

Future Trends Report

2022



Forward



I am delighted to share the 2022 IFPA Future Trends Report. We have worked with EY to deliver this report to our members annually for several years now, but this is the first time we have produced it as part of the International Fresh Produce Association (IFPA).

IFPA is the largest and most diverse international association serving the entire fresh produce and floral supply chain and the only to seamlessly integrate world-facing advocacy and industry-facing support. We exist to bring the industry together to create a vibrant future for all. We grow our member's prosperity by conducting advocacy; connecting people and ideas; and offering guidance that allows us all to take action with purpose and confidence.

This report is a tool to help you and your team understand and stay ahead of the ever-evolving changes that continually impact our industry. In reviewing this year's report the IFPA team has identified the following points of interest:

- Agtech is going to be huge. Work out what this means for your business
- In recent years Sustainability has become increasingly in the radar of companies and consumers. Looking ahead we see ESG and Biodiversity becoming more prominent focal themes in this space
- Technology is moving fast so think about how you balance investment in what is here now vs what is coming
- Personal health will stay a focus for consumers and offers several opportunities for the fresh produce industry
- As the impact of COVID-19 lessens what will the new normal be?

When you read this report, you are likely to see many trends that seem familiar or intuitive. This is not unexpected as the data that informed this report was taken from the world that we all live, work and play in. This report does not have "the one" trend or answer, however it is a great tool to test your own personal understanding of the coming trends and to start a conversation with your colleagues and peers to build your own view of the trends that will shape the future of your world.

Darren Keating
CEO ANZ
International Fresh Produce Association



EY is grateful for the opportunity to work with IFPA once again to deliver the 2022 IFPA Future Trends Report. This report identifies the ongoing changes that continue to impact the industry. This report is the starting point for the industry, supply chains and businesses to look at the new trends that are shaping the industry, factors affecting how businesses are run, and an understanding of the mindset of the post-pandemic consumer. Key findings from the report include:

- Market research on the short-term trends identified that key trends included continued lifestyle changes post COVID-19, inflation, and the Ukraine and Russian conflict. These trends are likely to continue to disrupt supply chains, workforces, and trade prices. A likely significant focus on Environmental, Social and Corporate Governance in the medium-term. Supply will be driven by technology advancements and ongoing workforce access issues across the supply chain.
- Continued consumer focus on sustainability is expected to be a long-term trend, which will result in ongoing changes to the supply chain as businesses adapt to reflect consumer demand. There will also be a focus on artificial intelligence advancements and opportunities in the export market in the long-term.
- The EY Consumer Index results showed that consumers had an increased focus on affordability, healthier products, and more sustainable products. The survey results identified that over one in two people will be more likely to buy from companies that have a positive impact on society.
- Sustainability and Governance was identified as a key issue facing the horticulture sector. Sustainability and climate change, biodiversity and ESG were identified as significant issues faced across the horticulture supply chain.

EY was engaged on the instructions of IFPA ('Client'). EY has prepared the Report for the benefit of the Client and has considered only the interests of the Client. Accordingly, EY makes no representations as to the appropriateness, accuracy or completeness of the Report for any other party's purposes. No reliance may be placed upon the Report or any of its contents by any party other than the Client.

Ruth Ahchow
Partner
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Executive Summary

Market trends

EY undertook desktop research to explore future trends that are shaping the fresh fruit, vegetable and floral supply chain. IFPA and EY held a co-facilitated workshop which discussed the short, medium, and long-term trends with IFPA members. This report lists the key trends, based on the research and discussion with workshop participants.

Short-term

The main short term trend drivers are the continued lifestyle changes post COVID-19, inflation and the conflict between Ukraine and Russia. These drivers impact supply chains, workforce, trade and prices. Interestingly, these factors have changed consumers focus away from preference to affordability and access to products.

Medium-term

Medium term trends are driven by both supply and demand side factors. Demand is largely in relation to an increased focus on Environmental, Social, and Corporate Governance (ESG) and a continued shift to e-commerce. Supply is driven by technology advancements and ongoing workforce access issues across the supply chain.

Long-term

The key drivers of long term trends are generational change, the increased focus on sustainability by consumers, how carbon credits can be used by farmers as a revenue stream, artificial intelligence advancements and increasing opportunities in the export market.

Consumer Trends

The EY Future Consumer Index tracks changing consumer sentiment and behaviours across time horizons globally and identifies the emerging consumer segments. It provides a unique perspective on which changes are temporary reactions, which point to more fundamental shifts, and what a future consumer might be like.

Affordability: Six in ten Australians and New Zealanders (60% AU and 61% NZ) plan to be more aware and cautious of their spending in the longer term and (65% AU and 76% NZ) say price will be the most important purchase criteria for them three years from now.

Health: Over in one two (55% AU and 52% NZ) want to make healthier choices in their product purchases in the longer term; (34% AU and 39% NZ) say health or 'what's good for me' will be the most important purchase criteria for them three years from now.

Sustainability: 45% AU and 40% NZ will prioritise the environment and climate change in how they live and the products they buy; for 24% AU and 26% NZ sustainability will be their most important purchase criteria three years from now.

Social impact: Over one in two (51% AU and 58% NZ) will be more likely to buy from companies that ensure what they do has a positive impact on society; 36% AU and 31% NZ will buy more from organisations which benefit society, even if their products/services are more expensive.

Source: EY Future Consumer Index March 2021

Sustainability and Governance

Sustainability and Governance was identified as a key issue facing the horticulture sector. Sustainability and climate change, biodiversity and ESG were identified as significant issues faced across the horticulture supply chain. Whilst these topics are interconnected, climate change, modern slavery and biodiversity have been explored individually in section 3 of this report.

Impetus for change

The impetus for change has been driven from consumer and government pressure, physical and transition risks associated with climate change, and increased biodiversity and nature loss (e.g. Great Barrier Reef).

Climate Change

Farmers play a unique role in Australia's transition to a low-carbon economy. The sector accounts for a significant portion of Australia's emissions. While the horticulture sector might not be a significant contributor to emissions, it has the opportunity to adapt and mitigate risks of climate change through income diversification, productivity and market access and through long-term regional resilience.

Biodiversity

Biodiversity is facing destruction at unprecedented rates globally. Biodiversity is an emerging ESG issue, with Australian investors seeking to understand how to manage and address the financial risks to businesses they invest in. The continuation of biodiversity loss could present a material financial impact for many companies, in particular, companies who have a dependence on biodiversity-related benefits, such as the horticulture sector.

Modern Slavery

Modern slavery is a violation of human rights, and the horticulture sector is considered high-risk and has seen high non-compliance rates in the past. This is largely due to the widespread use of labour hire contractors, and significant sub-contracting arrangements.

Introduction

The focus of this report is to identify market trends expected to impact IFPA members from all parts of the fruit, vegetable and floral supply chain over the short, medium and long term. This report also seeks to provide members with a deep dive into key areas that are impacting the industry, namely current consumer trends and the importance of sustainability and governance in the horticulture sector.

IFPA commissioned EY to prepare content for the 2022 Future Trends Report, which is instrumental in highlighting trends and their potential impact on the industry. As part of the development of this report, EY and Darren Keating, CEO ANZ of IFPA, co-facilitated a workshop with approximately 20 IFPA members, to gather members views on their current and projected future impacts. The workshop involved interactions with members from every segment of the fresh produce and floral supply chain. The session was held for six hours, and covered an information pack developed by EY, with the intent to test key market trends that are likely to impact the industry with the members present, and gain their insights to be used in the forming of this report.

The workshop included four key sessions, discussing:

- Key insights from EY's Global Future Consumer Index Research which included prevailing and emerging consumer trends, and a deep dive into how Australians are looking at the topic of sustainability.
- Pressing sustainability and governance topics for the horticulture sector, and how these are expected to evolve in the coming years. This included decarbonisation of horticulture, modern slavery, biodiversity and waste/packaging.
- How satellites, Artificial Intelligence and space technology have the power to improve the efficiency and effectiveness of the fruit, vegetable and floral sector.
- Key insights over the short, medium and long-term market trends in the sector, with data collected on contributions from workshop participants.

The results of this work are presented in three sections, as outlined below.

Section 1: Market trends over the short, medium and long term

Market trends are constantly shifting as the Australian and New Zealand economies work to react to political and economic changes across the globe. The start of 2022 has witnessed tensions between Ukraine and Russia, ongoing impacts of COVID-19, and increased inflation,. This section outlines the future market trends that are shaping the fruit, vegetable and floral sector. Key market trends were identified both through desktop research and discussions with workshop participants. During the workshop, activities were conducted to test assumptions on the market trends identified by EY, as well as gain further insights into the key trends which members believe are going to impact them in the short, medium and long term.

