's Forest Genetic Resources* 2021 (Research Report 21.15). Department of Agriculture, Water and the Environment, ABARES. https://www.agriculture.gov.au/sites/default/files/documents/status-australias-forest-genetic-resources-2021.pdf

[100] Samuel, G. (2020). *Independent Review of the EPBC Act – Final Report*. Department of Agriculture, Water and the Environment. https://epbcactreview.environment.gov.au/resources/final-report; Murphy, H., & van Leeuwen, Stephen. (2021). *Australia state of the environment 2021: biodiversity*. https://soe.dcceew.gov.au/sites/default/files/2022-07/soe2021-biodiversity.pdf

[101] Department of Climate Change, Energy, the Environment and Water. (n.d.). *National Reserve System*. https://www.dcceew.gov.au/environment/land/nrs

[102] Plibersek, Tanya. (2022). *National Press Club address*. https://minister.dcceew.gov.au/plibersek/speeches/national-press-club-address-minister-environment-and-water-tanya-plibersek

[103]Department of Climate Change, Energy, the Environment and Water. (2013). *EPBC Act – Frequently asked questions*. https://www.dcceew.gov.au/environment/epbc/publications/factsheet-epbc-act-frequently-asked-questions#:~:text=The%20EPBC%20Act%20provides%20a,matters%20of%20national%20environmental%20significance.

[104] Department of Climate Change, Energy, the Environment and Water. (2013). *EPBC Act – Frequently asked questions*. https://www.dcceew.gov.au/environment/epbc/publications/factsheet-epbc-act-frequently-asked-questions#:~:text=The%20EPBC%20Act%20provides%20a,matters%20of%20national%20environmental%20significance.

[105] Samuel, G. (2020). *Independent Review of the EPBC Act – Final Report*. Department of Agriculture, Water and the Environment. https://epbcactreview.environment.gov.au/resources/final-report

[106] Williams, K., Hunter, B., Schmidt, B., Woodward, E., & Cresswell, I. (2021). *Australia state of the environment 2021: land*. https://doi.org/10.26194/6EAM-6G50

[107] Samuel, G. (2020). *Independent Review of the EPBC Act – Final Report*. Department of Agriculture, Water and the Environment. https://epbcactreview.environment.gov.au/resources/final-report

[108] Department of Climate Change, Energy, the Environment and Water. (2022). *EPBC Act reform*. https://www.dcceew.gov.au/environment/epbc/epbc-act-reform https://web.archive.org/web/20221021005721/https://www.alp.org.au/policies/environmental-law-reform-and-a-national-environmental-protection-agency]

[109] Department of Agriculture, Fisheries and Forestry. (n.d.). *Regional Forest Agreements*. https://www.agriculture.gov.au/agriculture-land/forestry/policies/rfa

[110] Lindenmayer, D., Jelinek, A., & Sweeney, O. (2019). Regional Forest Agreements fail to meet their aims: species declines and unsustainable forestry evident under RFAs. *Austral Ecology*, 44(1), 181-183. https://onlinelibrary.wiley.com/doi/epdf/10.1111/aec.12605

[111] Lindenmayer, D., Jelinek, A., & Sweeney, O. (2019). Regional Forest Agreements fail to meet their aims: species declines and unsustainable forestry evident under RFAs. *Austral Ecology, 44*(1), 181-183. https://onlinelibrary.wiley.com/doi/epdf/10.1111/aec.12605

[112] Department of Climate Change, Energy, the Environment and Water. (n.d.). *Species Profile and Threats Database: Gymnobelideus leadbeateri – Leadbeater's Possum*. http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=273

[113] Department of Climate Change, Energy, the Environment and Water. (n.d.). *Species Profile and Threats Database: Lathamus discolor – Swift Parrot*. http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=744

[114] Sweeney, Q.F. (2016). Regional Forestry Agreements in NSW: have they achieved their aims? *The National Parks Association of NSW Inc.* https://npansw.org.au/wp-content/uploads/2016/10/139075-epa-national-parks-assoc-nsw-52pp-a4-rfa-report_printversion.pdf

[115] Sweeney, Q.F. (2016). Regional Forestry Agreements in NSW: have they achieved their aims? *The National Parks Association of NSW Inc*. https://npansw.org.au/wp-content/uploads/2016/10/139075-epa-national-parks-assoc-nsw-52pp-a4-rfa-report_printversion.pdf

[116] Sweeney, Q.F. (2016). Regional Forestry Agreements in NSW: have they achieved their aims? *The National Parks Association of NSW Inc*. https://npansw.org.au/wp-content/uploads/2016/10/139075-epa-national-parks-assoc-nsw-52pp-a4-rfa-report_printversion.pdf

