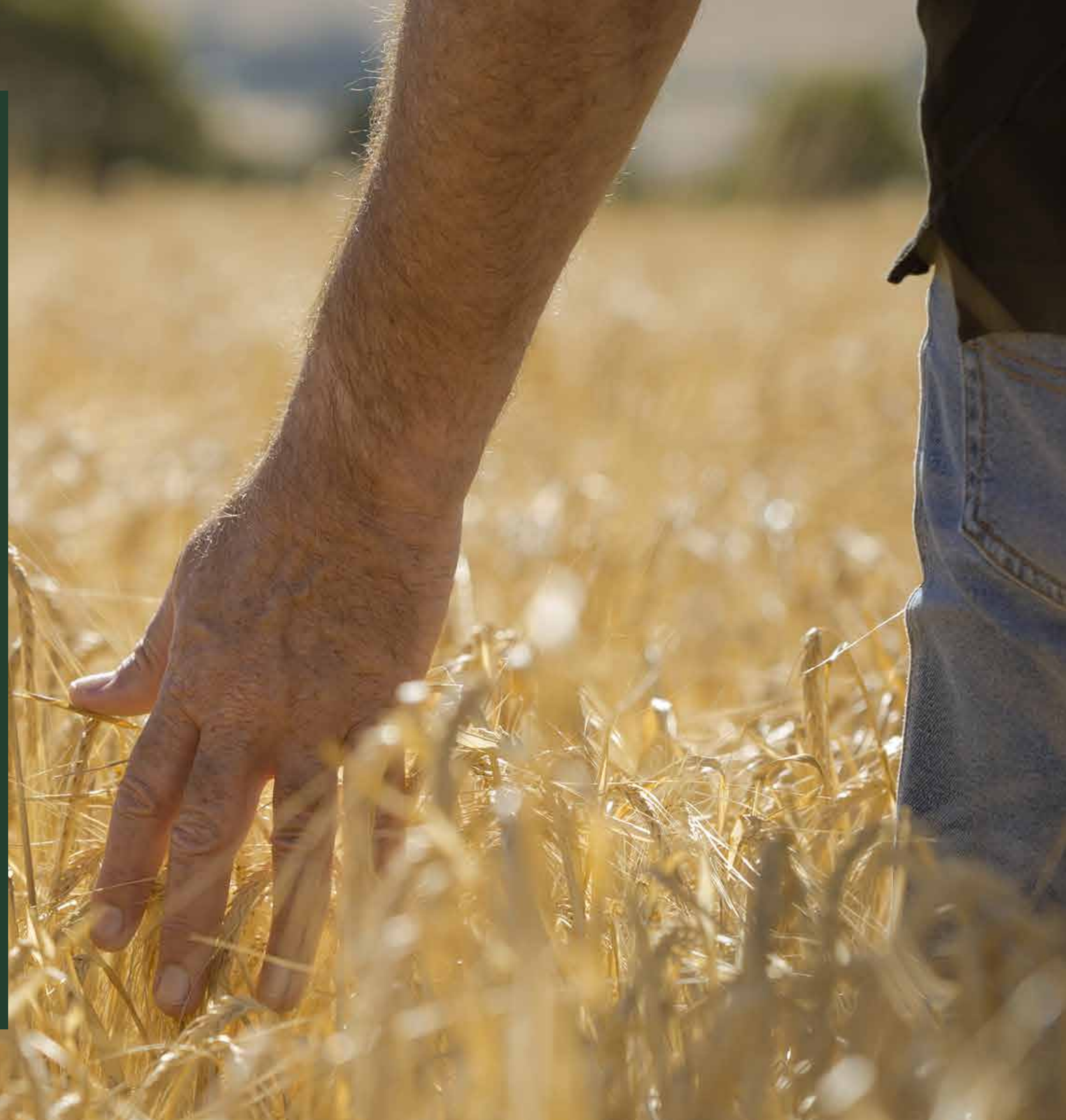




Harvesting Natural Capital: An emerging asset class



OCTOBER 2022

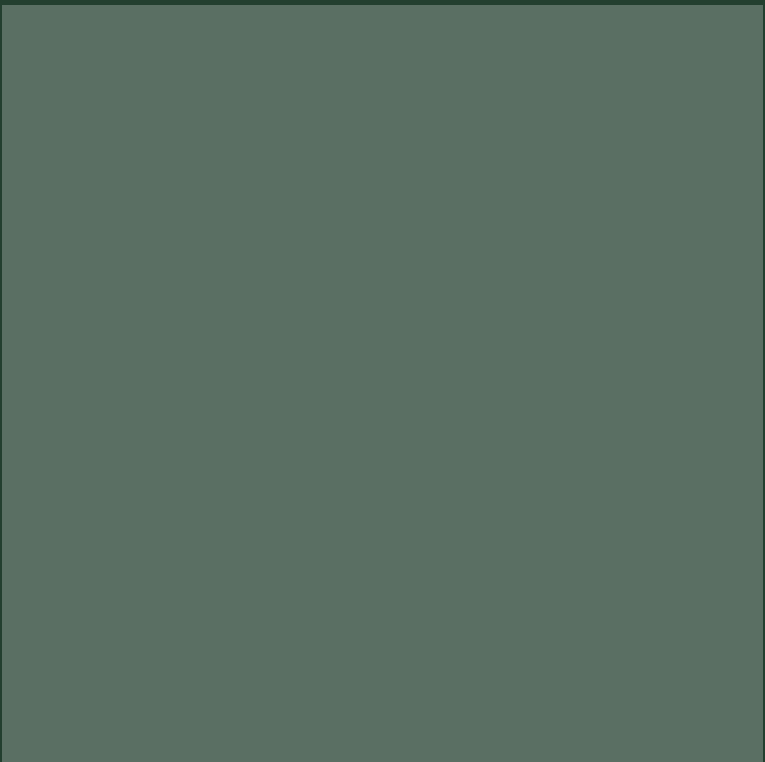


QIC respectfully acknowledges the Traditional Owners and
Custodians of Country throughout Australia and recognises their
continuing connection to land, water and community.
We pay our respects to Elders past, present and emerging.



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1. Introduction to Natural Capital



Introduction to Natural Capital

The focus institutional investors are placing on Environmental, Social and Governance (ESG) factors is unprecedented, and in response, institutions are developing portfolio allocation strategies in alignment with commitments to long-term targets to decarbonise their assets and achieve net zero emissions.

At the same time, pledges made by governments, businesses and communities to restore or protect natural ecosystems are also increasing. Subsequently, the advancement in nature-based solutions (NbS) is propelled by the recognition of the role of natural ecosystems in delivering economic and social wellbeing through food security, clean water, biodiversity preservation and carbon sequestration to address climate change.

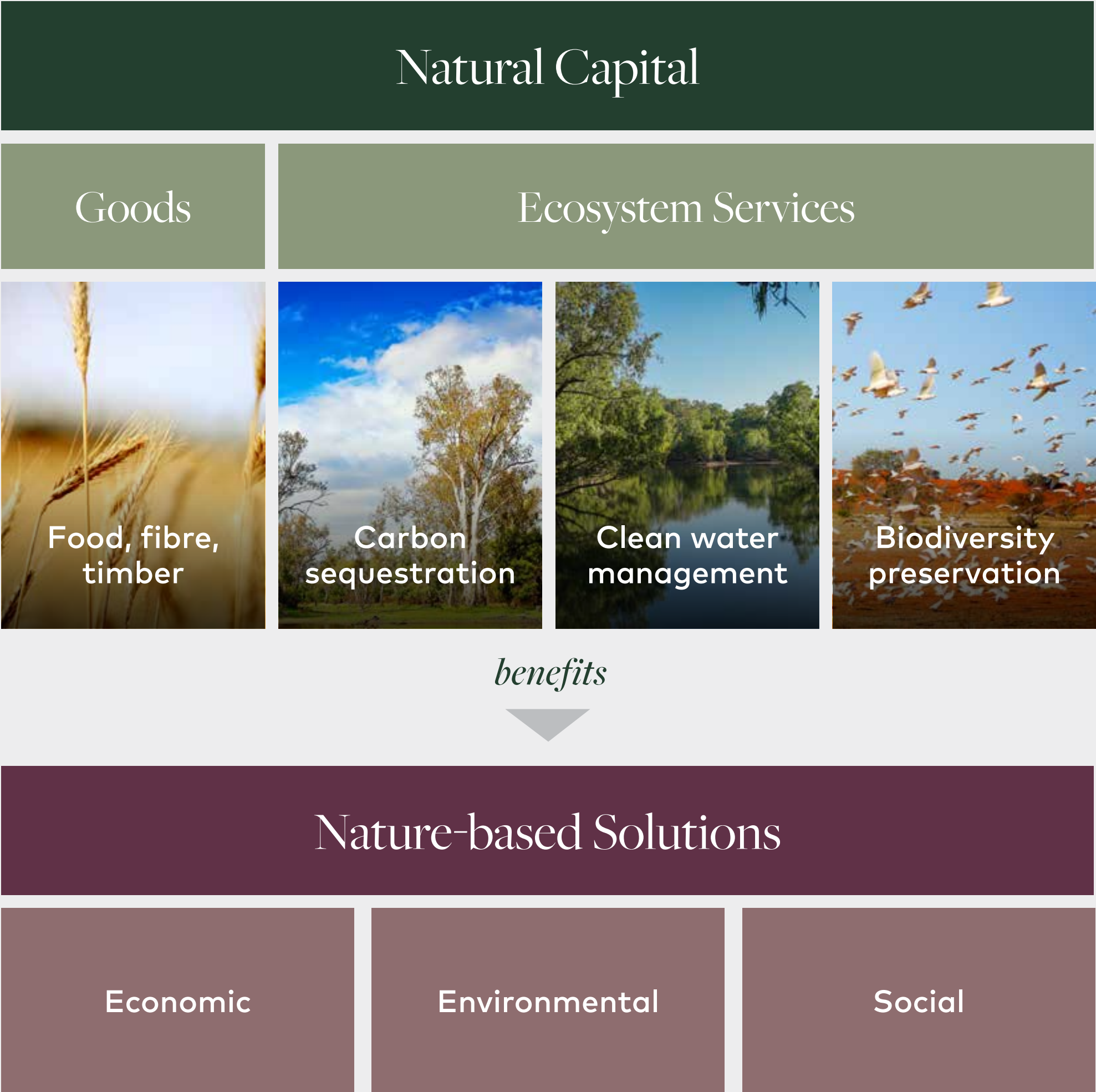
Embracing this approach, Natural Capital is emerging as an alternative asset class for institutional investors actively seeking NbS as an investment opportunity. Aligned with an investor's ESG targets, Natural Capital can be defined as the stock of natural resource assets (soil, water, air, plants, animals) that combine to yield a flow of economic, environmental and social benefits.

Historically, these natural capital assets have been protected and managed in a sustainable manner by First Nations people who relied on them for both their livelihoods and for spiritual and cultural reasons.

Their knowledge of landscapes and application of management techniques, such as fire, is crucial to restoring and managing Natural Capital into the future.

Natural Capital assets include fields, crops, livestock, reefs, wetlands, forests, waterways and oceans, that produce both 'goods' (food, fibre, timber) and 'services' including ecosystem services (e.g. carbon sequestration, clean water, biodiversity preservation) essential for sustainable economic and social welfare.

Global markets are increasingly placing value on the stewardship of Natural Capital assets and developing ways to more fully price ecosystem services to the economy, for example through the development of environmental markets, such as carbon markets, which support the development and use of NbS to achieve net zero emission outcomes.



We anticipate global initiatives will continue to support these Natural Capital markets, particularly driven by increasing international cooperation and agreement on environmental regulation and market mechanisms. At COP26 in Glasgow, 197 countries agreed to rules under Article 6 of the Paris Agreement for the accounting of emission mitigation outcomes (that included the transfer of emission credits or offsets)¹. Nationally Determined Contributions submitted by countries under the Paris Agreement indicate 83 per cent of countries intend to use the Article 6 mechanisms (i.e. emissions credits or offsets) to meet their contributions².

Global frameworks are also being developed for companies to report and act on evolving climate and nature-related risks. The Taskforce on Climate-related Financial Disclosure (TCFD) and the Taskforce on Nature-related Financial Disclosures (TNFD) are examples of such frameworks. The TCFD is becoming more widely adopted by major investors, regulators and companies globally, and we expect the TNFD to gain similar momentum over coming years.

In addition to government and corporate initiatives, investor pressure is influencing the private sector to prioritise net zero emissions pathways and elevate ESG issues.

Regional, national and global initiatives are helping to drive this change, including Climate Action 100+, the Investor Group on Climate Change, and the UN Principles for Responsible Investment.



Global markets are increasingly placing value on the stewardship of Natural Capital assets.



¹ World Economic Forum
² World Resources Institute, *Making Sense of Countries' Paris Agreement Climate Pledges*, October 2021

Natural Capital is therefore one of the critical areas for investment in climate change solutions and addressing the global risk of further biodiversity and nature loss. The World Economic Forum outlines the priorities for business action into three socio-economic systems: Food, Land and Ocean Use (incorporating Natural Capital); Infrastructure and the Built Environment; and Energy and Extractives, and places a major emphasis on Natural Capital.

Natural Capital is one of the critical areas for investment in climate change solutions and addressing the global risk of further biodiversity and nature loss.

QIC's ambition is to participate in this emerging market through a Natural Capital platform and will look to engage with Traditional Owners wherever possible. This new capability aims to promote environmental outcomes of carbon sequestration, biodiversity preservation and improved water quality alongside sustainable agriculture returns in Queensland.

We believe that careful asset selection and management investment in a real asset-backed Natural Capital portfolio can deliver ESG outcomes at scale alongside attractive, long-term and risk-adjusted returns for investors.