Section 2: Consumer trends

COVID-19 has driven change in the way people work, live, eat and use technology at a rapid pace over the past two years. This section of the report is based on EY's Future Consumer Index which details consumer trends, and changes to consumer behaviour, particularly as a result of the pandemic. The EY Future Consumer Index tracks changing consumer sentiment and behaviours across time horizons globally and identifies the new consumer segments that are emerging. It provides a unique perspective on which changes are temporary reactions to the COVID-19 crisis, which point to more fundamental shifts, and what the consumer post COVID-19 might be like.

Section 3: Sustainability and governance

Corporate governance in relation to sustainability is facing increased scrutiny by investors and stakeholders, as well as regularly attracting adverse media attention if handled poorly. The entrenchment of good corporate governance strategies and procedures can reduce legal, regulatory and reputational risks to businesses. This section provides a deep dive into sustainability and governance, as this was identified as a key area of interest for members that will have a significant impact on the horticulture sector.

Section 1

Market Trends



Market Trends

Overview

EY undertook desktop research to explore future trends that are shaping the horticulture supply chain. IFPA and EY held a co-facilitated workshop which discussed the short, medium, and long-term trends with IFPA members. The workshop was used to share and test data and information on identified trends across the short, medium and long-term. This report lists the key trends, based on the research and where relevant, the discussion with workshop participants has been incorporated.

Short-term trends – 1 to 2 year forecast

Access to Labour

The effects of COVID-19 on the Australian Agricultural workforce have been most directly felt in the horticulture sector. Government border closures and quarantine restrictions has meant a highly reduced active labour market for this sector. The labour market has also been impeded by interstate mobility and an overall increase in competition for a reduced workforce. A particular concern is whether horticulture producers will have access to sufficient seasonal workers to harvest crops and conduct other labour-intensive farm operations, particularly given the remote nature of many farms.¹ Whilst there is widespread concern for access to seasonal workers, labour shortages have been identified throughout the supply chain, and is likely to be an ongoing concern as infections continue to be widespread. Further detail on workforce concerns across the supply chain is detailed on Page 8.

Inflation

The annual inflation rate jumped to 5.1 per cent in April 2022, which is the highest level since the introduction of GST in Australia, which was introduced in 2000-01.² The rise in inflation was identified as a key trend as inflation results in increased prices of fuel, food and shelter.³ Inflation increased to decade highs in many advanced economies (e.g. Australia, UK, USA), which reflects ongoing supply chain disruptions and higher energy and other input prices.

Changes to consumer behaviour

Changes to consumer behaviour were identified as a key trend. A deep dive into prevailing and emerging consumer trends is detailed in Section two, based on EY's Global Future Consumer Index report.

Food safety

Outbreaks of foodborne illnesses, such as salmonellosis and listeriosis, attributed to fresh produce in recent years have increased consumer concerns about the safety of fresh produce. While the horticulture sector has focused on understanding the hazards and improving best practice, there remains a short to medium term need to prioritise food safety and ensure that validated risk management processes are put in place avoid the outbreaks.

Trade relationships

Trade relationships are when countries trade, buy, sell or exchange goods or services between themselves. Australia has several free trade agreements such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) are likely to boost revenue from export sales through wholesalers.⁴ This agreement, alongside others, has created increased demand for certain fruits and vegetables, such as grapes and mangoes, which is anticipated to strongly rise as the trade routes solidify. However, countering these agreements, there has been an increase in trade barriers in recent years. For example, tariffs on exporting to China will create large implications for the produce sector. China has placed tariffs of up to 200 per cent on Australian wine for the next 5 years⁵, and a combined tariff of 80.5% per cent on Australian barley.⁶ Implications from the Ukraine-Russia conflict are expected to impact international trade over the coming years also, however it is currently unclear how the situation will evolve over the coming months.

Ukraine-Russia conflict

The Ukraine-Russia conflict has impacted the input cost of commodities, packaging materials, labour, energy and transport costs.⁷ Prices have increased for both fertiliser and diesel due to the rise in crude oil prices and supply shocks from Russia.⁸ Companies are localising supply chains in order to mitigate the geopolitical risks. However, this is placing increased pressure on local supply chains, including Agribusiness, as there are higher production and logistic costs associated with this model.⁹

COVID-19

Consumers have an increased focus on healthier food alternatives since the COVID-19 pandemic began. In addition, consumers have a greater focus on plant-based foods.¹⁰ Consumers are purchasing from restaurants and take-away services less, and rely more on produce available from supermarkets, which are placing pressure on supermarket supply chains.¹¹ Supermarkets have seen an increase in online delivery and click-and-collect services.¹²

Medium-term trends – 2 to 3 year forecast

On-farm technology

Agricultural technology is predicted to become Australia's next \$100 billion industry by 2030.¹³ The sector is fast becoming a vital part of the economy, and there are key capabilities and investment opportunities across the supply chain. Examples of evolving technology include in the areas of on-farm inputs for crop and animal horticulture, such as genetics, microbiome, breeding and animal health. Farm management software enables data analytics over trends and crop health. Farm Robotics, including on-farm machinery, automation, drone manufacturers and optimisation enhance on-farm operations.¹⁴

Environmental, Social and Governance (ESG)

ESG was identified as an important area of interest. Section three of this report includes a deep dive into pressing sustainability topics such as ESG impacts on the horticulture sector and how these are expected to evolve in the coming years. There are a large range of environmental and socio-economic sustainability impacts that relate to the fresh produce industry. These can effect various stages of the fruit and vegetable supply chain and include water usage, food loss and waste, sustainable packaging, chemical use and energy.¹⁵ In addition, consumers have an increased focus on 'food miles' which refers to the distance travelled by food products between production and consumption. As consumers become more sustainability focused, they are opting to shop at farmers markets, or buy Australian grown produce in order to reduce carbon emissions.

Biosecurity

As people return to frequent overseas travel in a post COVID-19 world there is going to be an increased focus on biosecurity by the Australian Government and agricultural industry. Biosecurity controls are fundamental for safeguarding natural resources against the threat and impacts of pests, weeds and diseases.¹⁶

Online shopping/E-commerce

Online grocery orders are increasing rapidly, with online sales expected to reach 20 per cent of total grocery sales by 2025. There has also been a shift to consumers purchasing flowers online. COVID-19 has changed the way we live and work which has changed consumers relationships with e-commerce significantly. Whilst consumers are purchasing more fresh produce and eating meals at home more, there may be a decline in fresh produce purchases, as consumers feel as they have a smaller and lower quality fresh produce selection when shopping online.¹⁷

Workforce Access

There are concerns for workforce access across the horticulture supply chain (on-farm, transport, distribution and retail) which are expected to span both short and medium term. Despite a downward trend in absolute numbers needed in the agricultural industry, due to external forces reshaping the type and volume of labour required,¹⁸ there are still concerns for future availability of workforce participants in the industry. The Australian Government is offering support on this issue, with initiatives such as the AgUP grants program, which will provide \$7.3 million in funding to support industry-led initiatives. The program focuses on improving workforce opportunities, career pathways and employee retention in the agricultural sector. The AgCAREERSTART pilot program is a structured employment program to help young Australians start a career in horticulture in their gap year.¹⁹ COVID-19 has put increased pressure on the logistics sector, where employees are facing increased pressure to keep supply chains moving.²⁰ Transport workers travelling between states were required to deal with the changing requirements throughout the pandemic. COVID-19 and isolation requirements resulted in major workforce shortages across the transport, distribution and retail sector. Further, labour shortages across the supply chain are resulting in supply shortages across the industry.²¹ Supermarkets in particular reported major staff shortages, which resulted in early closures to allow staff to restock shelves and manage demand from consumers.