[117] Commonwealth of Australia. (1995). *National Forest Policy Statement: A New Focus for Australia's Forests*. https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/forestry/australias-forest-policies/nat_nfps.pdf

[118] Pacheco, P., Mo, K., Dudley, N., Shapiro, A., Aguilar-Amuchastegui, N., Ling, P.Y., Anderson, C., & Marx, A., (2021). Deforestation Fronts: drivers and responses in a changing world. WWF. https://wwfint.awsassets.panda.org/downloads/deforestation_fronts___drivers_and_responses_in_a_changing_world___full_report_1.pdf

[119] Waterhouse, J., Schaffelke, B., Bartley, B., , Eberhard, R., Jon Brodie, J., Star, M., Thorburn, P., Rolfe, J., Ronan, M., Taylor, B., and Kroon, F. (2017). 2017 Scientific Consensus Statement. https://www.reefplan.qld.gov.au/__data/assets/pdf_file/0029/45992/2017-scientific-consensus-statement-summary.pdf

[120] The University of Queensland (2021, September 16). Reforestation could help save coral reefs from catastrophe. *UQ News*. https://www.uq.edu.au/news/article/2021/09/reforestation-could-help-save-coral-reefs-catastrophe

[121] Australian National University (2022, October 14). Stopping native forest logging key to getting to net zero in Australia. *Phys.org*. https://phys.org/news/2022-10-native-forest-key-net-australia.html

[122] Bradshaw, C.J.A. (2012). Little left to lose: deforestation and forest degradation in Australia since European colonisation. *Journal of Plant Ecology*, 5(1), 109-120.

[123] Bird, R.B., Bird, D.W., Codding, B.F., Parker, C.H., & Jones, J.H. (2008). The "fire stick farming" hypothesis: Australian Aboriginal foraging strategies, biodiversity, and anthropogenic fire mosaics. *PNAS, 105*(39), 14796-14801. https://www.pnas.org/doi/epdf/10.1073/pnas.0804757105

[124] Castles, I. (1990). *Year Book Australia* (Number 73). The Australian Bureau of Statistics Canberra. https://www.ausstats.abs.gov.au/ausstats/free.nsf/0/68F657F55DAB6077CA257AFA0010CC41/$File/13010_1990_bk73.pdf

[125] Bradshaw, C.J.A. (2012). Little left to lose: deforestation and forest degradation in Australia since European colonisation. *Journal of Plant Ecology*, 5(1), 109-120.

[126] Department of Climate Change, Energy, the Environment and Water. (n.d.). *Data on Australia's greenhouse gas emissions. https://ageis.climatechange.gov.au/*

[127] Butler. J. (2022). Australian farmers fear exports could be hurt by new EU land-clearing laws. *The Guardian*.

https://www.theguardian.com/australia-news/2022/sep/16/australian-farmers-fear-exports-could-be-hurt-by-new-eu-land-clearing-laws

[128] Taylor, M. and Fletcher, R. (2022). *What's at Steak: Deforestation for beef widespread in Queensland.*

[129] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government. https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[130] Lindenmayer, D. (2016). The importance of managing and conserving large old trees: a case study from Victorian mountain ash forests. *The Royal Society of Victoria, 128*, 64-70. https://www.publish.csiro.au/rs/pdf/rs16006

[131] Simmons, B.A., Law, E.A., Marcos-Martinez, R., Bryan, B.A., McAlpine, A., & Wilson, K.A. (2018). Spatial and temporal patterns of land clearing during policy change. *Lang Use Policy, 75, 399-410.*

[132] Bradshaw, C.J.A. (2012). Little left to lose: deforestation and forest degradation in Australia since European colonisation. *Journal of Plant Ecology, 5*(1), 109-120.

[133] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government. https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[134] EU REDD Facility. (n.d.). *Deforestation and forest degradation*. https://euredd.efi.int/about/about-redd/deforestation-forest-degradation/; Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government.

https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[135] Thompson, I.D., Guariguata, M.R., Okabe, K., Bahamondez, C., Nasi, R., Heymell, V., & Sabogal, C. (2013). An Operational Framework for Defining and Monitoring Forest Degradation. *Ecology and Society, 18*(2). https://www.ecologyandsociety.org/vol18/iss2/art20/

[136] Thompson, I.D., Guariguata, M.R., Okabe, K., Bahamondez, C., Nasi, R., Heymell, V., & Sabogal, C. (2013). An Operational Framework for Defining and Monitoring Forest Degradation. *Ecology and Society, 18*(2). https://www.ecologyandsociety.org/vol18/iss2/art20/