Figure 1
World Economic Forum: New Nature Economy Report II: The Future of Nature and Business

Threats prioritised for business action all relate to three socioeconomic systems

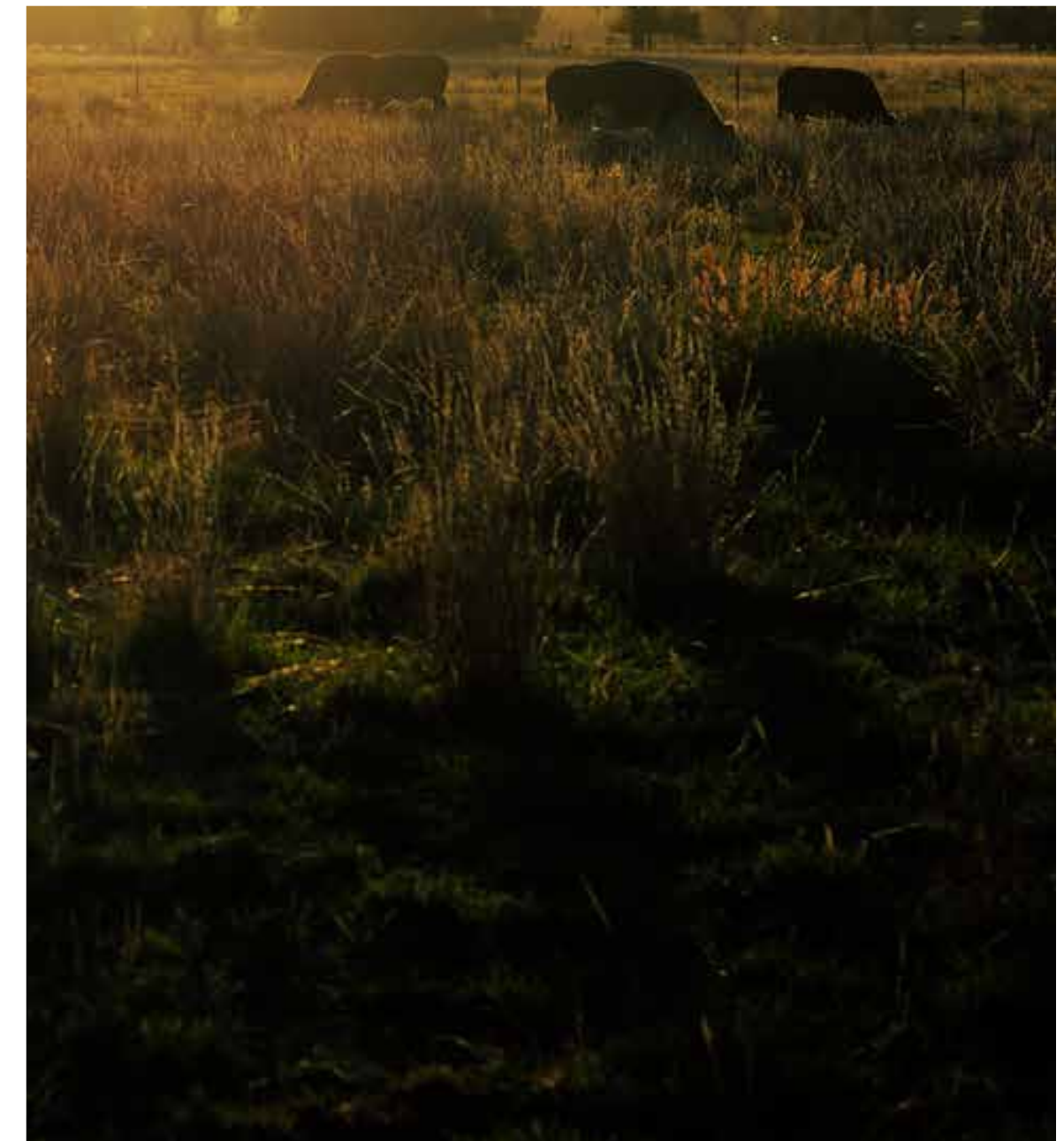
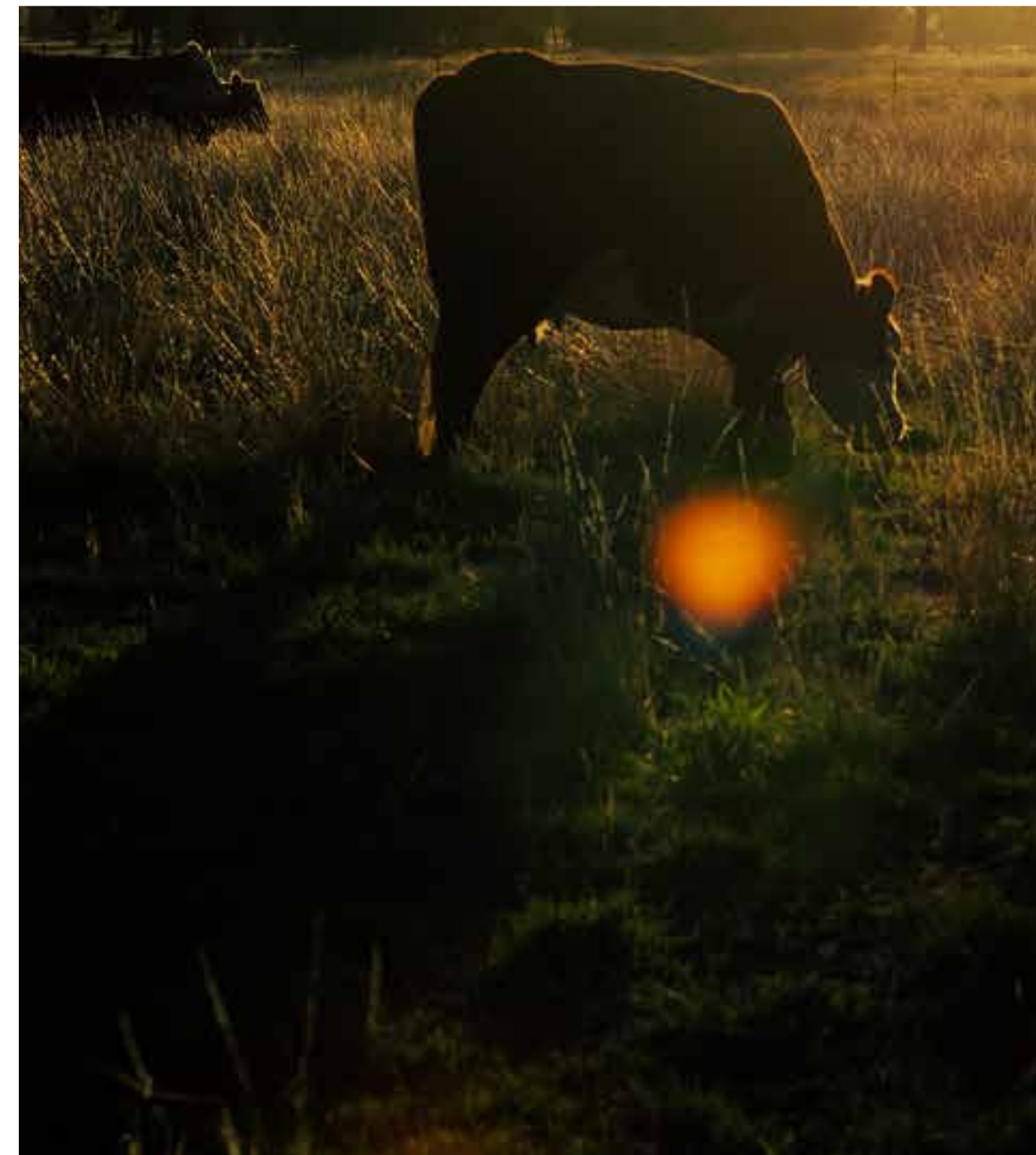
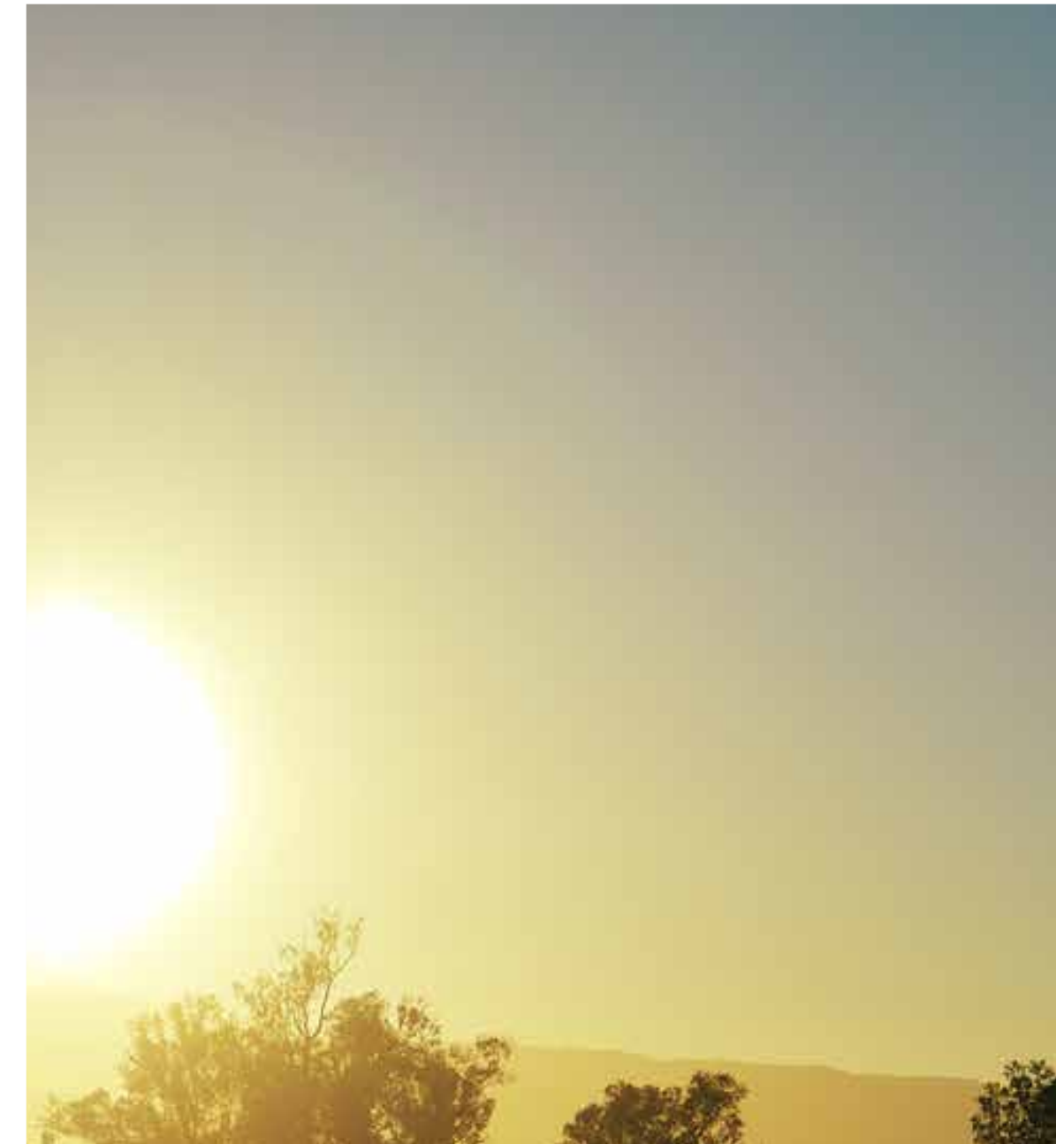


“Of all the three systems prioritised, the food, land and ocean use system place the greatest strain on planetary boundaries.”

Source: [New Nature Economy Report II: The Future of Nature and Business](#), World Economic Forum, 2020

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2. Natural Capital and Environmental Markets in Australia



Natural Capital and Environmental Markets in Australia

Australia is also participating in the movement by global markets to develop mechanisms that fully price Natural Capital’s value to society and the economy. Current market mechanisms in Australia focus on environmental credits for carbon sequestration, reef water quality, and biodiversity preservation.

Carbon credits

Carbon markets involve the trading of carbon credits — instruments which represent avoidance or sequestration of one metric tonne of carbon dioxide or other equivalents. They provide a platform which turns emissions reductions and removals into tradable assets³.

The size of the market has grown considerably in recent years. The total value of traded global carbon permits reached US\$851 billion in 2021 — a rise of 164 per cent on the prior year⁴.

The European Union’s regulated carbon market accounted for 90 per cent of that value after prices in the emissions trading scheme more than doubled, ending the year valued at over €80 (AU\$125) per tonne⁵.

While the majority of carbon credits are transacted through regulated *compliance markets* — used by governments and corporations mandated to reduce net carbon emissions — the *voluntary market* is burgeoning, with 95 million carbon credits retired in 2020. Voluntary markets operate in parallel with compliance markets, allowing buyers to voluntarily reduce carbon emissions to meet internal emissions reduction commitments. It is estimated global demand for voluntary carbon credits could grow to 510 million carbon credits per year in 2030, and up to 8,300 million carbon credits in 2050⁶. Governments and companies around the world are accelerating their decarbonisation commitments, with 7,887 entities setting commitments in 2021, up three-fold from 2020⁷.

³ [Glossary of Statistical Terms](#), OECD, April 2013.
⁴ [Global carbon markets value surged to record \\$851 billion last year-Refinitiv](#), Nina Chestney, Reuters, February 2022.
⁵ [ibid](#)
⁶ [Final Report](#), The Taskforce on Scaling Voluntary Carbon Markets, January 2021.
⁷ [Essential, expensive, and evolving: The outlook for carbon credits and offsets](#). An EY Net Zero Centre report, May 2022