Mental Health

There is forecasted to be an increased focus on mental health and well-being across the agricultural sector, most notably in the farming sector. Mental health was identified as an important trend for the sector. There are a number of projects being run across Australia and New Zealand currently in relation to mental health, with one example of this being the Resilient Farming Communities Project. This is a two-year joint Agriculture Victoria and Department of Health initiative to support farmers, farming families and communities to better manage stress and improve their health.²²

Market Trends

Education

It is expected that there will be a continual shift to those working in the agricultural sector being more educated than ever before, both at a secondary and tertiary level. These more highly educated people will use greater levels of on-farm technology compared to the past, which is shown to boost efficiency. There has been a trend towards those in Australia and New Zealand studying Agribusiness and this is expected to flow through to more modern farming practices and to greater expertise across the entire supply chain. Studies show that as educational level increases, output increases; with secondary school education having the highest returns on agricultural productivity.²³

Convenience food

There is a predicted to be increasingly high demand for refrigerated snacks in single-serve packaging, particularly from the 'on the go' consumer cohort.²⁴ Consumers have a preference for healthier options, with a large emerging market for the fruit and vegetable sector, such as vegetable sticks and dip, and pre cut fruit. Delivery meal companies such as HelloFresh and Marley Spoon are projected to continue to rise in popularity amongst time poor people.²⁵ This creates a large opportunity for the fresh produce businesses who can partner with such companies to become their preferred fresh produce supplier.

Long-term trends – 5+ year forecast

Sustainability

Sustainability was identified as being a key trend in both the medium and long-term. Section three of the report includes a deep dive into pressing sustainability topics such as ESG impacts on the horticulture sector and how these are expected to evolve in the coming years, climate change and decarbonisation, modern slavery and biodiversity.

Export Market

One of the important long-term trends identified as part of the desktop review was the export market, which continues to see high growth. This is largely due to food being an essential item, which has resulted in demand not falling significantly. However, due to the trade issues and conflict across the globe, farmers have seen increased costs of production and increased transit times.²⁶ The value of horticulture exports is forecast to increase by eight per cent to \$2.9 billion in the 2021-22 period. This is largely due to favourable seasonal conditions which is expected to increase exports of almonds, cherries, macadamia nuts, stone fruit, potatoes and table grapes.²⁷ In 2022-2023, horticultural exports are forecast to increase by seven per cent to \$3.1 billion. The forecast increase is largely due to improved trade access for citrus into the United States, and tariff reductions for Australian exports into the United Kingdom. The Australian Government forecasts that in 2026-27 export growth will reach \$4.3 billion, which will be largely influenced by the speed of global economic recovery and resolution of supply chain issues.²⁸

Artificial Intelligence

As technology continues to develop, Artificial intelligence will enable farmers and businesses to collect on farm data, by analysing and converting it into information to enable better management decisions. Page 11 includes detail on technologies such as satellite imaging and space technology, which can be used to observe properties at close range, and provide information about farm and animal health e.g. soil moisture levels and environmental degradation.

Generational Change

Succession planning is regularly identified as a large issue facing farming families across Australia. Approximately 69 per cent of farmers are actively planning to incorporate the next generation into their business. There has been an increasing trend to incorporate the younger generation into the farm business, as families show a greater willingness to talk about the future.²⁹ The Victorian Government has committed to supporting the next generation of farmers through the Young Farmers program which provides the younger generation the opportunity to have a say, enhance their skills and progress their careers. The program offers Young Farmers the opportunity to network, provides mentoring opportunities, scholarships and leadership and development.

Market Trends

International Trade

International Trade is a trend that continues to impact the short, medium and long-term. It was considered an important trend as Australia's trade relationships have a significant influence on the horticulture sector, and the dynamic political situation globally will continue to have impact on the import/export markets. Whilst the situation in Ukraine-Russia is continuing to evolve, implications from this conflict and increased tariffs from China are likely to have a significant impact on the sector for years to come.

Biodiversity Trading

The Australian Government is launching a new trading platform for biodiversity credits, which is currently being piloted, called the National Stewardship Trading Platform. Farmers will be able to receive biodiversity payments up front for planting certain types of trees, as well as selling the carbon credits which are earned. "The CSIRO says it is going to be worth \$48 billion by 2050, which is bigger than the current beef industry."³⁰ Australia are leading the world in biodiversity trading and this intellectual property will be able to create a brand for farmers, in the form of a biodiversity seal that will be internationally recognised.

Vertical Farming

Innovations in greenhouse technology, LED lighting, automation and vertical farming are assisting supply chains meet rapidly growing demand for locally grown produce.³¹ Non-traditional vertical farms and greenhouse produce are typically sold at local markets to avoid increased 'food miles' and food being shipped across the country. Vertical farming is predicted to grow in popularity over the next five years.

Increased disposable incomes

Disposable incomes are anticipated to increase, which will increase demand for fresh fruit and vegetables. Industry revenue is forecast to rise at an annualised rate of 1.5 per cent through to 2025 – 2026, to \$15.2 billion.³²

Market Trends

There is a range of technology which can be used across the entire horticulture supply chain. The technology is rapidly evolving, with one area of particular interest being Space Technology, due to its many capabilities and detailed precision.

Case study: How space technology can enhance the horticulture sector

The everchanging nature of our environment poses substantial risks to people, assets, productivity, logistics and infrastructure. Some environmental threats are unseeable to the human eye. In order to compete, businesses will need to spot threats sooner and take actions that will eliminate, or reduce these risks. Space Technology is a highly innovative, data-driven, near real-time threat identification and earth observation solution. Space Technology uses satellites, AI and intelligence to see what is happening anywhere on the earth at anytime, so that businesses know what needs fixing and how to avoid future loss to the planet. This will help prevent disasters, manage assets, improve supply chains and prevent losses without putting humans at risk.

Space Technology can see what is happening on Earth, down to 15cm. This enables discovery of things unseeable to the human eye, like moisture levels in soil and vegetation health, heat, particles and gases. Space Technology can pinpoint objects or points of interest to their exact location (e.g. where is a truck, or fleet of assets). Leveraging of satellite technology can also connect devices to networking and provide better internet access for remote and rural areas.

Space Technology combines multiple data sources including satellites, which enables visualisation of immediate threats and predicted risks to businesses or our environment. Space Technology can expose risks such as natural disasters, carbon emissions, physical climate risks and asset integrity. By exposing risks along vast distances, dangerous terrain and analysing data from multiple sources, it allows businesses to forecast the future risk profile of businesses, better targeting of resources and allows for strategic responses to optimise outcomes.

Space Technology provides operational efficiencies compared to manual data capturing and analysis efforts. Space Technology can provide improved occupational health and safety outcomes for businesses due to not needing to send people out on site to collect data.

How can Space Technology be applied across the horticulture supply chain?

Examples of Space Tech application across the horticulture supply chain are outlined below.

	Weather and Climate Forecasting	Resource Mapping	Ecosystem Management	Disaster Management
Horticulture	<ul style="list-style-type: none"> Optimised decision making for immediate and long-term planning, harvesting application of fertiliser/pesticide and water distribution Awareness and resilience building against slow-change climate effects Conducting efficient measurement and creating longitudinal datasets 	<ul style="list-style-type: none"> Adoption of precision horticulture Water demand estimation Crop inspection Yield estimation/forecasting to improve supply chains and market function Identification of pests and diseases Monitoring of asset integrity (e.g. fencing and physical infrastructure) 	<ul style="list-style-type: none"> Monitoring of environmental degradation (e.g. erosion, pollution, water shortages) Measuring and monitoring of soil and water health Identification of vegetation that may encroach on assets, land or water Identification of invasive weed species 	<ul style="list-style-type: none"> Mitigations and preparedness for impacts of slow or rapid onset natural disasters Biosecurity and protecting against disease Asset valuation Monitoring of toxic waste and emissions Measure carbon sequestration capture and forecast future carbon sequestration profile

Market Trends

	Weather and Climate Forecasting	Resource Mapping	Ecosystem Management	Disaster Management
Transport	<ul style="list-style-type: none"> • Optimisation of all forms of transport (road, rail, sea) • Go/no-go decisions due to forecast weather • Safe and efficient routing 	<ul style="list-style-type: none"> • Logistics coordination for movement of supplies • GPS services • Development, monitoring and maintaining of infrastructure 	<ul style="list-style-type: none"> • Mapping transport pollution (air, terrestrial, marine) 	<ul style="list-style-type: none"> • Re-routing flights • Logistics coordination during a response operation
Consumer	<ul style="list-style-type: none"> • Climate risk for asset locations • Go/no-go decisions due to forecast weather 	<ul style="list-style-type: none"> • Retail forecasting analytics conducted in near real time • Assessment of land value, ownership, type, use 	<ul style="list-style-type: none"> • Estimate shopping centre size • Mapping asset pollution • Precision mapping • Mapping of urban areas 	<ul style="list-style-type: none"> • Logistics coordination during a response operation

Section 2

Consumer Trends



Consumer Trends

Overview

The EY Future Consumer Index 2022 provides a unique perspective changing consumer sentiment and behaviours across time horizons globally. It considers temporary reactions such as those related to the COVID-19 pandemic, to those that point to more fundamental shifts, and also identifies emerging consumer segments. This section explores consumers priorities and values, trends in the fruit and vegetable sector and consumer sustainability concerns.