[137] Pacheco, P., Mo, K., Dudley, N., Shapiro, A., Aguilar-Amuchastegui, N., Ling, P.Y., Anderson, C., & Marx, A., (2021). *Deforestation Fronts: drivers and responses in a changing world*. WWF. https://wwfint.awsassets.panda.org/downloads/deforestation_fronts___drivers_and_responses_in_a_changing_world___full_report_1.pdf

[138] Meat and Livestock Australia. (n.d.). *The red meat industry*. https://www.mla.com.au/about-mla/the-red-meat-industry/

[139] Department of Agriculture, Water and the Environment, ABARES. (2022). *Insights: Snapshot of Australian Agirculture 2022*. https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1033241/0

[140] Ernst and Young, Australia. (2021). Regulatory and market levers to support Queensland's beef industry towards its 2030 carbon neutral target. https://www.wwf.org.au/knowledge-centre/resource-library/resources/decarbonisation-pathways-for-queensland-s-beef-industry

[141] The Wilderness Society. (2019). *Drivers of Deforestation and land clearing in Queensland*. https://www.wilderness.org.au/images/resources/The_Drivers_of_Deforestation_Land-clearing_Qld_Report.pdf

[142] Department of Climate Change, Energy, the Environment and Water. (n.d.). Data on Australia's greenhouse gas emissions. https://ageis.climatechange.gov.au/

[143] Taylor, M. and Fletcher, R. (2022). *What's at Steak: Deforestation for beef widespread in Queensland*.

[144] Australian Beef Sustainability Framework. (2022). *Annual Update 2022*. https://www.sustainableaustralianbeef.com.au/globalassets/beef-sustainability/documents/absf_update_2022_web.pdf

[145] Williams, J., Price, R., & Kiri-ganai Research Pty Ltd. (2009). *Review of the impacts of red meat production and alternative sources of protein on biodiversity*. Meat and Livestock Australia.

[146] Meat and Livestock Australia. (n.d.). *Carbon neutral 2030*. https://www.mla.com.au/research-and-development/Environment-sustainability/carbon-neutral-2030-rd/ https://www.mla.com.au/contentassets/0f1aee209b0640498761d70a70e6e5b7/b.cch.2023_final_report.pdf

[147] Sheep Sustainability Framework (2022). *Sheep Sustainability Framework Annual Report 2022*. https://www.sheepsustainabilityframework.com.au/globalassets/sheep-sustainability/bh.15.sheep-sustainability_aw_web_4.pdf

[148] Department of Agriculture, Fisheries and Forestry. (2022). *Snapshot of Australian Agriculture 2022*. https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture-2022#around-72-of-agricultural-output-is-exported

[149] Worldwide Fund for Nature. (n.d.). *Deforestation Fronts*. https://wwf.panda.org/discover/our_focus/forests_practice/deforestation_fronts_/

[150] Davies, A., Bowers, M., Ball, A., & Evershed, N. (2019, October 16). Stripped bare: Australia's hidden climate crisis. *The Guardian Australia*. https://www.theguardian.com/environment/ng-interactive/2019/oct/17/stripped-bare-australias-hidden-climate-crisis

[151] ABC. (2023). Turning a blind eye. Images suggest land being cleared for cotton farming before permits granted - ABC News

[152] Behind Australian Grain. (2020). *Australian Grains Industry Sustainability Framework*. https://www.behindaustraliangrain.com.au/wordpress/wp-content/uploads/2020/07/Grains-Sustainability-Framework.pdf

[153] Behind Australian Grain. (2021). *Australian Grains Industry Sustainability Framework: Draft 2030 targets for consultation*. https://www.behindaustraliangrain.com.au/wordpress/wp-content/uploads/2021/01/Australian-Grains-Industry-Sustainability-Framework-Jan2021.pdf

[154] International Sustainability and Carbon Certification. (n.d.). *Solutions for sustainable and deforestation free supply chains*. https://www.iscc-system.org/

[155] Cotton Australia, the Cotton Research and Development Corporation. (2021). *Australian Cotton Sustainability Update 2021*. https://cottonaustralia.com.au/assets/general/Publications/Sustainability-Reports/Sustainability-Report-2021.pdf

[156] MyBMP. (n.d.). *Sustainable Natural Landscape (Natural Assets)*. https://www.mybmp.com.au/user/modules.aspx?id=E6F0356A-1D88-44A8-A27D-30F3540A87EA&p_id=5256D01B-CD90-4F19-A799-0FE9FF441F5A