Figure 2
Net zero commitments are accelerating

Official commitments by type

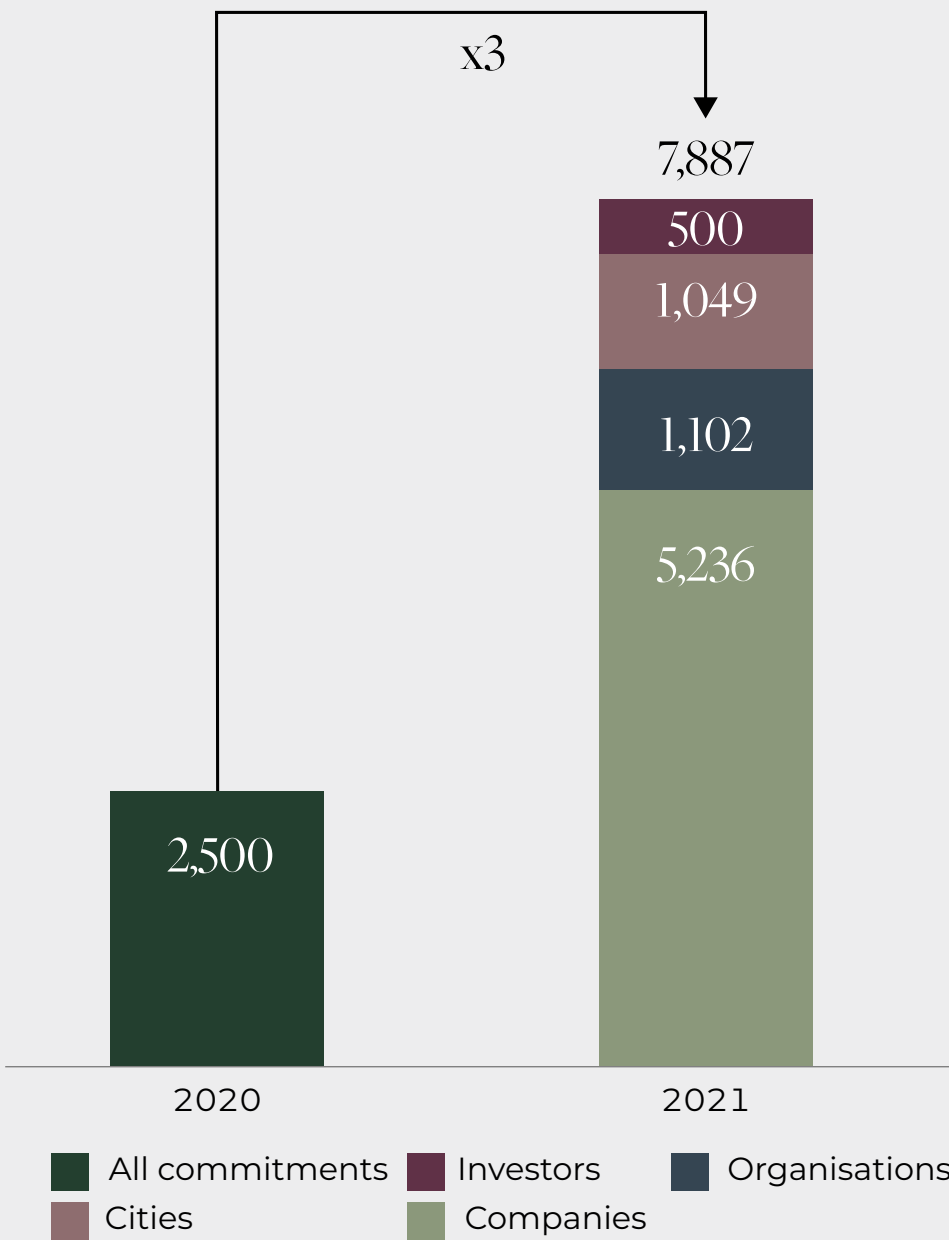
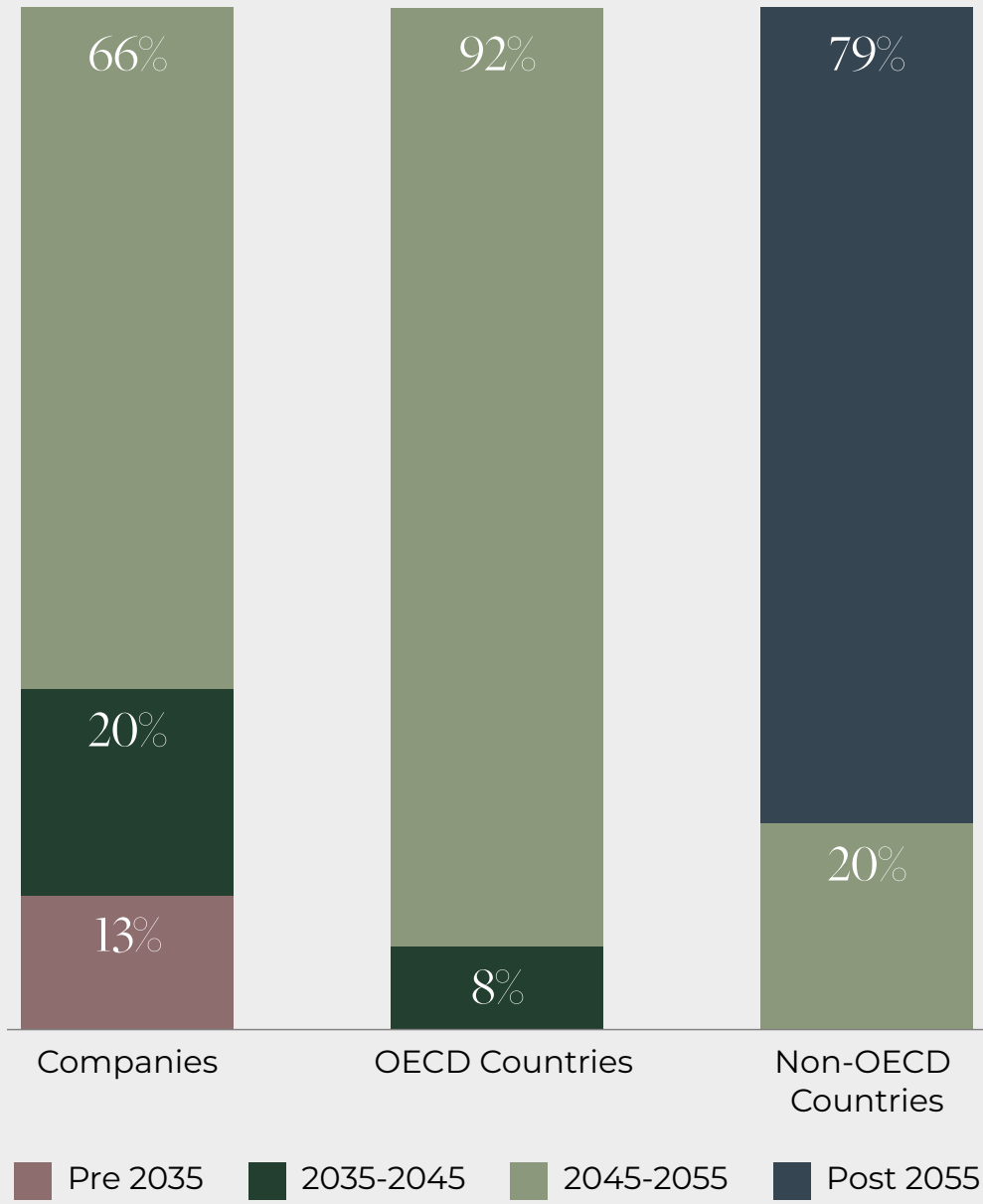


Figure 3
Companies are committing to achieve net zero more quickly than countries

Timeframes for company and country net zero and carbon neutrality commitments



Source: Essential, expensive and evolving: The outlook for carbon credits and offsets. An EY Net Zero Centre report. 30 May 2022.

In Australia, the Emissions Reduction Fund (ERF) is legislated to provide Australia's voluntary carbon crediting scheme⁸. Under the scheme, the ERF performs the role of vetting carbon abatement projects and issuing Australian Carbon Credit Units (ACCUs). The ERF is administered by the Clean Energy Regulator under the Carbon Credits (Carbon Farming Initiative) Act 2011⁹.

The issuance, transfer and ownership of ACCUs is recorded in the Australian National Registry of Emissions Units (ANREU). In order to hold ACCUs, a party must be registered with the ANREU¹⁰. The regulation of ACCUs also limit credits from being registered under a foreign registry.

A range of methodologies can be implemented to generate ACCUs. The most effective current methodologies which utilise nature-based solutions include activities to regenerate native forest, planting native trees, and the building of soil organic carbon.

NbS such as reforestation and environmental plantings account for most ACCUs issued to date. They are also typically more cost-effective and less capital-intensive than other current carbon removal technologies such as fuel efficiency and renewable energy infrastructure¹¹.

Carbon credits can generate meaningful employment, training and education benefits for First Nations people, supporting these communities while also delivering significant environmental outcomes. Credits generated by First Nations groups are also highly sought after because they provide these broader social co-benefits and application of traditional land management techniques.

The pathways to lower carbon in atmosphere



1. Avoidance

Circumstances where activities that produce greenhouse gas emissions are substituted for alternatives that require less to no emissions to deliver the same output, or are not undertaken at all. A clear example is power production being switched from fossil fuel-based sources to renewable energy.

2. Removal

Also known as sequestration, this is where CO₂ is absorbed out of the atmosphere. Many NbS offer the ability for carbon sequestration through vegetation and/or soil, making large-scale agricultural operations a strong platform for delivering NbS and carbon removal, while delivering broader environmental benefits. At a global level, it has been estimated these types of solutions can provide approximately one-third of cost-effective carbon mitigation needed through to 2030¹⁴.

8 About the Emissions Reduction Fund, Clean Energy Regulator, Australian Government.

9 What we do, Clean Energy Regulator, Australian Government.

10 Opening an ANREU account, Clean Energy Regulator, Australian Government.

11 IPCC, 2018

Biodiversity offsets

Biodiversity offsets are part of the emerging environmental offsets globally. While still immature when compared to carbon markets, we believe the growing recognition of biodiversity as a key environmental issue will increasingly see premiums attached to carbon offsets with biodiversity benefits.

Biodiversity offsets are measurable conservation outcomes designed to compensate for adverse biodiversity impacts arising from project development. These offsets are paid for, either directly by project developers whose activities cause harm to the environment.

Biodiversity offsets typically require a landholder to permanently protect and sustainably manage an agreed area of land for the long-term, or in perpetuity. Engaging with First Nations on the establishment and management of biodiversity offsets, not only provides employment opportunities but enables access to deep knowledge of appropriate landscape management techniques to ensure the biodiversity offset values are maximised.

Nationally, The Agriculture Biodiversity Stewardship Package (ABSP) seeks to reward farmers for protecting and improving biodiversity, with the Federal Government following up its initial commitment of AU\$34 million over four years in 2018, with an additional AU\$32 million in the 2021-22 budget¹².

The ABSP aims to facilitate private investment in projects that support biodiversity protection and restoration, allowing landholders to undertake projects that benefit biodiversity and receive a tradable certificate for doing so¹³. The tradable biodiversity certificates will contain verifiable information on the offset project. Similar to ACCUs, assurance and enforcement will be overseen by the Clean Energy Regulator.

Currently, the US, Australia, New Zealand, UK, and parts of Europe use biodiversity offset mechanisms, with Latin American countries and South Africa also considering their uptake.

In Australia, efforts to embrace a national voluntary agriculture biodiversity stewardship market progressed with the introduction of the Agriculture Biodiversity Stewardship Market (ABSM) Bill in February 2022.

The goals of the ABSM have been further supported by the recent commitment of the Federal Labor Government to develop a national biodiversity scheme.



A growing recognition of biodiversity as a key environmental issue will increasingly see premiums attached to carbon offsets with biodiversity benefits.



¹² Agriculture Biodiversity Stewardship Package, Australian Government, May 2022
¹³ Bill backs agriculture biodiversity stewardship market, Minister for Agriculture and Northern Australia, Australian Government, February 2022
¹⁴ Griscom et al, 2017.

Water quality markets

QIC would like to acknowledge the Traditional Owners of the Great Barrier Reef that have cared for this site for thousands of years.

In Australia, the improvement of water quality for the Great Barrier Reef, a unique natural resource with an estimated economic, social and icon value of AU\$56 billion¹⁵, is a key focus.

An emerging market incentivising this restoration is the Reef Credit market — the first water quality market of its kind in the world. Reef Credits are a tradable unit that quantifies and values the work undertaken to improve water quality flowing into the Great Barrier Reef catchment.

This scheme encourages land managers to make changes to the way they manage their land in order to improve water quality and generate a tradable unit of pollutant reduction or Reef Credit. A Reef Credit can then be sold to those seeking to invest in water quality projects, such as government, private industry, or philanthropists.

Units generated are reported on the Reef Credit Registry, which comprises a Reef Credit project database, to provide project proponents with the ability to list and register projects, and issue, transfer and retire Reef Credits.

The secure online platform is operated by Eco-Markets Australia (independent third party, not-for-profit) and uses unique serial number tracking to ensure transparency, traceability, and integrity for all Reef Credits.

In October 2020, HSBC Australia and the Queensland Government became the first-ever private and public sector buyers of Reef Credits¹⁶. They estimate an investment of AU\$4 billion is needed for the Great Barrier Reef to meet water quality targets¹⁷. It is estimated that by 2030, the market could be worth over six million Reef Credits¹⁸.