Priorities and values

Personal circumstances

Personal circumstances and concerns have a direct impact on the decisions made around consumer habits. When asked to narrow it down to the top three concerns consumers have in relation to personal circumstances in 2022, the responses were:

- Increasing cost of groceries and other household essentials (36% of responses)
- Having enough money to spend on things other than living expenses (24% of responses)
- My personal and/or household income (24% of responses)

On a global level Australia and New Zealand are the highest responders to both feeling that rising costs of goods and services are making it hard to afford things and household income decreasing in the past 12 months. This will add to pressure for consumers to afford basic needs such as groceries.

COVID-19 outlook

The pandemic has had an emotional impact on the population over the past two years, and as we start to emerge from continued lockdowns and border restrictions consumers will have different outlooks. From a sample of Australians who were asked in February 2022 how long they think it will take for the fear of COVID-19 to stop impacting the way they live their lives, the responses were:

- 43% responded a year or longer
- 40% responded less than a year
- 17% responded that it is no longer having an impact on life decisions.

Australia and New Zealand were both in the top 10 countries for consumers thinking COVID-19 will impact their lives for a year or longer. This can have an impact on whether consumers dine out at restaurants, shop online or in store, or go away on holidays.

Living and working differently

As a result of the pandemic people are living and working differently. Four in ten Australians expect they will be living differently in the longer-terms, with the most common responses being living closer to family and friends rather than work, moving to a bigger space as they spend more time at home and planning to live in a lower density area. Six in ten Australians who are employed expect that the way they work will be changed forever, with the expectation to be able to work from home more often and travel less for work.

Consumer trends in fruit and vegetable retail

Figure 2. Consumer trends in fresh food and retail



Consumer lives are now dependent on digital services

In addition to e-commerce, demand for digitally-enabled product and service bundles have increased as well as the output of valuable consumer data

Omnichannel is moving from industry buzzword to a basic need

Physical and digital integration has accelerated in line with the rapid growth of services like curbside pickup and dark kitchens

New ways of working are changing gravitational centers

As consumers work more from home, retail footfall is evolving away from big centres to local stores within their communities

E-commerce demand for fresh food has increased

As consumers plan to shop more for everything online

Consumer Trends

Future Consumer Priorities³³

Data was collected as part of the EY Future Consumer Index on what the future consumer will look like and what they will value most in the future when making purchasing decisions. The survey participants were asked to prioritise out of the following categories:

- **Affordability first:** Consumers intend to live within their budget and not buy things they don't really need in a post pandemic world. With inflation at its highest level in 20 years, the majority of consumers are concerned with buying the most affordable item and not concerned with what brand it is.
- **Health first:** Consumers will make choices which protect the health of themselves and their family before anything else and buy from brands which are trusted to be safe. 22% of people surveyed in both Australia and New Zealand put health first, so this may directly result in more fruit and vegetables purchased.
- **Planet first:** Consumers will be more aware of their impact and take action to cut waste and reduce their environmental footprint. Consumer sustainability trends are discussed in further detail below.
- **Society first:** Consumers are strong believers in the idea that we should all work together for the greater good. Consumers will be more willing to buy from organisations that are honest and transparent about what they do and will want proof that they are putting the needs of society and the community first.
- **Experience first:** Consumers live for the moment and look for experiences that help them to get the most out of life. When it comes to what they buy, they enjoy trying new things and look for products and services that feel like they are made just for them and what they need.

Figure 3. Australia future consumer priorities

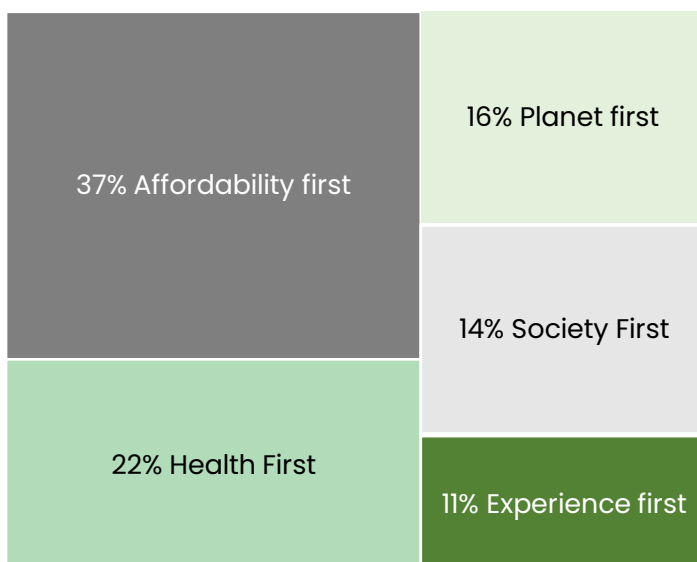
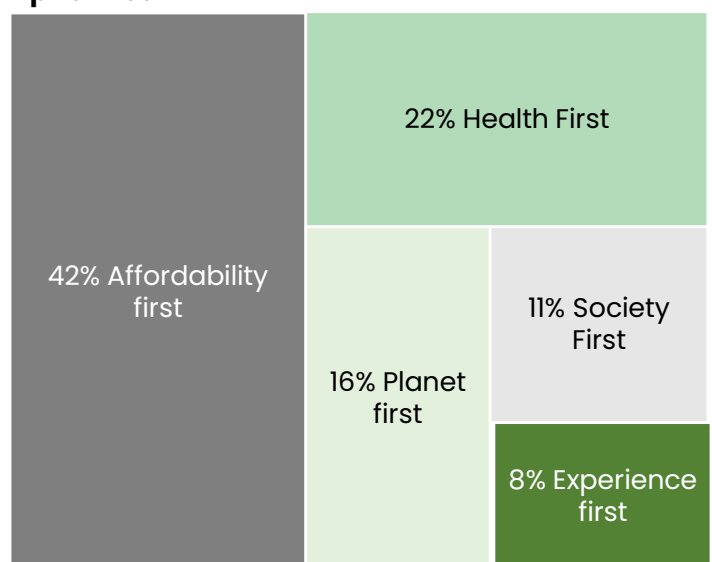


Figure 4. New Zealand future consumer priorities



Further data collected in the EY Future Consumer Index indicated the following:

- **Affordability:** Six in ten Australians and New Zealanders (60% AU and 61% NZ) plan to be more aware and cautious of their spending in the longer term and (65% AU and 76% NZ) say price will be the most important purchase criteria for them three years from now.
- **Health:** Over one in two (55% AU and 52% NZ) want to make healthier choices in their product purchases in the longer term; (34% AU and 39% NZ) say health or 'what's good for me' will be the most important purchase criteria for them three years from now.
- **Sustainability:** 45% AU and 40% NZ will prioritize the environment and climate change in how they live and the products they buy; for 24% AU and 26% NZ sustainability will be their most important purchase criteria three years from now.
- **Social impact:** Over one in two (51% AU and 58% NZ) will be more likely to buy from companies that ensure what they do has a positive impact on society; 36% AU and 31% NZ will buy more from organizations which benefit society, even if their products/services are more expensive.
- **Experience:** 33% AU and 30% NZ will be less inclined to get involved in experiences outside the home on account of health and safety concerns; 59% AU and 45% NZ have changed the way they stay entertained.