[157] Smartcane BMP. (n.d.). *Module 6: Natural Systems Management* [Fact sheet]. https://smartcane.com.au/wp-content/uploads/2018/10/SmartcaneBMP_fact-sheet_Module-6.pdf

[158] Australian Conservation Foundation. (2020). *The extinction crisis in Australia's cities and towns*. https://apo.org.au/sites/default/files/resource-files/2020-08/apo-nid308370.pdf

[159] McCutcheon, P. (2019, August 13). Koala habitat cleared for housing development against Environment Department's offset policy. *ABC News*. https://www.abc.net.au/news/2019-08-13/koala-habitat-cleared-against-department-of-environment-rules/11392454

[160] de Kruijff, P. (2022, January 26). Perth housing estate developers fined $250,000 for clearing black cockatoo habitat. *WA Today*. https://www.watoday.com.au/national/western-australia/perth-housing-estate-developers-fined-250-000-for-clearing-black-cockatoo-habitat-20220125-p59r6f.html

[161] Pacheco, P., Mo, K., Dudley, N., Shapiro, A., Aguilar-Amuchastegui, N., Ling, P.Y., Anderson, C., & Marx, A., (2021). *Deforestation Fronts: drivers and responses in a changing world*. WWF. https://wwfint.awsassets.panda.org/downloads/deforestation_fronts___drivers_and_responses_in_a_changing_world___full_report_1.pdf

[162] Department of Agriculture, Fisheries and Forestry (ABARES). (2018). Australia's State of the Forests Report. https://www.agriculture.gov.au/abares/forestsaustralia/sofr/sofr-2018

[163] Perkins, M. (2020, March 10). *'Don't see how we can justify it': Bushfire scientist wants immediate end to logging*. The Sydney Morning Herald.

[164] Evans, M.C. (2016). Deforestation in Australia: Drivers, trends and policy responses. *Pacific Conservation Biology, 22*(2), 130-150. http://dx.doi.org/10.1071/PC15052

[165] Department of Climate Change, Energy, the Environment and Water. (n.d.). *Data on Australia's greenhouse gas emissions. https://ageis.climatechange.gov.au/*

[166] Davey, S.M., & Sarre, A. (2020). Editorial: the 2019-20 Black Summer bushfires. *Australian Forestry*, *83*(2), 47-51. https://doi.org/10.1080/00049158.2020.1769899

[167] van Eeden, L.M., Nimmo, D., Mahony, M., Herman, K., Ehmke, G., Driessen, J., O'connor, J. Bino, G., Taylor, M., & Dickman, C.R. (2020). *Impacts of the unprecedented 2019-2020 bushfires on Australian animals.* WWF. https://www.wwf.org.au/ArticleDocuments/353/WWF_Impacts-of-the-unprecedented-2019-2020-bushfires-on-Australian-animals.pdf.aspx

[168] Commonwealth Science and Industrial Research Organisation. (2020). *Climate and Disaster: Technical Reports*. https://www.csiro.au/-/media/Environment/CSIRO-Climate-and-Disaster-Resilience-Technical.pdf

[169] Metcalfe, D.J., & Costello, O. (2021). *Australia state of the environment 2021: extreme events*. https://doi.org/10.26194/316q-pv32

[170] Gould, S., Mackey, B., Lindenmayer, D., Norman, P., & Taylor, C. (2021). *Bushfire Science Report No. 2: How do the native forests of south-eastern Australia survive bushfires?* Griffith University and The Australian National University. https://www.bushfirefacts.org/uploads/1/3/2/1/132188020/f_bushfire_science_report_no._2_-_bushfires_and_forest_recovery.pdf

[171] O'Sullivan, O.S., Heskel, M.A., Reich, P.B., & Tjoelker, M. (2017). Thermal limits of leaf metabolism across biomes. *Global Change Biology, 23(*1*),* 209-223. http://dx.doi.org/10.1111/gcb.13477; Breshears, B.D., Fontaine, J.B., Ruthrof, K.X., Field, J.P., Feng, X., Burger, J.R., Law, D.J., Kala, J., & Hardy, G.E.St.J. Underappreciated plant vulnerabilities to heat waves. *New Phytologist, 231*(1), 32-39. https://nph.onlinelibrary.wiley.com/doi/full/10.1111/nph.17348

[172] Department of Agriculture and Water Resources, ABARES. (2018). *Australia's State of the Forests Report 2018*. Australian Government. https://www.agriculture.gov.au/sites/default/files/abares/forestsaustralia/documents/sofr_2018/web%20accessible%20pdfs/SOFR_2018_web.pdf

[173] Worldwide Fund for Nature. (n.d.). *Deforestation Fronts*. https://wwf.panda.org/discover/our_focus/forests_practice/deforestation_fronts_/

[174] Department of Agriculture and Water Resources, ABARES. (2022). Snapshot of Australian Agriculture 2022. https://www.agriculture.gov.au/abares/products/insights/snapshot-of-australian-agriculture-2022#the-farm-population-is-diverse-and-constantly-changing.