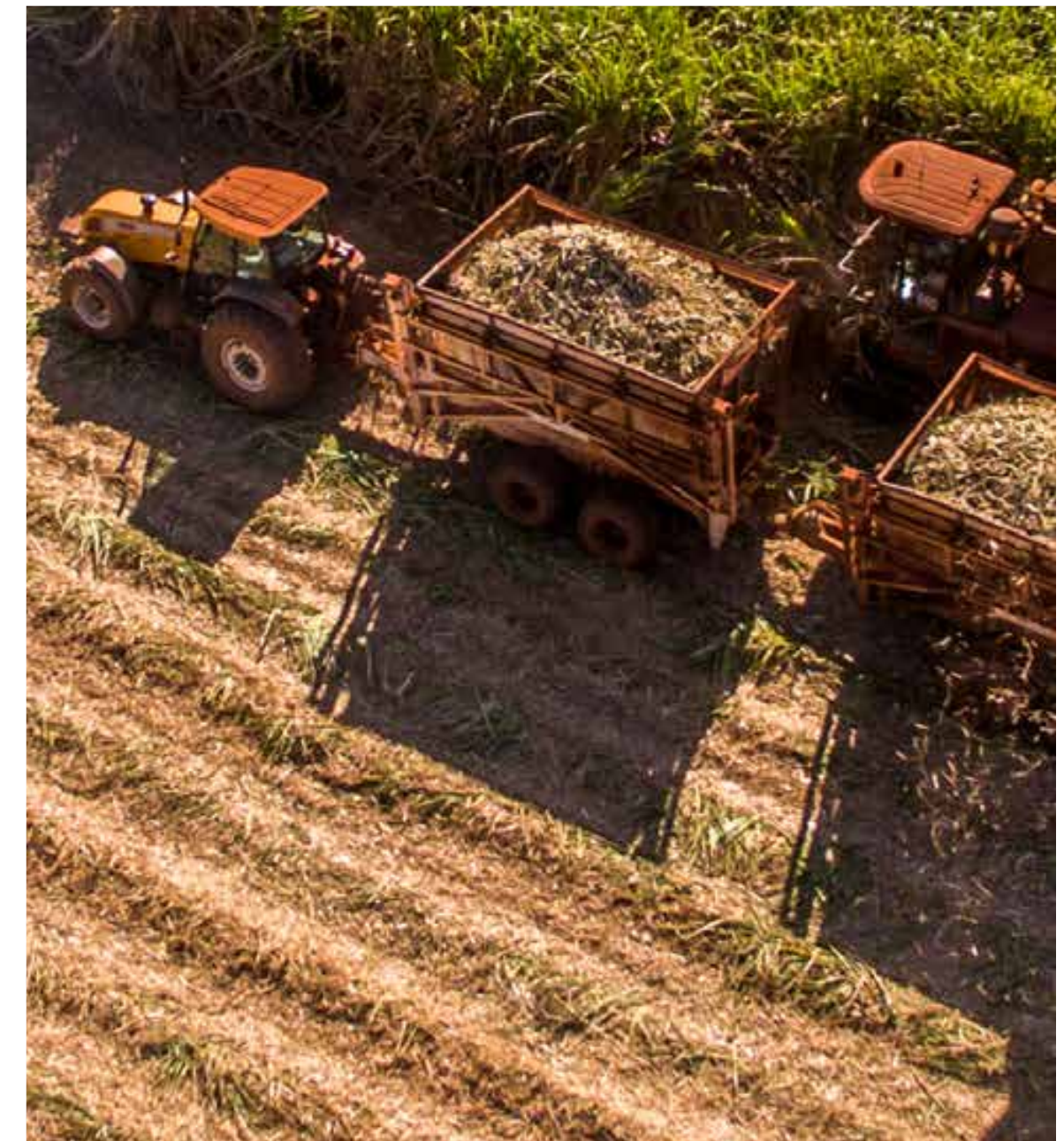
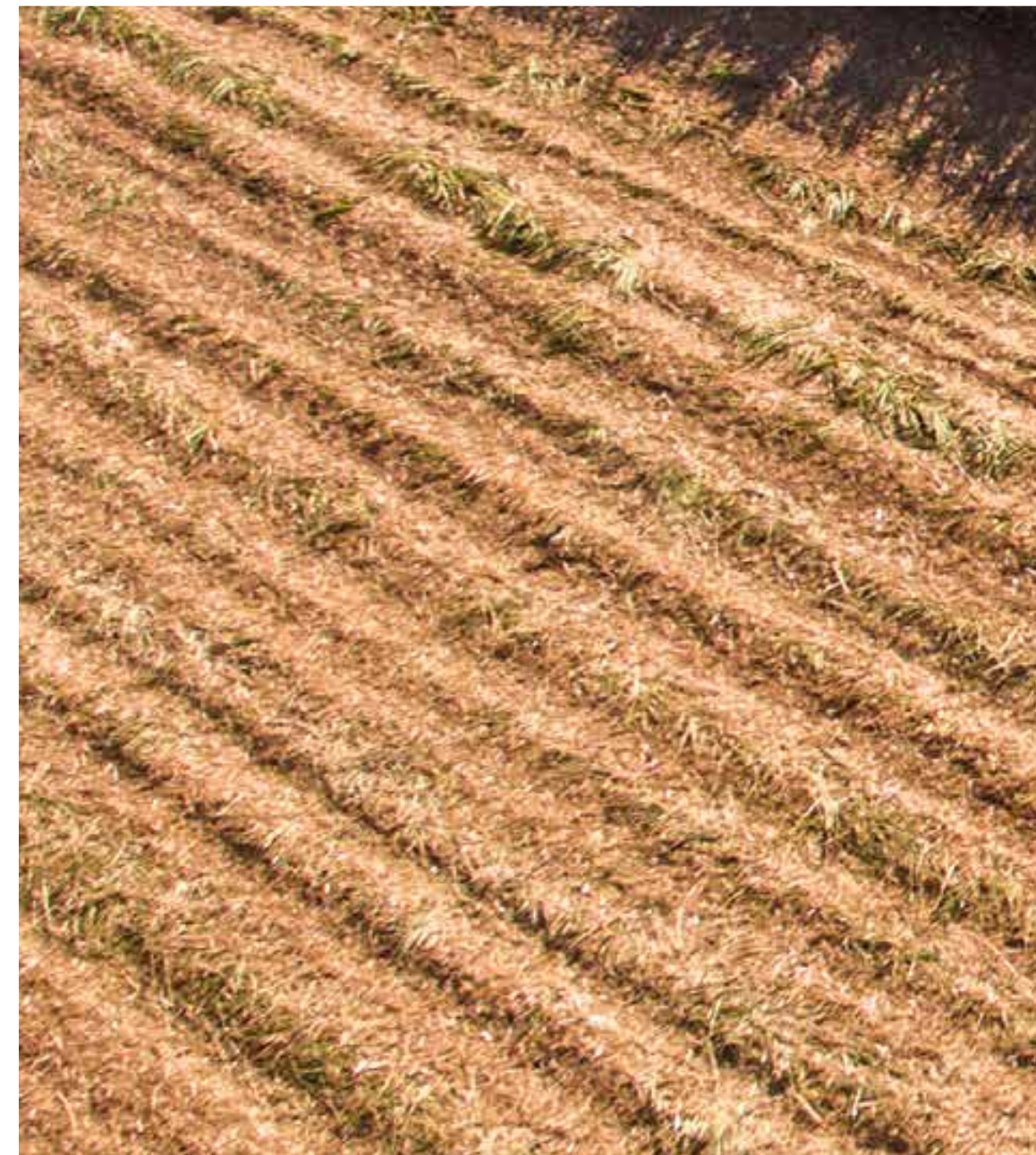
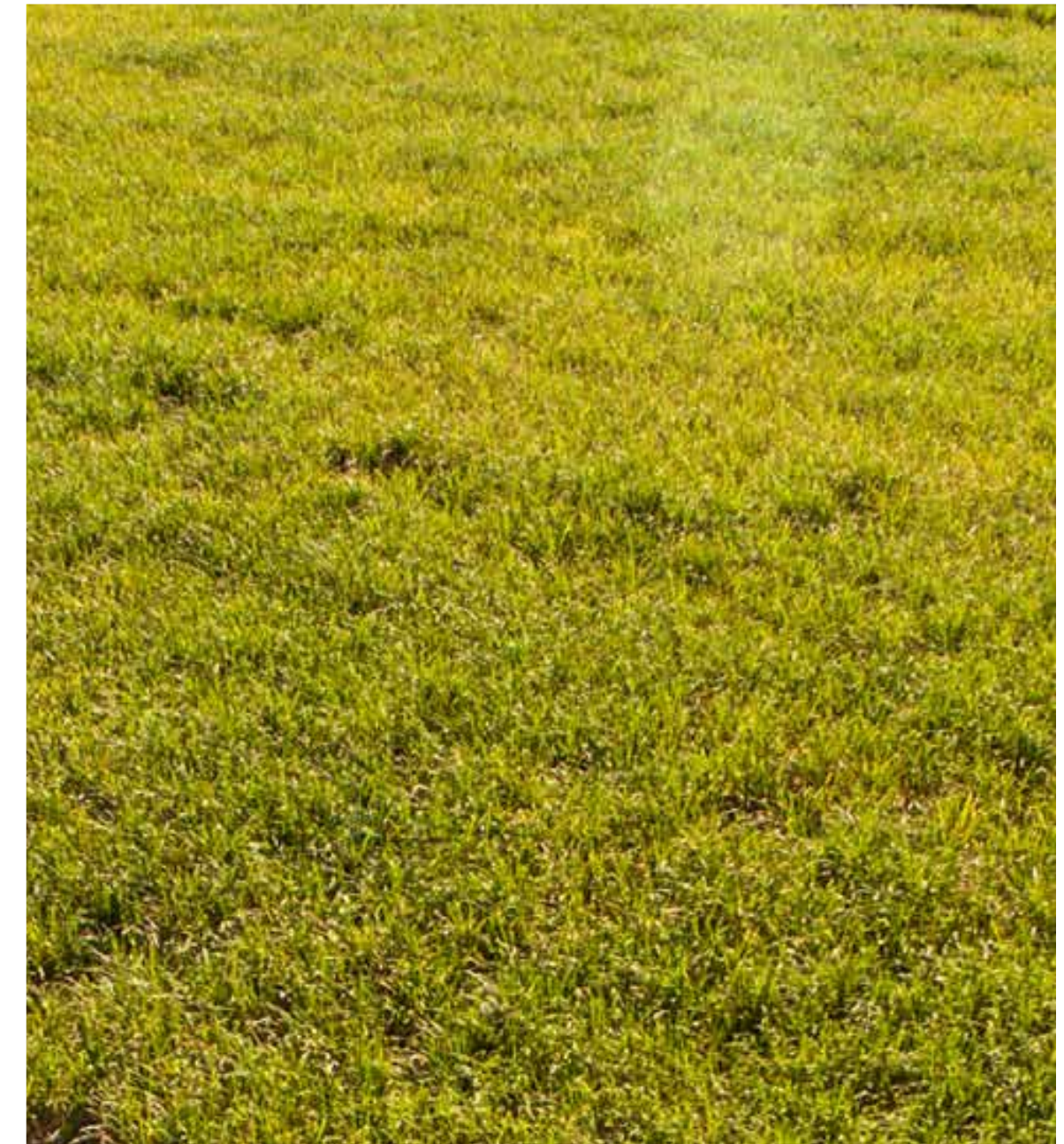
By 2030, it is estimated that the Reef Credit Market could be worth over six million Reef Credits.



¹⁵ At what price? An economic, social, and icon value of the Great Barrier Reef, Deloitte Access Economics, 2017
¹⁶ HSBC and the Queensland Government purchase world-first Reef Credits, HSBC, October 2020
¹⁷ ibid
¹⁸ ibid



3. The role of agriculture as a Natural Capital solution



The role of agriculture as a Natural Capital solution

Agriculture and Natural Capital are inextricably linked, with agriculture playing a key role in Nature-based Solutions globally. Land under agricultural production both relies on, and holds, a vast stock of the world’s Natural Capital assets. Agriculture represents over half of land use globally and approximately 55 per cent of land use in Australia¹⁹.

Therefore, while historic farming practices have in many cases depleted Natural Capital at scale, changes to farming practices and land stewardship on agricultural land can have one of the largest impacts on Natural Capital restoration globally. As such, agricultural land is increasingly being recognised as critical to global NbS, including food security, sustainable development, carbon abatement, biodiversity preservation and water security. In fact, over half of the 17 UN Sustainable Development Goals (SDGs) are related to food and agriculture.

The carbon abatement potential of agricultural activities globally is significant from both a cost and scale perspective. As noted, more than half of the world’s land mass is controlled by primary producers, and the cost per tonne of Greenhouse Gas (GhG) abatement is relatively low compared to other prospective sources. To achieve state, national and global net zero targets by 2050, emissions will need to be

offset by bio-sequestration through vegetation and soil — with a large part of this bio-sequestration solution requiring farmland. NbS can provide up to one-third of the emission reductions needed by 2030 to keep global temperature increases under 2°C²⁰.

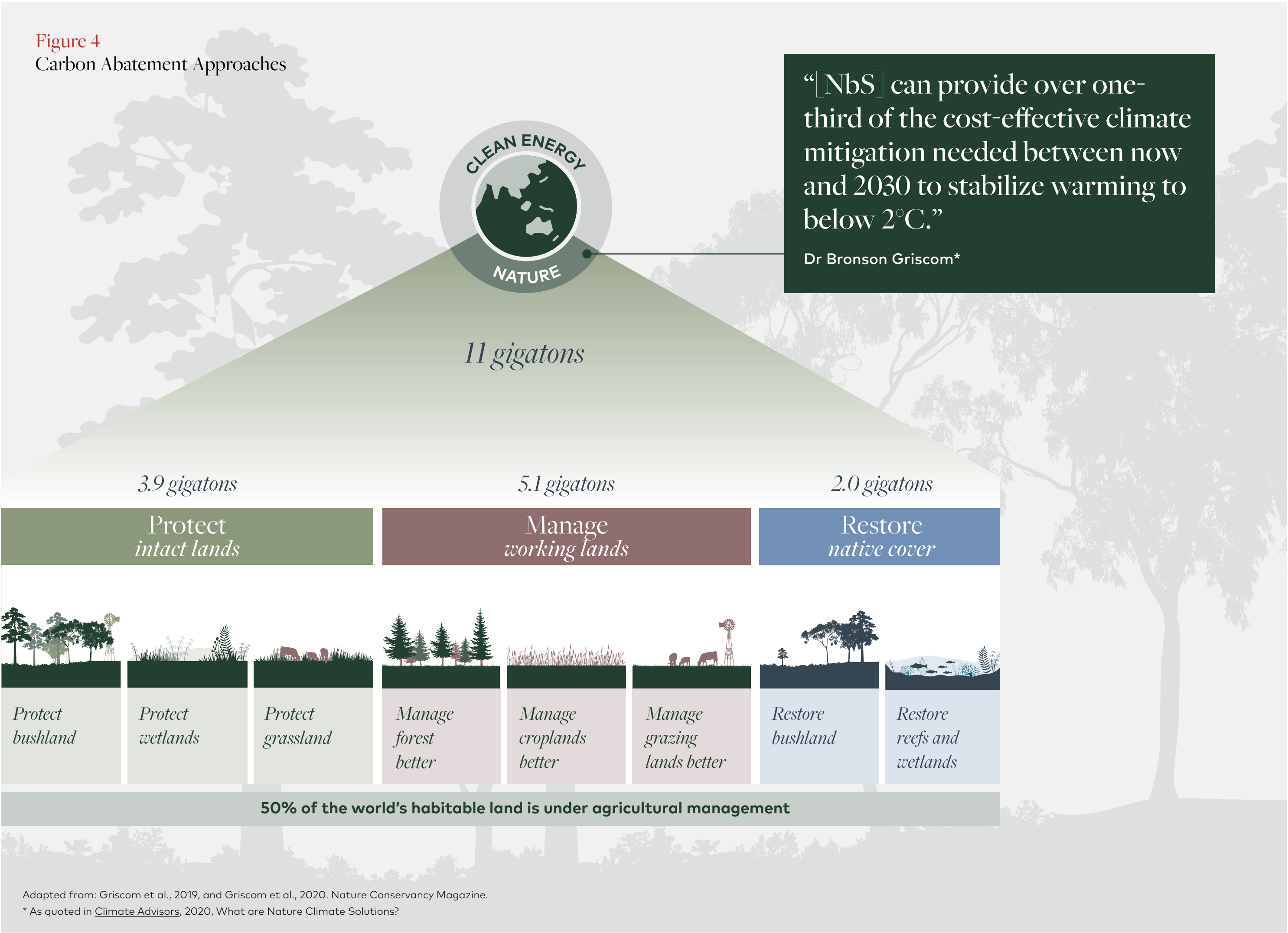
Agricultural producers are responding to these developments by focusing on carbon sequestration potential from land restoration, protecting land, and adopting sustainable practices in primary production operations. Producers are increasingly recognising investment in Natural Capital and a NbS approach are imperative to ensure productive and resilient agricultural land use at scale. Examples of benefits include improved soil health, reduction of topsoil erosion, cleaner waterways, and the enhancement of biodiversity essential for ecosystems as well as agriculture (such as bees and other pollinators).



Changes to farming practices and land stewardship on agricultural land can have one of the largest impacts on Natural Capital restoration globally.



¹⁹ Snapshot of Australian Agriculture 2022 — DAFF
²⁰ [Nature and Net Zero](#), World Economic Forum, 2021

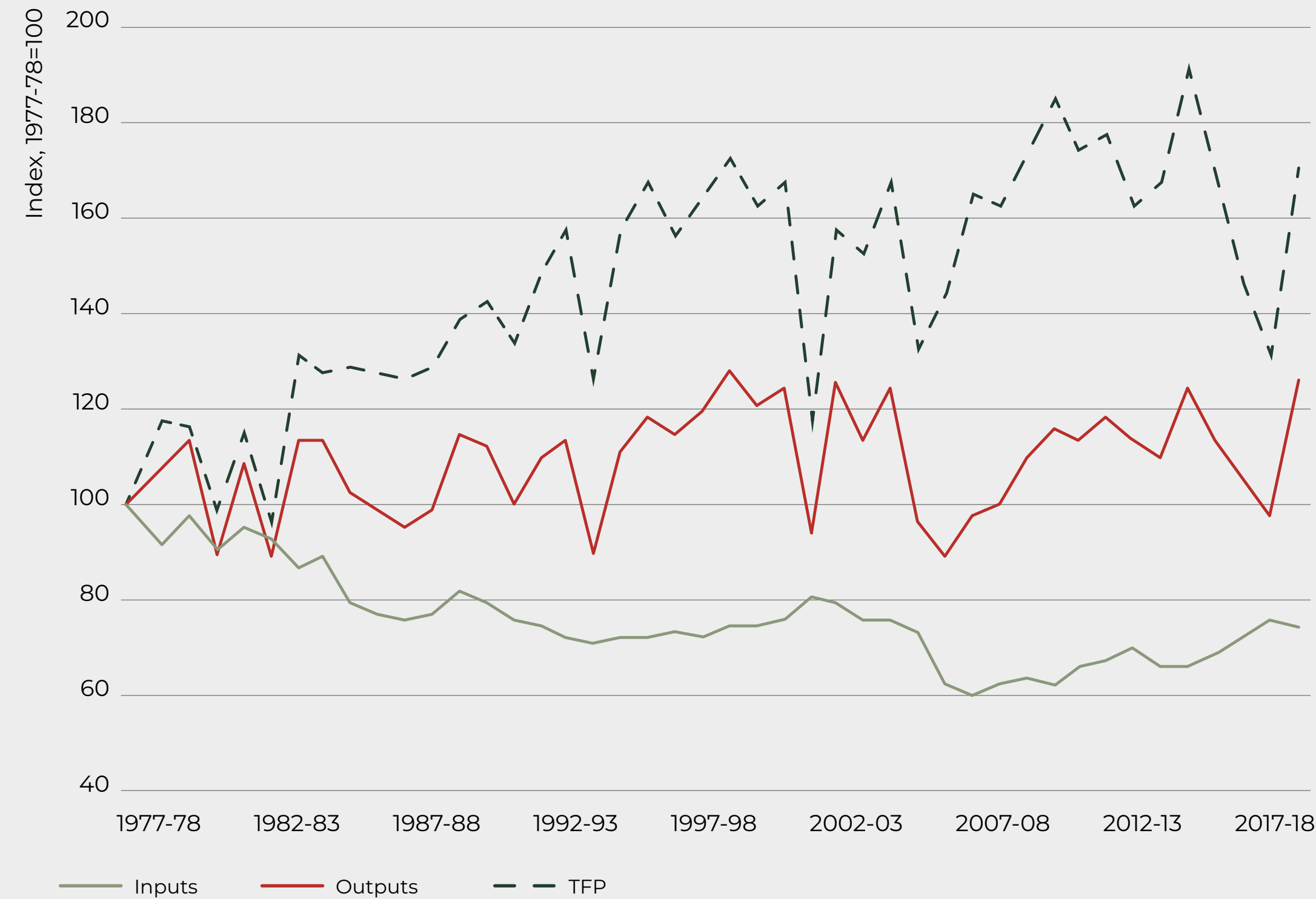


Agriculture has the potential to deliver NbS at scale²¹

Investing in assets to deliver NbS has the potential to provide over one-third of the carbon abatement needed by 2030 to keep global warming to 2°C and below²², while delivering a range of high-level breakdown of the abatement potential across three broad approaches — protecting intact lands, managing working lands, and restoring native cover. While still acknowledging agriculture’s contribution to global emissions, we feel large scale assets present a strong platform to deliver both NbS and contribute to emissions reductions and generate an attractive commercial return.