Consumer Trends

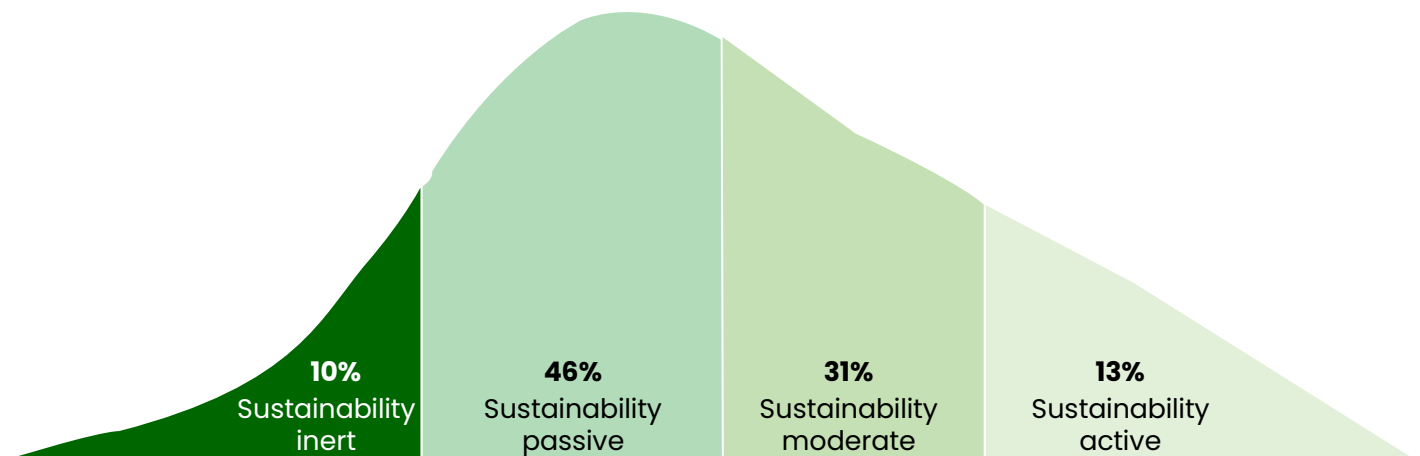
Consumer sustainability concerns

Consumer concerns about sustainability and purchasing decisions

Consumers around the world have said they plan to make more sustainable choices about how they spend their time and money, particularly once the COVID-19 crisis is over. Global consumer sentiment on this point remains solid, and consumers in Oceania are no different. Whilst there are differences between the Australian and New Zealand consumers, the sustainable consumer is an emerging segment, that has resulted in increased and changing expectations of companies.

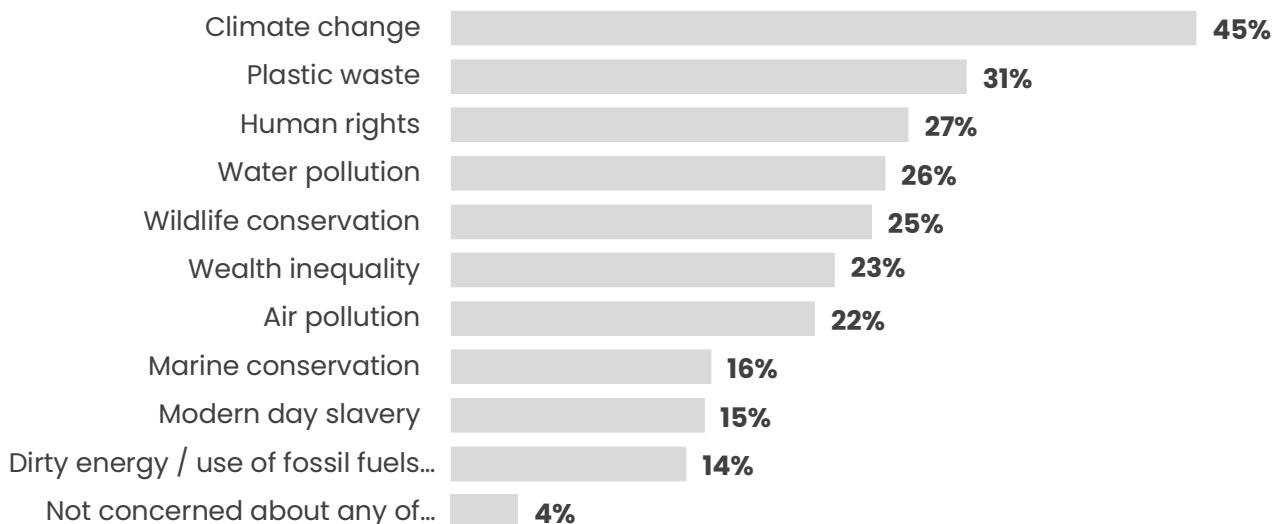
Australian and New Zealand consumers were asked if they embrace sustainability, and 77 per cent and 78 per cent of country respondents respectively rated themselves as either sustainability moderate or passive. Only 13 per cent and 12 per cent rated themselves as sustainability active, whilst both countries reported 10 per cent as sustainability inert, as outlined in Figure 6 below. When asked to what extent individuals were personally concerned about sustainability issues, more than 50 per cent responded 'a great deal' for every option. Figure 7 outlines the key consumer concerns when asked about sustainability issues. The top three were climate change, plastic waste and human rights. It was little surprise that majority of responders replied with climate change, as this is on the forefront of a lot of peoples minds, particularly with the recent flooding experienced in Northern New South Wales and Queensland, and other natural disasters in recent years.

Figure 5. Australian consumers and sustainability



Modern consumers are starting to become more educated and in turn more concerned with issues of ESG. When surveyed, 45% stated climate change as being a key sustainability concern to them, 31% stated plastic waste and 27% stated human rights. These sustainability concerns can be found to directly impact the Horticulture sector, with human rights issues in the form of modern slavery being at a high risk in the industry, emissions impacting on climate change and plastic waste being used in packaging.

Figure 6. Key consumer sustainability concerns

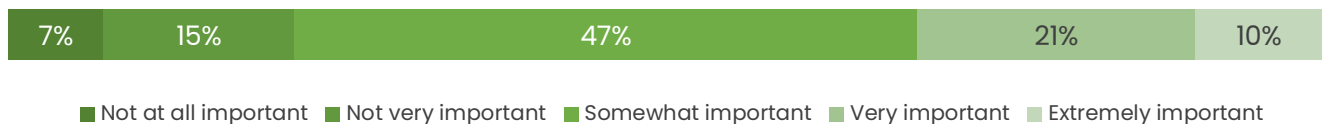


Consumer Trends

Consumer purchase decision-making

Many consumers want to live more sustainably, however, when it comes to purchase decision-making, the average consumer considers sustainability to only be somewhat important. 80 per cent of consumers use re-usable shopping bags and recycle, however when it comes to decision-making only 31 per cent of consumers consider sustainability to be very important or extremely important. 47 per cent of survey participants consider sustainability somewhat important, whilst a net of 22 per cent consider sustainability not at all important, or not very important.