[175] Accountability Framework Initiative. (n.d.). *Home*. https://accountability-framework.org/

[176] CERES. (n.d). https://www.ceres.org/resources/tools

[177] Patel, K. (2022). *Seeing the forest for the trees – a practical guide for financial institutions to take action against deforestation and conversion risks*. Worldwide Fund for Nature (WWF). https://wwfint.awsassets.panda.org/downloads/seeing_the_forest_for_the_trees.pdf

[178] WA Forest Alliance, The Wilderness Society WA, & Conservation Council of WA. (2022). *A Thousand Cuts: Mining in the Northern Jarrah Forests*. https://www.wafa.org.au/wp-content/uploads/2022/05/A-Thousand-Cuts-NJF-Report-FINAL.pdf

[179] de Kruijff, Peter. (2022, May 3). Mines clear more trees than logging in WA's threatened forests. *The Sydney Morning Herald*. https://www.smh.com.au/environment/conservation/bauxite-mining-clearing-more-trees-than-loggers-in-wa-s-threatened-jarrah-forests-20220502-p5ahrt.html

[180] Critical Ecosystem Partnership Fund. (n.d.). *Southwest Australia*. https://www.cepf.net/our-work/biodiversity-hotspots/southwest-australia

[181] WA Forest Alliance, The Wilderness Society WA, & Conservation Council of WA. (2022). *A Thousand Cuts: Mining in the Northern Jarrah Forests*. https://www.wafa.org.au/wp-content/uploads/2022/05/A-Thousand-Cuts-NJF-Report-FINAL.pdf

[182] Intergovernmental Panel on Climate Change. (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability. Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate* Change. https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf

[183] Timber Harvesting Compliance Unit, Department of Environment, Land, Water and Planning. . (2019). Special Audit: Assessment of VicForests' Harvesting Activities Against the Allocation Order. https://www.forestsandreserves.vic.gov.au/__data/assets/pdf_file/0027/443826/Special-Audit-Report.pdf

[184] Australian Collaborative Land Use and Management Program Partners. (2016). *The Australian Land Use and Management Classification* (Version 8). Australian Government. https://www.agriculture.gov.au/sites/default/files/abares/aclump/documents/ALUMCv8_Handbook4ednPart2_UpdateOctober2016.pdf

[185] Forests and Finance. (2020). Forests & Finance financial research methodology. Note Profundo (forestsandfinance.org)

[186] Forests and Finance. (2020). Forests & Finance financial research methodology. Note Profundo (forestsandfinance.org)

[187] Forest Stewardship Council. (2015). *FSC International Standard – FSC Principles and Criteria for Forest Stewardship* (FSC-STD-01-001 V5-2 EN). FSC. https://connect.fsc.org/document-centre/documents/resource/392

[188] Rainforest Alliance. (n.d.). *2020 Certification Program*. https://www.rainforest-alliance.org/for-business/2020-certification-program/#newhttps://www.rainforest-alliance.org/for-business/2020-certification-program/#new

[189] Programme for the Endorsement of Forest Certification. (2018). *Sustainable Forest Management – Requirements* (PEFC ST 1003:2018). PEFC Council. https://cdn.pefc.org/pefc.org/media/2019-01/b296ddcb-5f6b-42d8-bc98-5db98f62203e/6c7c212a-c37c-59ee-a2ca-b8c91c8beb93.pdf

[190] Sustainable Forestry Initiative. (n.d.). *Home*. https://forests.org/

[191] International Sustainability and Carbon Certification. (n.d.). *Market Applications. https://www.iscc-system.org/process/market-applications/*

[192] Fairtrade International. (n.d.). *Fairtrade Standards*. https://www.fairtrade.net/standard

[193] Proterra Foundation. (n.d.). *The Proterra Standard. https://www.proterrafoundation.org/the-proterra-standard/*

[194] Roundtable on Sustainable Palm Oil. (n.d.). *RSPO Standards*. https://rspo.org/as-an-organisation/our-standards/

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