21 McKinsey. 1.5C Scenario Analysis (Scenario A). IPCC Special Report on 1.5C, Le Quere et al., 2018
22 Griscom et al, 2017

Figure 5
Australian Broadacre Industry Productivity — Increase in Total Factor Productivity



Source: ABARES. Australian Agricultural Productivity, 2022. Broadacre sector is an aggregation of the cropping, beef, sheep, beef-sheep, and mixed industries.

Creating NbS opportunities through innovation and economies of scale

With institutional interest growing, traditional agricultural challenges and its impact on Natural Capital are being addressed through scale and innovation.

During the past four decades, large agricultural landowners have increased their share of total farm numbers from around 3 per cent to 15 per cent, generating opportunities for economies of scale²³. In tandem with this growth, the Australian agricultural sector has a demonstrated history of delivering productivity improvements through improved management practices and technology. During the past 40 years, ABARES estimates the delivery of 1 per cent per annum productivity growth on average across all Australian broadacre farming²⁴.

As institutional investment grows, we anticipate this trend of increasing productivity to continue.

Australian agricultural output volumes are projected to rise by at least 50 per cent by 2050, in line with long-term productivity trends²⁵. Recent technology and innovation developments recognise that achieving long-term agricultural productivity and resilience relies on protecting and enhancing Natural Capital.

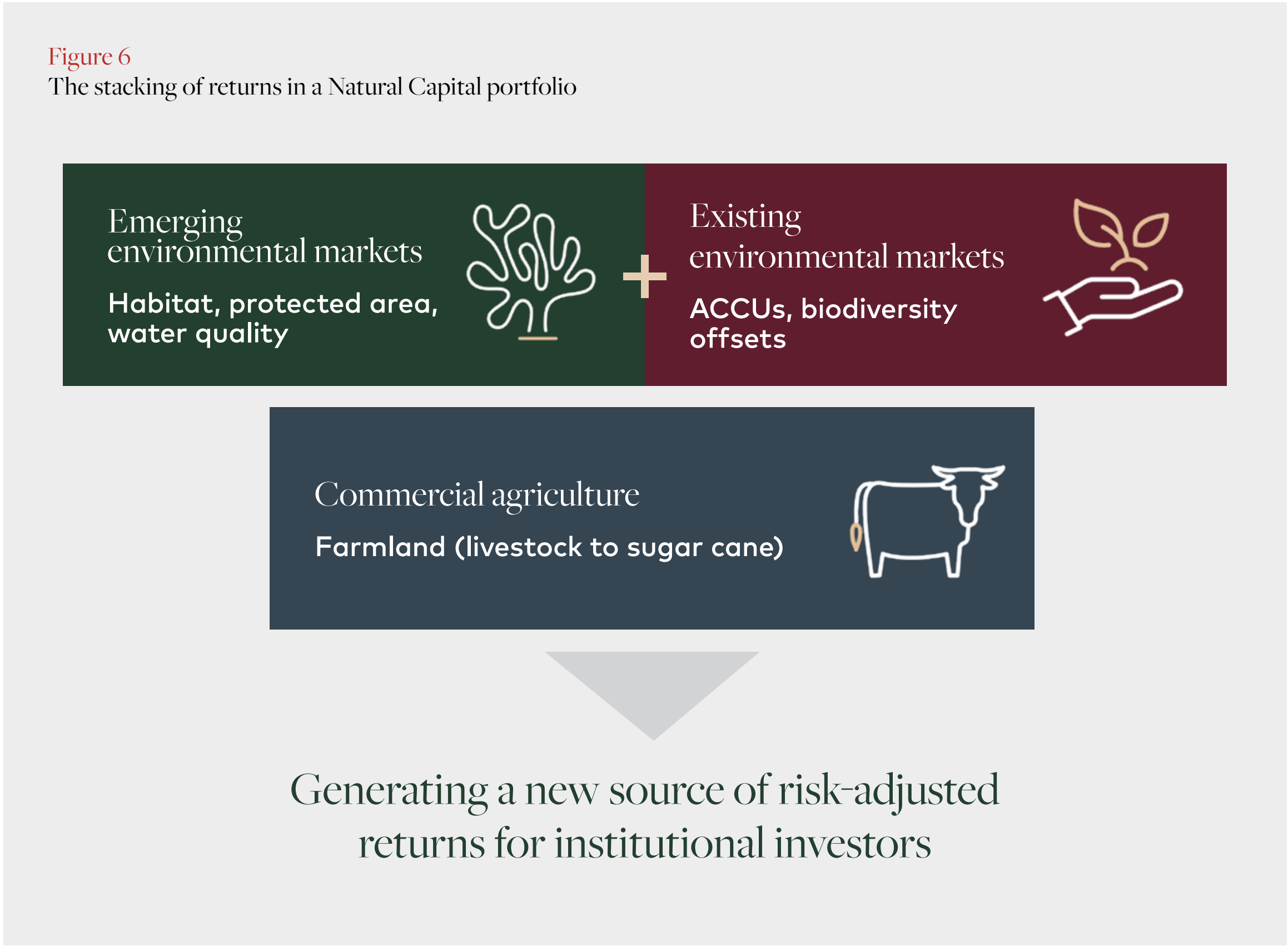
Examples of how agricultural innovation are optimising Natural Capital outcomes and leveraging NbS include:

- Automation, flexible labour management, and knowledge sharing to improve productivity
- Agronomics and agrobiodiversity, including rotational cropping and grazing
- Genomics for optimal crop and livestock varieties
- Data sharing, sensor monitoring and precision application of nutrients and water
- The adoption of biodiversity protection zones and corridors
- Indigenous land use knowledge such as savannah burning practices
- Animal food supplement innovation addressing methane production in ruminant livestock.

23 Snapshot of Australian Agriculture 2022, ABARES
24 ABARES. Australian Agricultural Productivity, 2022. Broadacre sector is an aggregation of the cropping, beef, sheep, beef-sheep, and mixed industries.
25 Australian Agriculture's Plan for a \$100 Billion Industry, National Farmers' Federation, 2019

The ability to stack returns on top of traditional agricultural returns

With the focus on sustainability increasing, structural changes are afoot within the agricultural sector. Parts of the agricultural sector are now embracing the opportunity to offer investors asset-backed yields from crops and livestock, but also be long-term stewards of Natural Capital and enhance the sustainability of the existing enterprise. This approach provides the potential for the 'stacking' of more resilient agriculture returns with additional sources of income from environmental credits and incentives.



Meat and Livestock Australia



Case study

Meat and Livestock Australia’s Net Zero Emissions Target

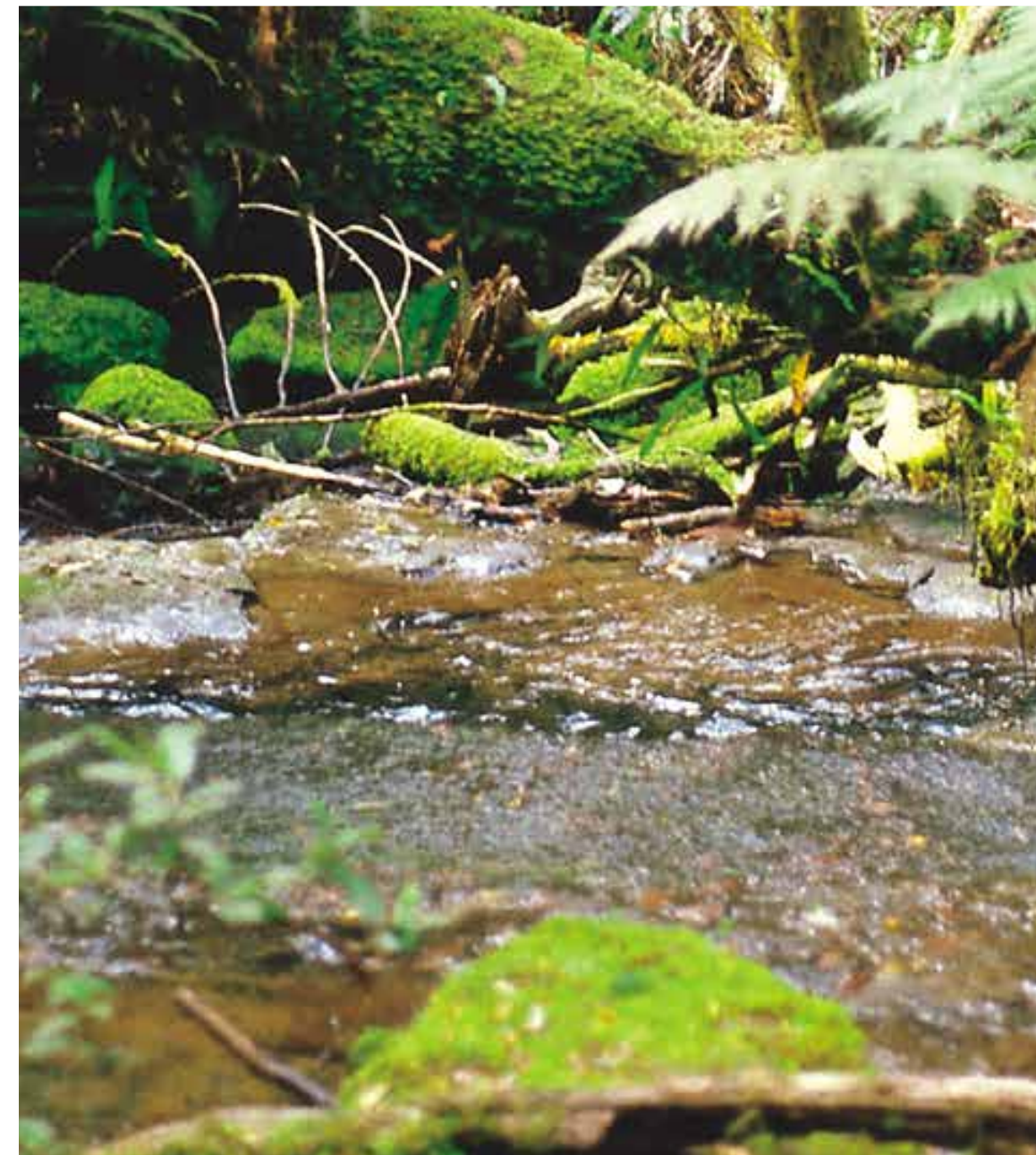
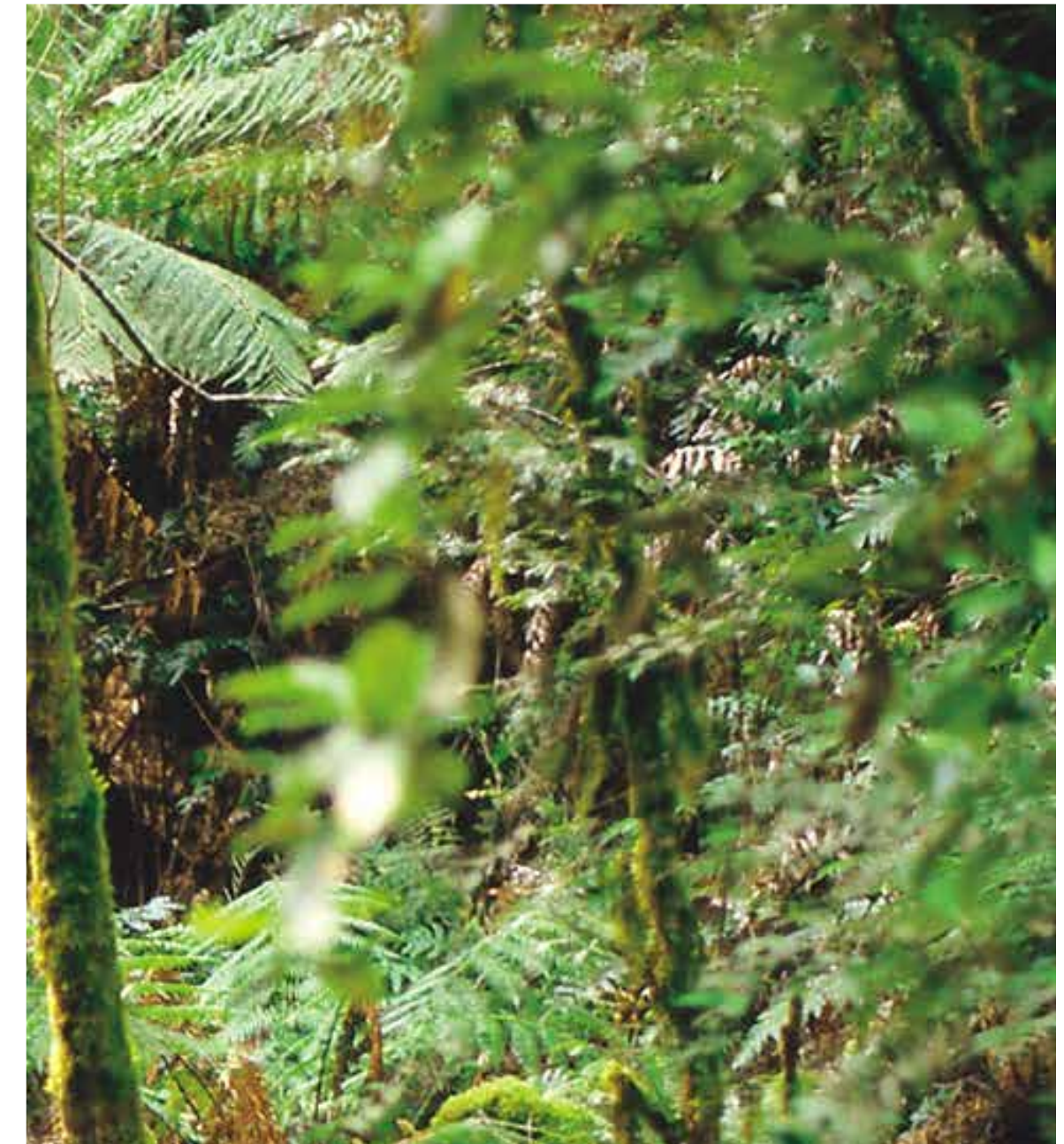
Meat and Livestock Australia (MLA) has committed to net zero emissions by 2030 through the adoption of technologies to ensure all Australian grazing land and red meat production is carbon neutral.

Research has shown using red seaweed (Asparagopsis) as a feed additive in Australian cattle feedlots can dramatically decrease methane emissions, with one study reporting reductions of 98 per cent with no impact to quality of beef²⁶. MLA has established an agreement with CSIRO to commercialise the feed supplement, with the intention for the technology to contribute to the industry's 2030 target. This initiative, together with ventures to pilot large scale production of the feed supplement, have already attracted significant institutional capital.