Figure 7. Purchase decision-making

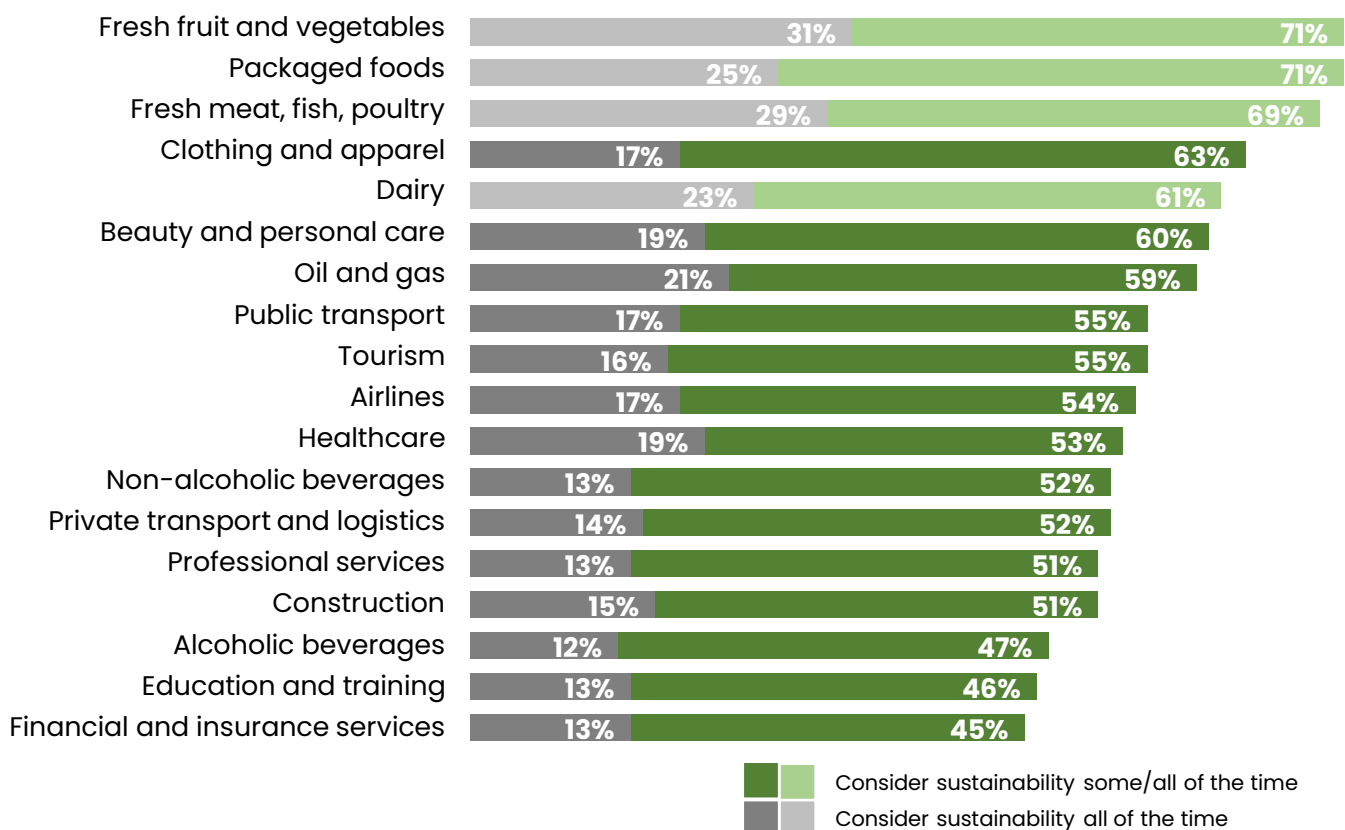


Importance of sustainability by sector, and consumer barriers

Importance of sustainability across sectors

Survey results identified that the consumers prioritise sustainability highly when purchasing from the horticulture sector (fresh fruit and vegetables and fresh meat, fish and poultry). Figure 9 outlines the importance of sustainability across a range of sectors. 71 per cent of consumers consider sustainability some of the time when purchasing fresh fruit and vegetables. When purchasing fresh meat, fish and poultry, 69 per cent of consumers consider sustainability some of the time. when compares to other sectors such as clothing and apparel, oil and gas, and public transport which are all below 65 per cent.

Figure 8. Importance of sustainability



Barriers to shopping sustainably

Many customers have good intentions to shop sustainability, however, there are a lot of perceived barriers to shopping sustainably, which include:

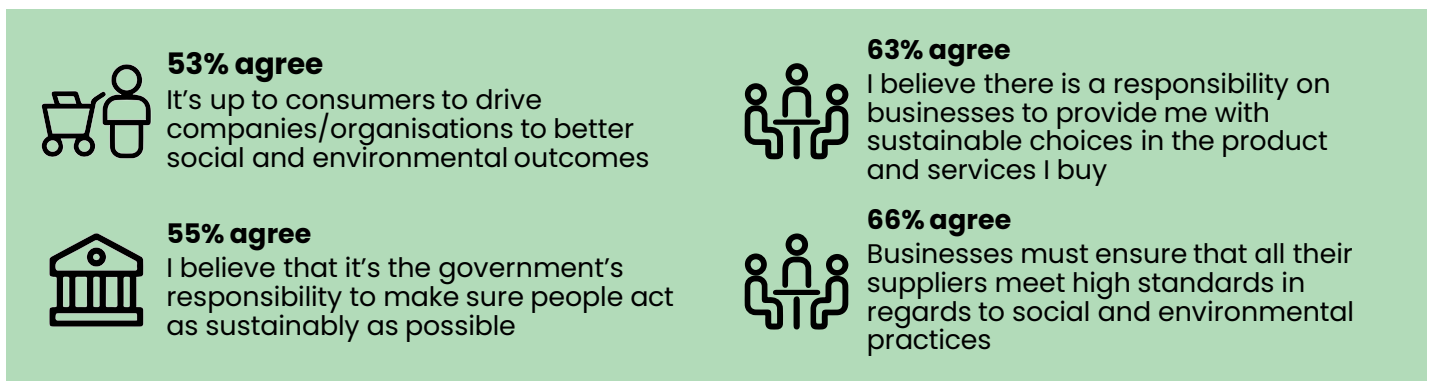
- Higher price
- Lower quality
- Availability and convenience
- Lack of information
- Misleading information
- Too difficult to find information
- Overall confusion

More than 50 per cent of consumers feel that they need more information to help them make sustainable choices when shopping. 36 per cent find sustainably shopping too difficult or time consuming to find the information needed to make sustainable choices. Many consumers believe that it costs too much to purchase sustainable products, and often only take environmental action when it saves them money (e.g. saving energy).

Prepared to pay extra

The key areas consumers are prepared to pay extra is for packaging made from recycled materials and products that look after animal welfare. Many consumers will pay more for renewable sources of energy, and products that reduce water and soil pollution, as well as companies that are carbon neutral (through purchasing offsets). Whilst many consumers are willing to pay more for products that are sustainable, 31 per cent of consumers are not willing to pay extra for sustainable options.

Figure 9. Responsibility for sustainability



Section 3

Sustainability and Governance



Sustainability and Governance

Overview

Corporate governance in relation to sustainability is facing increased scrutiny by investors and stakeholders, as well as regularly attracting adverse media attention if handled poorly. The entrenchment of good corporate governance strategies and procedures can reduce legal, regulatory and reputational risks to businesses, hence the increased focus on Environmental, Social, and Corporate Governance (ESG). Whilst many topics across ESG are interconnected, a deep dive has been conducted into three separate ESG topics that are seen to impact the horticulture industry significantly; climate change, modern slavery and biodiversity.

Drivers of increased focus on ESG³⁴

As part of the development of EY's 2020 ESG report, EY surveyed over 300 institutional investors to gain insights into investors perspective on ESG performance and how ESG plays a central role in the decision-making and long-term investment management of businesses. The main drivers of the increased focus on ESG are stakeholders. 67% of investors surveyed say they make "significant use" of ESG disclosures that are shaped by the Task Force on Climate-related Financial Disclosures (TCFD) and 75% of those who make significant use of that TCFD information say that it has a significant impact on investment decision-making. It has been evidenced over a period of 5 years that the percentage of respondents that conduct little or no review of nonfinancial disclosures had reduced to 2% in 2020, and the percentage who usually conduct a structure, methodical evaluation is 72% in 2020. This highlights that 98% of investors evaluation non-financial disclosures, either formally or informally so they are growing in importance, especially with the rise in integrated reporting in recent years. Regulators, investors, consumers and the general workforce have had an increased focus on ESG in recent years, as outlined in Table 1.

Table 1. Cohorts driving the focus on ESG

Regulators	Investors	Consumers & Community	Workforce
<ul style="list-style-type: none"> Increasing regulation, e.g. Modern Slavery Act <i>If not, why not</i> reporting principles strengthened, e.g. ASX CGPR Regulator encouragement to adopt TCFD Recommendations Demand for sound governance and evidence that actions reflect societal expectations 	<ul style="list-style-type: none"> Recognition of long-term value creation through ESG: <p>98% conduct either informal or a structured, methodical evaluations of a target company's non-financial disclosures</p> <ul style="list-style-type: none"> ACSI & Industry super funds driving engagement Increase in shareholder resolutions on climate & human rights 	<ul style="list-style-type: none"> Consumers aligning with brands with strong sustainability platforms Social media driving community engagement and activism Businesses recognising action on sustainability creates value: <p>64% say that CEOs should take the lead on change rather than waiting for government</p>	<ul style="list-style-type: none"> Employee engagement leading to productivity and retention Growing millennial workforce with strong values: <p>76% millennials consider a company's social and environmental commitments when deciding where to work</p>

Sustainability in horticulture

The interconnection between economic, social and environmental outcomes are core to the sustainability of Australian-grown horticulture, and its people. The below table outlines examples of sustainability in horticulture across environmental, waste, safety and health, working conditions, community impact and business and governance.

Sustainability and Governance

Environmental impact

- Soil health and conservation
- Protection of water resources
- Protection of crops
- Energy use, air quality and climate change
- Conservation of biodiversity

Waste and circularity

- Food waste
- Packaging
- Farm waste

Safety and health

- Nourishing people
- Food safety and biosecurity
- Quality

Working conditions

- Legal employment
- Living wages
- Modern slavery and human right
- Diversity, inclusion and discrimination

Community impact

- Protection of special sites
- Engagement with local communities

Business and governance

- Trade & economic value
- Innovation
- Leadership & governance
- Productive, profitable growers

Horticulture sustainability goals³⁵

Hort Innovation have created sustainability goals as part of their Australian Grown Horticulture Sustainability Project which can be used to inform investments, identify opportunities for collaboration, and to communicate with stakeholders and prioritise the important things to measure. The sustainability framework is made up of four pillars, including nourish and nurture, people and enterprise, less waste and planet and resources. There are seventeen topics significant to the sustainable production of fruits, vegetables, nuts and amenity horticulture in Australia which are identified below. These goals can be used to inform best practices in sustainability in the horticulture industry.