26 Asparagopsis feedlot feeding trial, MLA, 2020



4. The investment case for institutional investors



The investment case for institutional investors

We believe that with careful asset selection and management, investment in a Natural Capital portfolio could deliver attractive long-term risk-adjusted returns, as well as positive ESG outcomes at scale.

Real asset-backed investment portfolio

Natural Capital returns can be generated by real asset-backed investments such as large scale commercial agricultural land, with diversification opportunities across climatic zones, agricultural commodities, and land uses, as well as environmental markets.

We expect continued global population growth to remain the fundamental long-term driver of the value of food-producing land, along with the increasing scarcity of arable land globally. Australia is well-positioned to capitalise on its geographic advantage to service that demand, given the population growth and emerging demographics in Asia, and the demand for quality produce and food security.

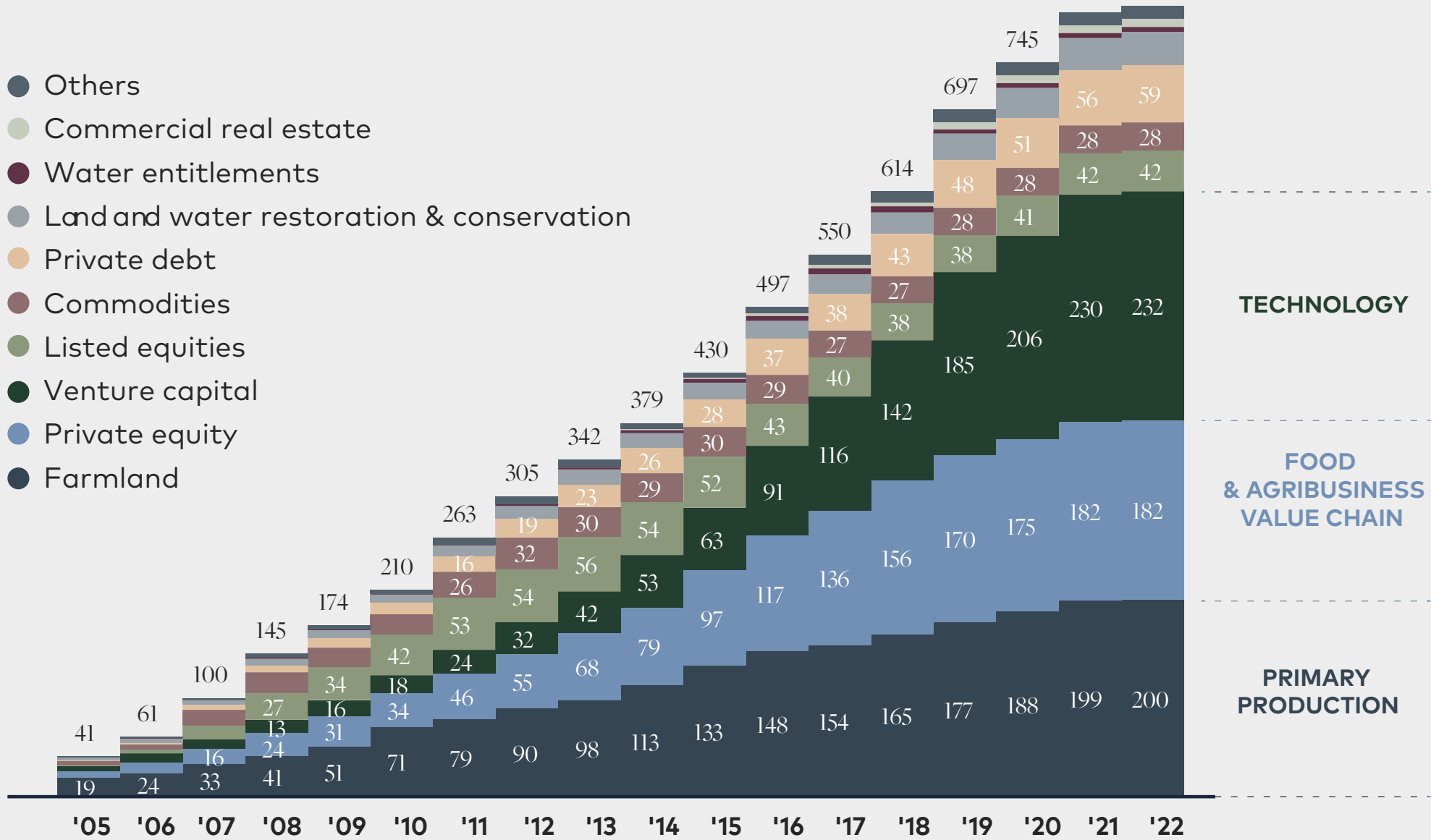
Institutional investment in agriculture has grown significantly over the past decade, attracted to an asset-backed investment case underpinned by global demand for sustainably produced food converging with the transition to a low-carbon economy.



There are now more than 200 fund managers investing globally in farmland alone, while the number of related funds investing in food and agricultural assets has increased to 802 funds with more than US\$125 billion in AUM²⁷. While Australian pension funds have lagged behind North American investors (which comprise 56 per cent of the global market²⁸), the rise of Australian farmland funds during the past two decades indicates the rising interest in Australian agriculture from institutional investors. This growth in investment is a combination of traditional 'diversified agricultural' funds as well as a rising number of sustainable agriculture and 'impact' funds.

In addition, we expect a more environmentally friendly approach to agriculture will assist long-term capital appreciation of assets, due to both improved asset productivity and resilience, and to the global economy increasingly valuing sustainably managed Natural Capital assets (both in terms of consumer and investor preferences).

Figure 7
The rise of global food and agriculture funds by category



Source: Valoral, 2020

27 Investing in the Pillars of Global Agriculture, Valoral 2022

28 Preqin, 2020

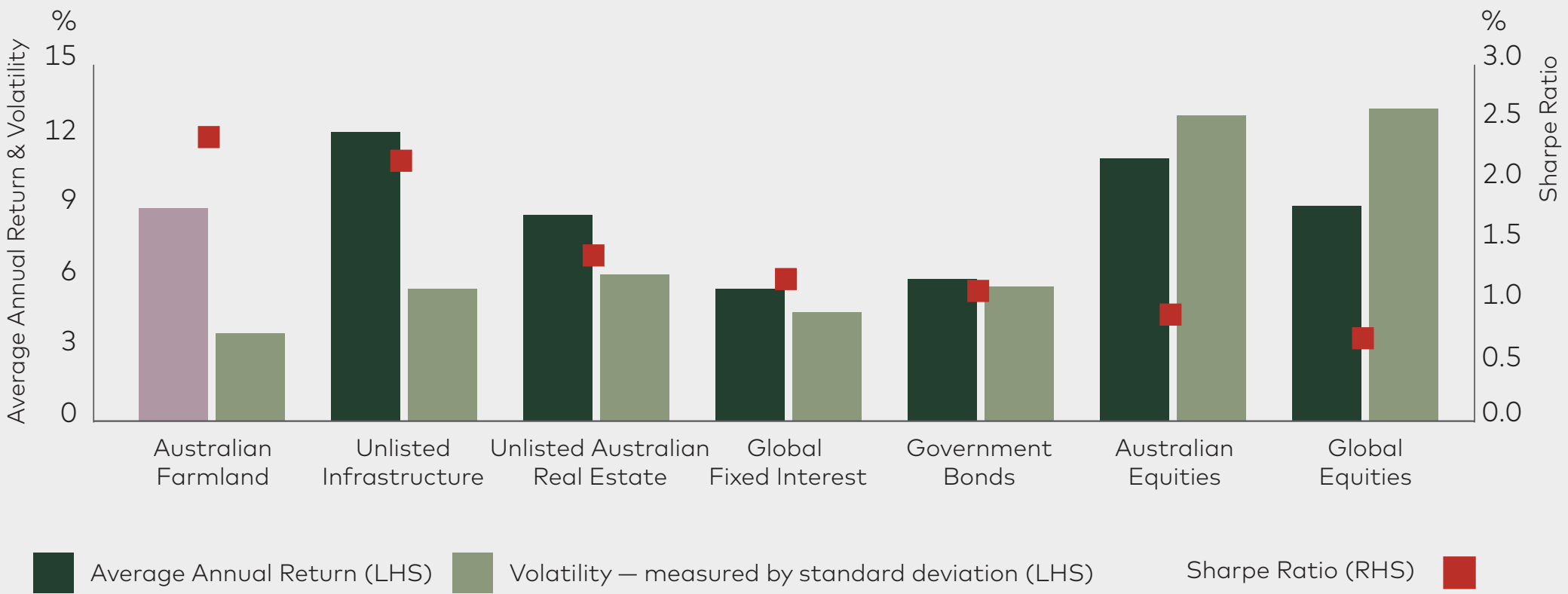
Attractive total risk-adjusted returns

Large scale farmland in Australia delivered a 9.7 per cent total return during a 36-year period since 1980, of which 5.7 per cent was driven by income²⁹. More recently, ANREV Australia Farmland Index Total IRR Returns have ranged from 8-18 per cent since 2015³⁰.

By ABARES's measure, Australian farmland returns have averaged 9 per cent per annum from 1991–2020. The annualised volatility of this return sits at 3.7 per cent, implying a Sharpe ratio of more than 2. The low volatility can be attributed in part to the illiquidity of the asset class, but is also due to the demand for farmland commodities remaining relatively consistent through historical economic cycles³¹.

While still emerging, environmental markets present a potentially material opportunity for return stacking, with additional income streams from environmental market credits. Institutional return opportunities may also be improved by the delivery of economies of scale, and the adoption of best market practice and technology.

Figure 8
Australian investment class returns and volatility: 1991–2021

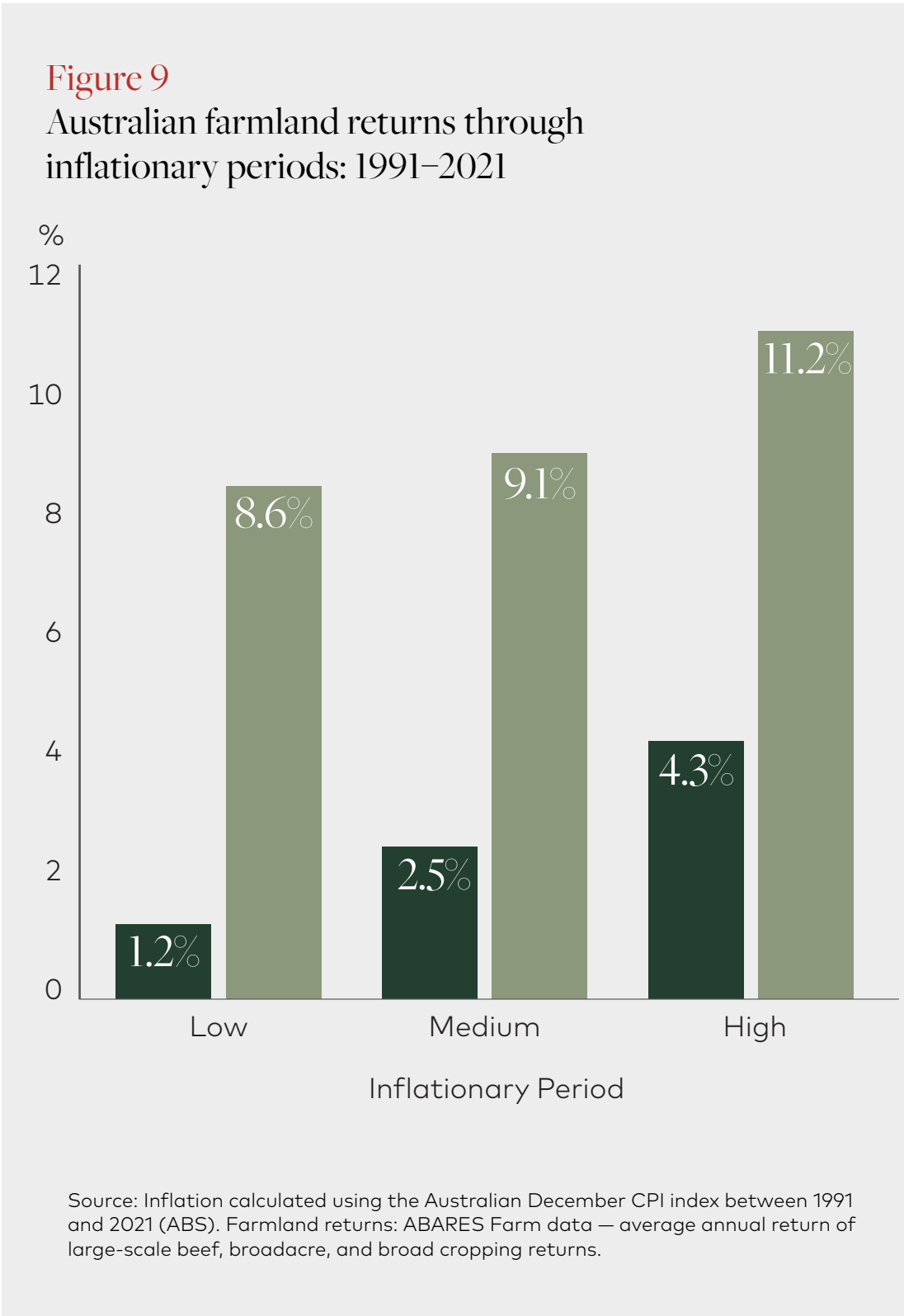


Source: Returns are calculated annually between 1991 and 2021 using close prices at 31 December. Australian Equities: S&P ASX200; International Equities: MSCI World Index; International Fixed Income: Bloomberg Global Agg Total Return Index; Government Bonds: S&P U.S. Treasury Bond Current 10-Year Total Return Index; Unlisted Real Estate: MSCI/PCA Aus All Property Quarterly Index; Unlisted Australian Infrastructure: MSCI Australia Quarterly Private Infrastructure Fund Index (note: earliest time series returns from 2002); Farmland: ABARES Farm data — average annual return of large-scale beef, broadacre, and broad cropping returns. Risk-free rate used in calculation of Sharpe ratio: Australian 3-month Treasury Yield.

29 All industries (broadacre) include wheat & other crop, mixed livestock, sheep, and beef farms (excluding dairy) with revenue over \$1 million. (ABARES 2022)

30 ANREV Australia Farmland Index, Q4 2021

31 Why farmland now? A store of value during economic uncertainty and inflationary periods, Nuveen, 2021



Inflationary hedge

As a ‘real asset’ investment, farmland has long-term inflationary hedge characteristics and historical correlation with inflation rates in a variety of global markets³². Australian agriculture returns have correlated positively with inflation, with household food contributing just over 15 per cent of the Australian CPI basket³³.

Figure 10
Agriculture and its correlation to other investment classes³⁴

	Farmland	Unlisted Real Estate	Unlisted Infrastructure
Farmland	1.00		
Unlisted Real Estate	0.15	1.00	
Unlisted Infrastructure	0.13	0.83	1.00
International Fixed Income	-0.25	-0.48	-0.15
Govt Bonds (US 10-yr total return index)	-0.43	-0.56	-0.46
Australian Equities	0.03	0.33	0.75
International Equities	0.28	0.40	0.54

Low correlation to traditional investment classes

Historically, Australian agriculture has exhibited little correlation across the asset classes. Providing this element of diversification to a portfolio can serve investors well, particularly during volatile market conditions. Australian farmland exhibits low correlation with other asset classes, and the addition of farmland to a portfolio can result in lower portfolio volatility³⁴.