Nourish & Nurture

- **Food to nourish people:** Healthier, nourishing diets through increased consumption of readily available, affordable Australian grown fruits, vegetables and nuts.
- **Plants to nurture communities:** Community health and wellbeing is improved through increased greenspace, plants and cut flowers in homes, cities and towns.
- **Safe, traceable quality:** Australian-grown horticultural produce is trusted as safe and traceable; Reliable quality, authentic, Australian-grown horticultural produce is sought and valued by both international markets and Australian.

People & Enterprise

- **Productive, profitable growers:** Vibrant, productive, profitable enterprises which maximise the quality and utilisation of all produce. Responsible management of pests, weeds, diseases and agricultural inputs.
- **Safe & ethical work:** Provide ethical, fair and safe work conditions with zero harm; Create a culture of pro-actively meeting employment and duty of care obligations and standards of sustainable, ethical employment and procurement to prevent modern slavery; Attract and retain motivated workers creating rewarding career paths and a sustainable workforce.
- **Leadership & Governance:** Australian horticulture's leadership structures and capacity build the vitality, sustainability and diversity of the horticulture sector.
- **Innovation:** World-leading research, technology and innovation improves practices and drives transformational change.

People & Enterprise (continued)

- **Thriving Communities:** Regional, peri-urban and urban communities value the contributions of horticulture; Recognition of horticulture in local government planning in key growing regions.
- **Trade & Economic Value:** Become an economic powerhouse for local communities and the Australian economy.

Less Waste

- **Food Waste:** Increase the proportion of produce that meets first grade quality and increase utilisation of lower grade produce; Reduce food waste in the production system.
- **Packaging:** Packaging is minimised, recyclable, compostable or reusable.
- **Farm Waste:** Reduce, reuse or recycle on-farm waste and input supply packaging.

Planet & Resources

- **Water:** Reliable and viable access to sustainable water resources; Responsible and efficient use of allocated water to optimise production per unit of water; Objective measures guide more efficient water use; Increased adoption of water recycling and reuse.
- **Landscapes:** Best practice land management is used in horticultural production; Soil health and productive capacity is maintained or improved; Nutrient applications are matched to crop need; Movement of soil, nutrients and chemicals into the environment is minimised; Biodiversity is managed sustainably; Australian horticultural crops have effective pollination and protect pollinator species.
- **Climate:** Australian horticulture understands and manages the risks of climate change and extreme weather variability and builds resilience to natural disasters Increased use of horticultural plants and green space cools our cities and mitigates climate extremes; Horticultural plants capture carbon and production systems minimise greenhouse gas emissions.
- **Energy:** Energy is used efficiently, with an increased proportion from renewable sources.
- **Biosecurity:** Proactively manage biosecurity risks from pest and disease incursions into regions and Australia.

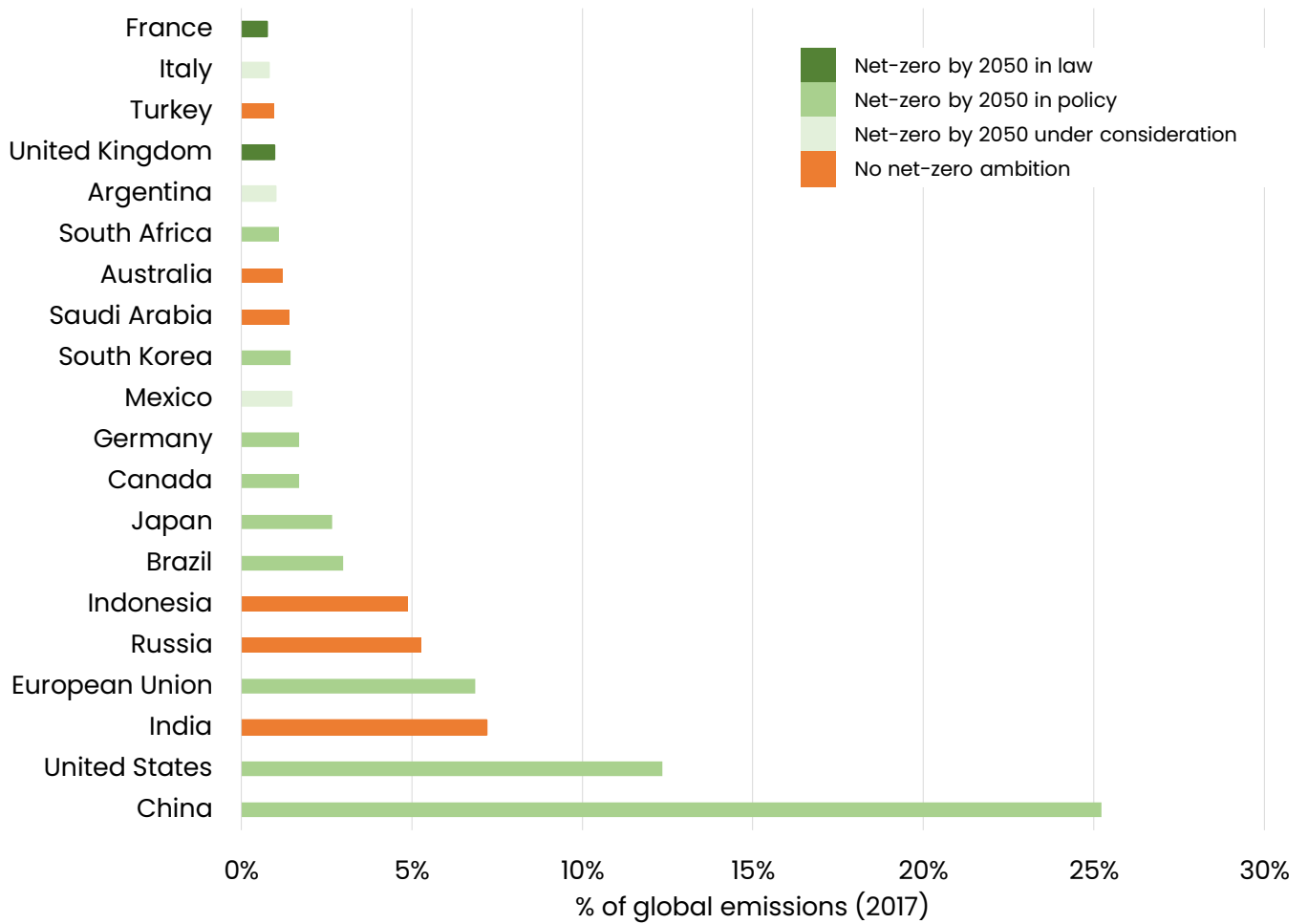
Climate change and decarbonisation

As stewards of most of Australia's land, farmers play a unique role in the national transition to a low-carbon economy. While the agriculture sector as a whole will likely continue to produce greenhouse gas emissions in providing high-quality food, fibre and materials to the world, efficient production and effective use of land will allow the sector to act as a key pillar of Australia's decarbonisation pathway. Instead, it can generate significant additional income through generating valuable carbon credits by storing carbon in soils, vegetation and harnessing traditional burning techniques. The horticulture sector accounted for nearly 15% of emissions in Australia's National Greenhouse Gas Inventory in the year to December 2020. This equates to 72.9 million tonnes of carbon dioxide equivalent (MtCO₂-e) emitted from the sector. Greenhouse gas emissions from horticulture include methane, nitrous oxide and carbon dioxide. Methane emissions from livestock constitute the highest source of emissions. At the same time, our agricultural regions are disproportionately impacted by climate risks.

Figure 11 outlines the net-zero ambitions of the G20 countries, which highlights that six countries have a net-zero target in law (UK, France, New Zealand, Hungary, Sweden and Denmark). Over 67 countries have a net-zero target in policy documents (representing ~ 25% of global emissions). The United States re-joined the Paris Agreement which has increased the chance of global cooperation in decreasing global emissions. In October 2021, Australia also made a commitment to have net zero emissions by 2050.