A potential defensive alternative under superannuation benchmarking mechanisms

In Australia, Your Future Your Super (YFYS) regulations were designed to improve the accountability, transparency, and performance of superannuation funds. In essence, regulators will rank relevant products by fees and investment returns, with underperforming products publicly marked as ‘underperforming’ and barred from onboarding new members.

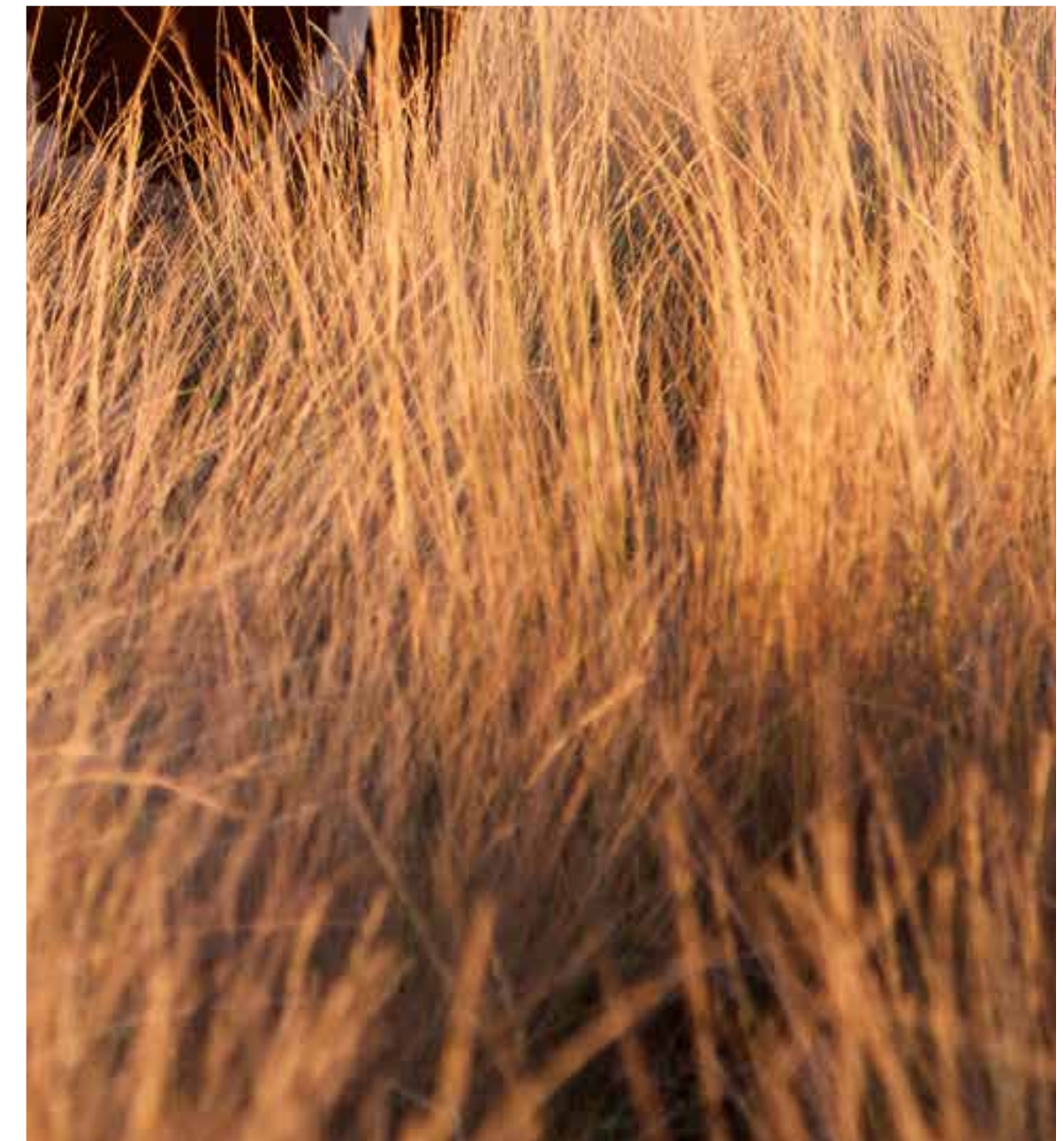
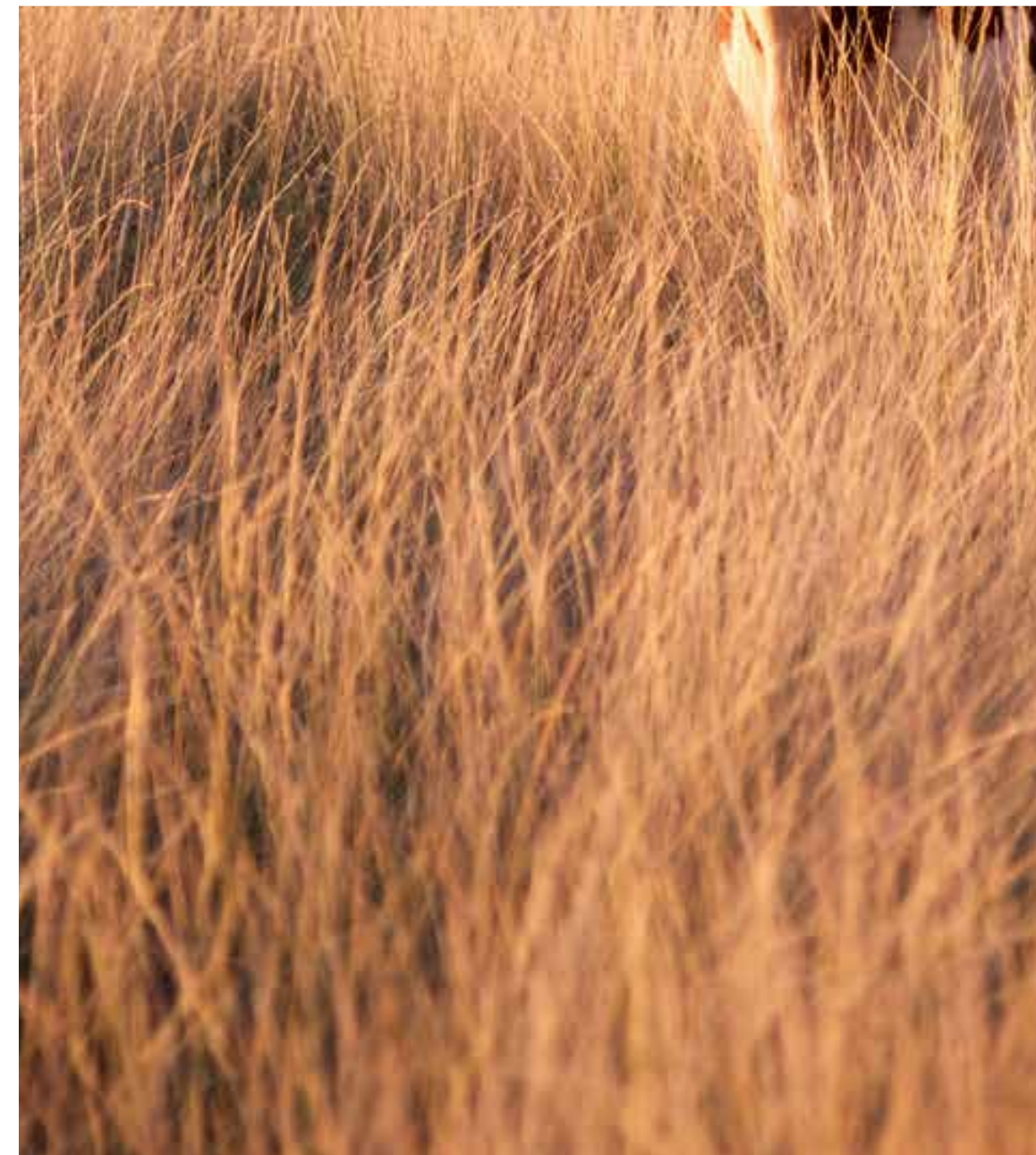
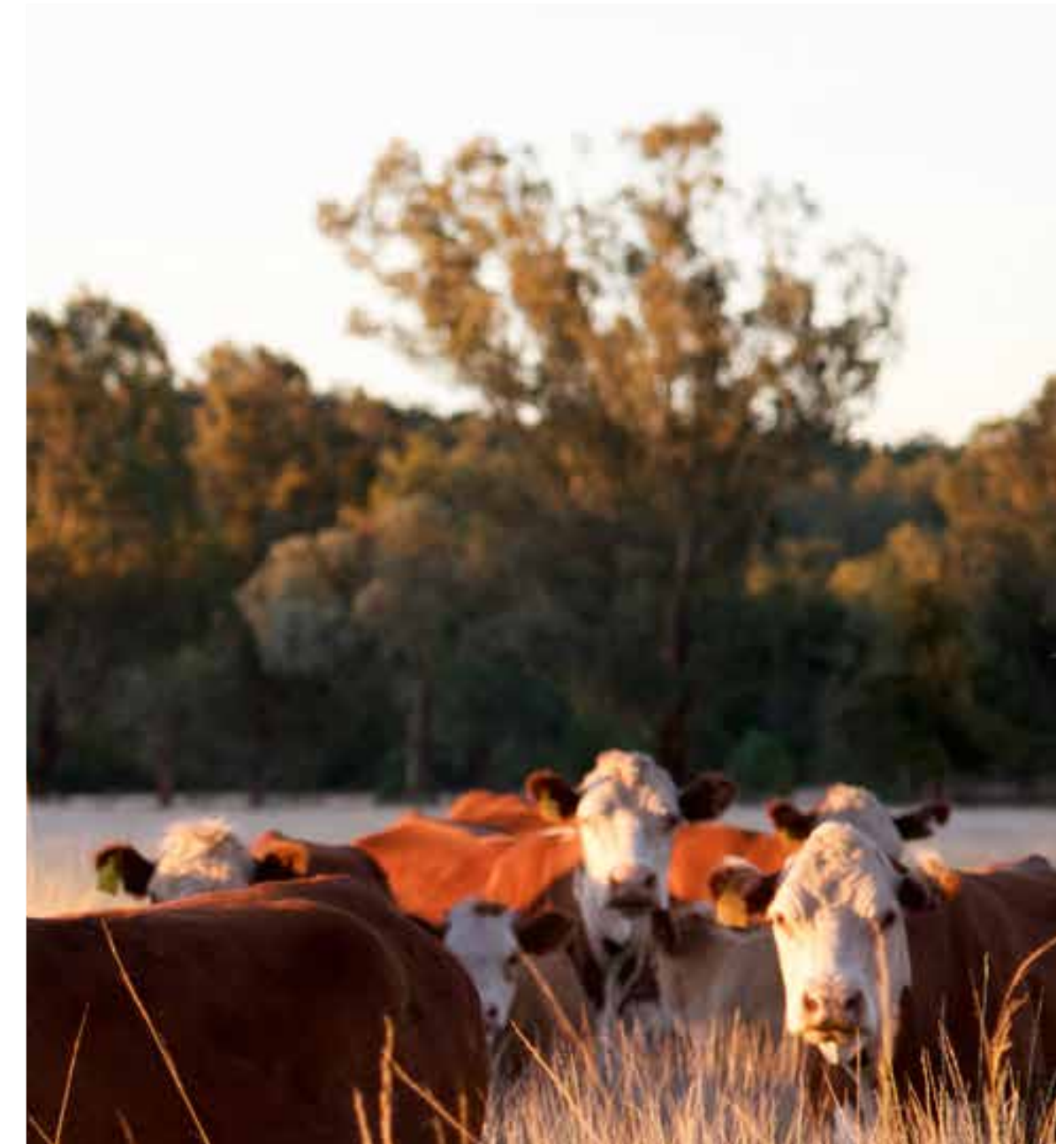
APRA’s new benchmarking performance framework will be the primary method of measuring underperformance and sets up a comparative and competitive framework.

We believe Natural Capital could be categorised under SRS 550 as either an Alternative Asset (and thus the 50/50 debt and equity benchmark) or Real Estate — Agri (and thus the MSCI Australia Core Wholesale Property Index). If the performance definitions broaden over time, we would see a strong case for Natural Capital to be classified as a Defensive Alternative asset given its low correlation to traditional markets.

32 Why farmland now? A store of value during economic uncertainty and inflationary periods, Nuveen, 2021
33 Australian Bureau of Statistics, 2021
34 Investing in Farmland, Nuveen 2020. Returns are calculated annually between 1991 and 2021 using close prices at 31 December. Australian Equities: S&P ASX200; International Equities: MSCI World Index; International Fixed Income: Bloomberg Global Agg Total Return Index; Government Bonds: S&P U.S. Treasury Bond Current 10-Year Total Return Index; Unlisted Real Estate: MSCI/PCA Aus All Property Quarterly Index; Farmland: ABARES Farm data — average annual return of large-scale beef, broadacre, and broad cropping returns.

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5. The Queensland opportunity



The Queensland opportunity

Australia’s largest opportunity set for Natural Capital opportunities³⁵.

Queensland provides a significant opportunity in Natural Capital, with rich and unique landscapes and biodiversity. Covering over 30 million hectares, including diverse and attractive climate and rainfall patterns, it is estimated that Queensland is capable of generating 1,450 million ACCUs – a number which is significant on a global scale. Queensland's environment also provides scaled potential for biodiversity preservation (for example, protected area expansion) and includes high-value assets such as the Great Barrier Reef and the Daintree Rainforest.

Figure 11
Queensland provides Australia’s largest Natural Capital opportunity

Australia
Scale of Opportunity

+5,000

New projects

2.5 billion

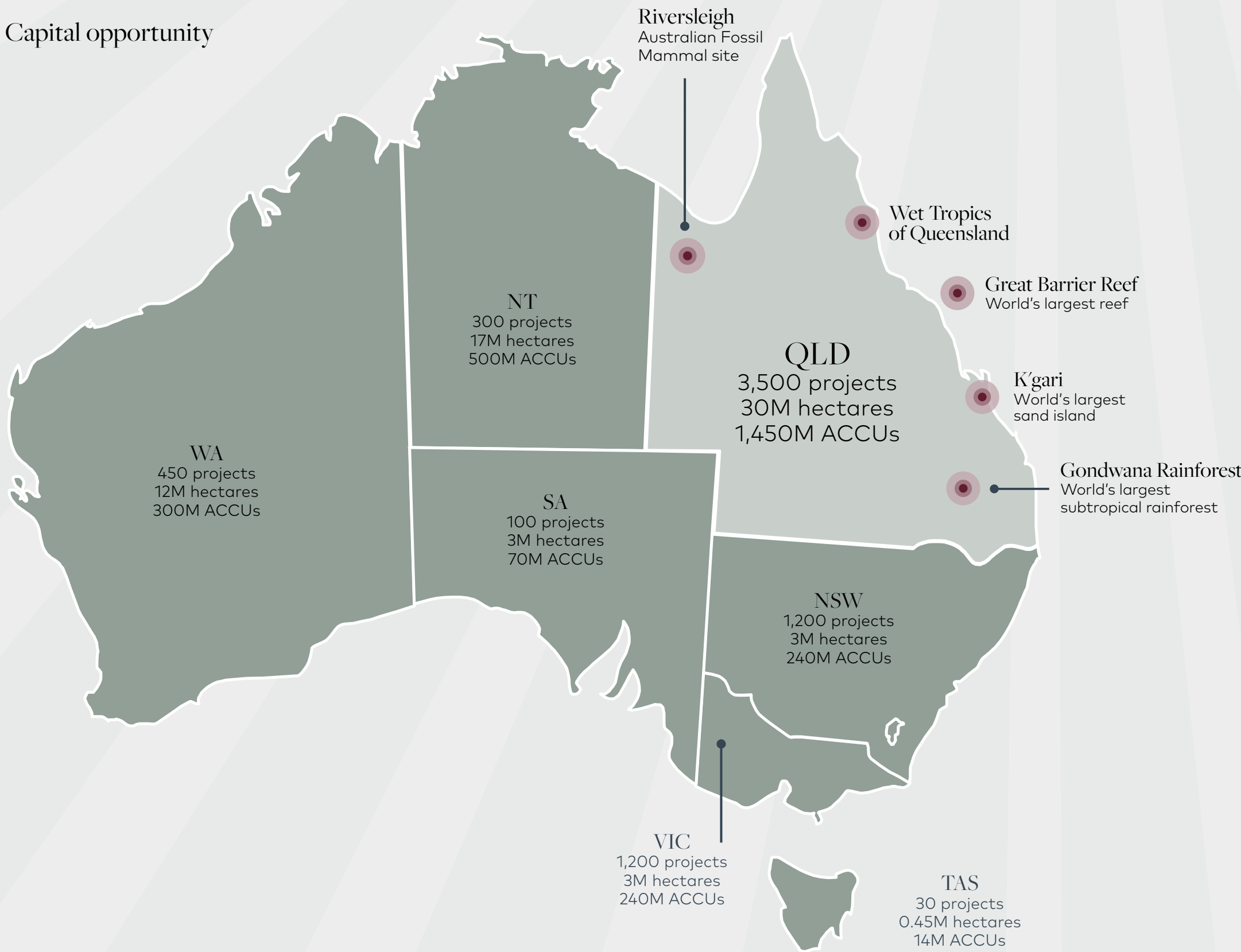
Tonnes of emissions
abatement

+65 billion ha

Valued at A\$40bn

 Australian World Heritage Listed Sites

Source: Queensland, a key state for land-based carbon opportunities, Climate Friendly 2020



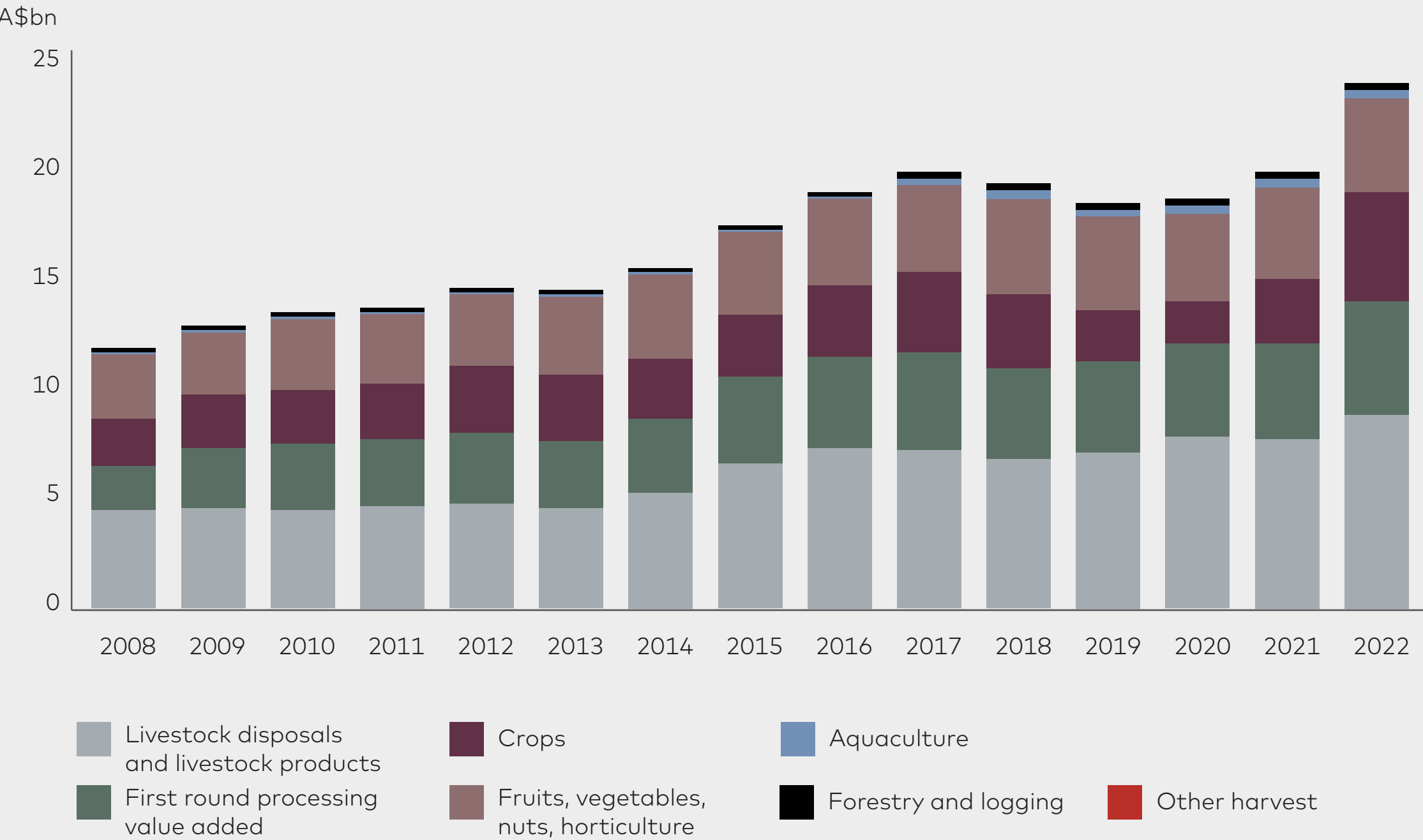
35 Climate Friendly, 2020

Queensland's primary industries' commodities (agriculture, fisheries, forestry, and food) are estimated to have a total value in excess of AU\$23 billion in FY22, with Queensland currently producing around 0.4 per cent of the world's food and around 1 per cent of the world's agricultural exports. The gross value of production of Queensland agriculture has grown at an annual compound rate of 5.1 per cent over the last decade³⁶.



Queensland has one of Australia's largest opportunities for positive carbon and biodiversity influence.

Figure 12
Queensland agricultural commodities — gross value of production

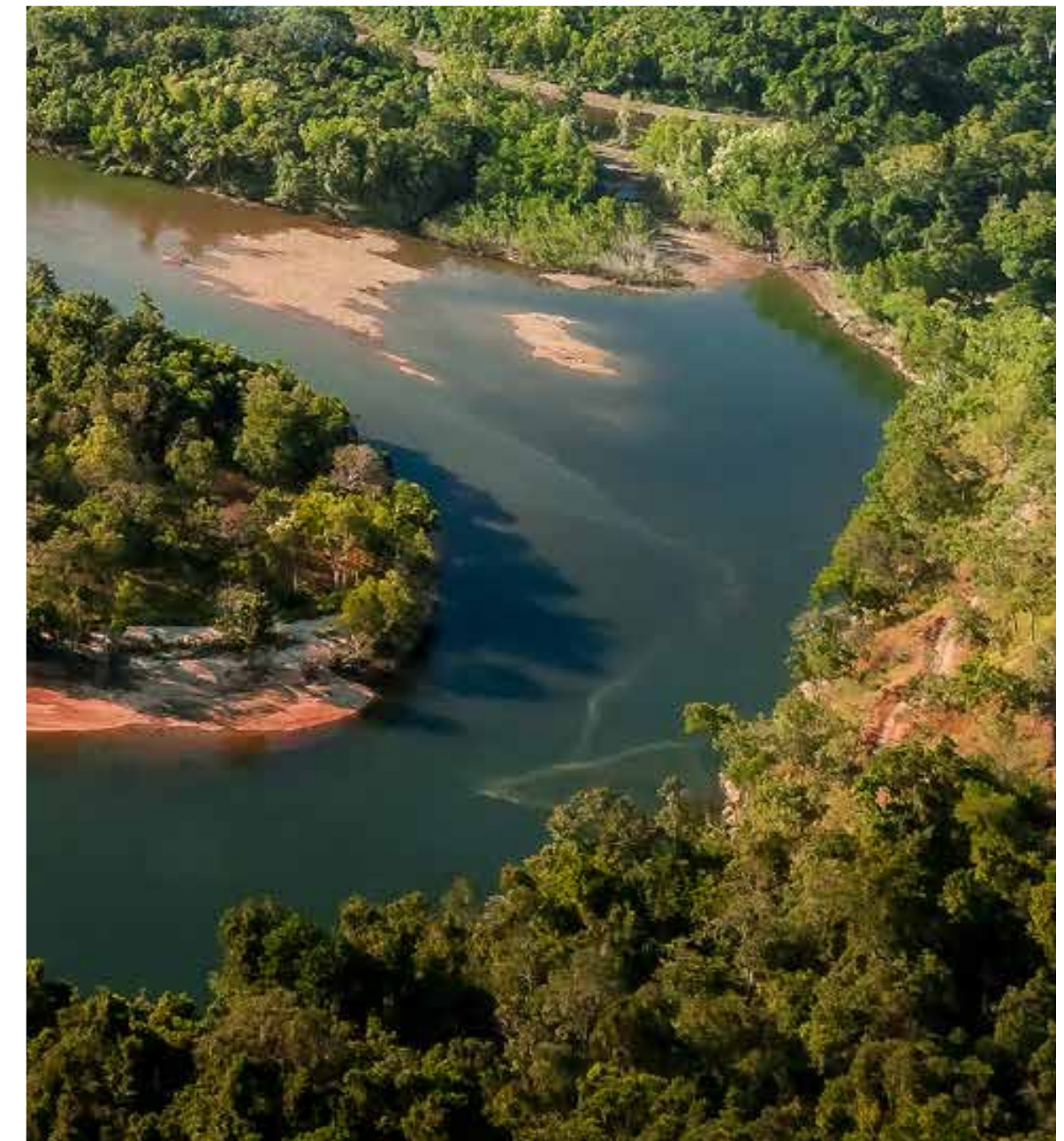
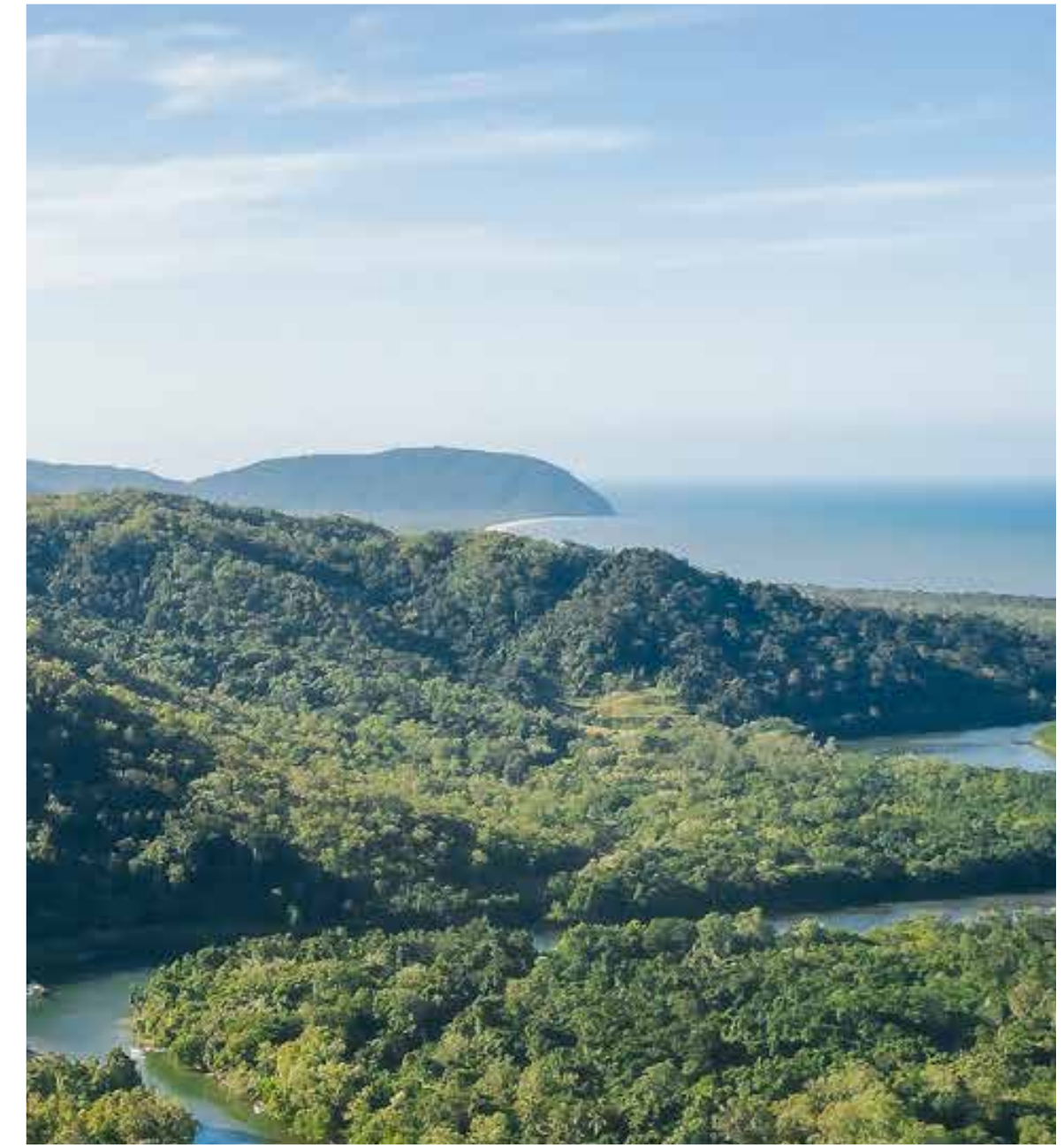


Source: [Queensland AgTrends](#), Department of Agriculture and Fisheries, Queensland Government, 2022

36 Queensland AgTrends, Department of Agriculture and Fisheries, Queensland Government, 2022

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6. Conclusion



Conclusion

QIC believes that ESG factors will have a material impact on the long-term returns of investment portfolios. The consideration of ESG factors is an integral part of our investment decision-making process and commitment to delivering strong, long-term investment performance for our clients.

We believe that with careful asset selection and management, investment in a real asset-backed Natural Capital portfolio can deliver investors attractive, long-term, risk-adjusted returns, with low correlation to traditional investment classes, as well as ESG outcomes at scale.

We believe that growing global demand for quality food and fibre (driven by population growth and emerging demographics) is aligning with an increased demand for sustainable food and fibre production, and the transition to a low carbon economy.

An investment approach that integrates the management of Natural Capital to produce sustainable food and fibre, carbon footprint reduction and enhanced biodiversity is not only possible, but can create superior long-term investor value. We expect that a sustainable investment approach to agriculture can not only improve productivity and create additional income streams, but will also assist long-term capital appreciation as the global economy increasingly values land stewardship, which generates positive Natural Capital outcomes.

We expect institutional investment will play a critical role in facilitating sustainable Natural Capital stewardship in Australia and will drive the development of sustainable economies of scale, alongside the adoption of market-leading practices, technology and innovation.



We expect institutional investment will play a critical role in facilitating sustainable Natural Capital stewardship in Australia.





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