Sustainability and Governance

Figure 10. Net-zero ambitions of G20 countries



Climate risk: Physical and transition

The financial risk arising from climate change refers to the change in revenue, costs, capital allocation and access to capital that results from climate change. Climate risk is typically divided into two categories:

- Physical risks, which arises from weather events and longer-term shifts in climate
- Transition risk, which arise from the process of shifting towards a low-carbon economy

Physical Risk	
Acute Impacts	Chronic Impacts
Storms and flooding	Prolonged and more severe drought
Extreme heat	Water stress due to shifts in seasonal rainfall patterns
Bushfires	Increased heat

Transition Risk	
Markets - Shifts in supply and demand for certain commodities, products and services	Technology - Technological improvements or innovations that support the transition to a lower-carbon, energy efficient economic system
Policy & Legal - Policy actions that attempt to constrain actions that contribute to the adverse effects of climate change	Reputation - Changing customer or community perceptions of an organisation's contribution to or detraction from a lower-carbon economy

Sustainability and Governance

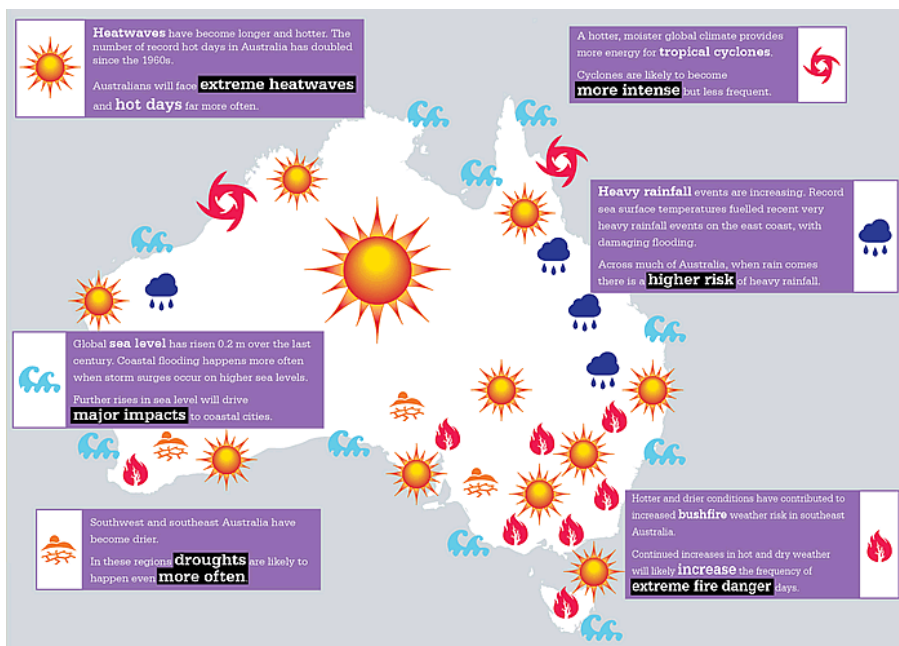
Physical risks relevant to Australian horticulture

Australian farmers are on the frontline of climate change, with more frequent and extreme weather events, including floods, fires, heat waves and droughts. The industry fundamentally relies on water to grow and maintain crops, and therefore the horticulture sector is under increasing pressure to manage the risk of water scarcity, overexploitation and mismanagement. Horticulture industries are already developing methods to better understand, manage and prepare for the impacts of climate change, such as changes to crop selection, land management and improving water efficiency. Figure 11 outlines the Australian climate, and impacts of climate change across the country.

Farmers for climate action have created a list of recommendations to help those in the sector adapt to the changing climate, which includes:

- Review regional climate projections before establishing new vineyards/orchards
- Explore alternative species, varieties and/or rootstocks
- Modify canopy and floor management practices to conserve soil moisture
- Manipulate harvest dates, for example by changing pruning
- Review human resource and other needs to adapt to shorter harvest times
- Review requirements for chilling
- Use netting to reduce the risk of sun as well as pest damage

Figure 11. Australian Climate Graphic³⁶



Transition risks

Businesses in the horticulture sector are receiving increased pressure from investors and supermarket customers to reduce their carbon footprint. For example, supermarkets are beginning to identify scope three emissions in their supply chain. Scope three emissions are the result of activities from assets not owned or controls by the reporting organisations, but where the organisation indirectly impacts its value chain, such as the emissions associated with producers' operations. In addition to the pressure from investors and supermarkets, the value of Australia's scarce natural resources and high-quality biodiverse land is increasingly recognised. This is due to the world's economy system valuing and bringing natural capital onto the balance sheet.

As a result of the changes to the economy, regulations are also evolving. The European Union has announced the introduction of a Carbon Border Adjustment Mechanism (CBAM) as part of the Green Deal. CBAM is a climate measure that should prevent the risk of carbon leakage and support the European Union's increased ambition on climate mitigation, whilst ensuring World Trade Organisation compatibility. The system requires European Union importers to buy carbon certificates corresponding to the carbon price that would have been paid, had the goods been produced under the European Union's carbon pricing rules. Conversely, once a non-EU producer can show that they have already paid a price for the carbon used in the production of the imported goods in the third party country, the corresponding cost can be fully deducted for the European Union importer.

Opportunities through mitigation and adaption

Climate change is affecting Australia's environment, industries and communities. The transition to a low emissions global economy presents a range of opportunities to the horticulture sector which are identified below. Acting early could provide greater competitive advantage for regional and rural communities.

Sustainability and Governance

Income diversification

Access to sustainable finance

Diversification of income (e.g. Australian Carbon Credit Units) and similar assets or using land assets to generate renewable energy through wind, solar and hydro electricity.

Productivity and market access

A shift to low emissions horticulture will be reliant on next-generation land management practices and will result in healthier ecosystems

The production and labelling of low emissions production will guarantee access to increasingly demanding international markets and help to differentiate Australian produce

Long-term regional resilience

There are financial opportunities for the agricultural sector to reduce emissions while increasing biodiversity, productivity and climate resilience

Australia's Agriculture Ministers committed to a coordinated national approach and proposed work program to support the horticulture sector to adapt to climate change and manage emissions.

Human Rights

Human rights are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status. The Universal Declaration of Human Rights includes civil and political rights, and economic, social and cultural rights, which are described below.

Civil and Political rights

Includes freedom of movement; equality before the law; the right to a fair trial and presumption of innocence; freedom of thought, conscience and religion; freedom of opinion and expression; peaceful assembly; freedom of association; participation in public affairs and elections; and protection of minority rights.

Prohibits arbitrary deprivation of life; torture, cruel or degrading treatment or punishment; slavery and forced labour; arbitrary arrest or detention; arbitrary interference with privacy; war propaganda; discrimination; and advocacy of racial or religious hatred.

Economic and social rights

Includes:

- The right to work in just and favourable conditions;
- The right to social protection, to an adequate standard of living and to the highest attainable standards of physical and mental well-being;
- The right to education and the enjoyment of benefits of cultural freedom and scientific progress.

Modern Slavery

Modern Slavery is a violation of human rights and describes situations where offenders use coercion, threats, or deception to exploit victims and undermine their freedom. Practices that constitute modern slavery include:

Trafficking of persons

The recruitment, harbouring and movement of a person for exploitation through modern slavery

Slavery

Where the offender exercises powers of ownership over the victim, including the power to make a person an object of purchase and use their labour in an unrestricted way

Servitude

Where the victim's personal freedom is significantly restricted and they are not free to stop working or leave their place of work

Forced marriage

Where coercion, threats or deception are used to make a victim marry or where the victim does not understand or is incapable of understanding the nature and effect of the marriage ceremony

Sustainability and Governance

Forced labour

Where the victim is either not free to stop working or not free to leave their place of work

Debt bondage

When a person offers labour in exchange for a loan or to pay off debt inherited from a relative. These 'debts' are often inflated and attract such a high amount of interest that the labourer is unable to pay them off

Deceptive recruiting for labour or services

Where the victim is deceived about whether they will be exploited through a type of modern slavery

The worst forms of child labour

Where children are subjected to slavery or similar practices, or engaged in hazardous work (i.e. sex work, trafficking drugs, hazardous work that may harm their health safety and morals).

Globally, there are 45.8 million people living in modern slavery. Slavery generates \$150 billion in illegal profits per year, and contributes to the production of at least 136 goods from 74 countries worldwide. Over half of the victims of modern slavery are women and girls, and one in three victims are children. 58 per cent of people living in slavery today live in five countries, including, India, China, Pakistan, Bangladesh and Uzbekistan. It is estimated that there are 15,000 people in Australia who are in modern slavery. There are a number of high risk sectors in Australia, including industrial cleaning, meat works, construction, hospitality, and horticulture. Modern Slavery is often found in industries that have migrant workers in low skilled jobs and businesses that utilise outsourced labour recruitment and sub-contracting arrangements.

All entities with an annual consolidated revenue of over \$100 million AUD, are required to report on modern slavery.³⁷ This includes describing the risks of modern slavery practices in the operations and supply chains (including investments), and describe the actions taken to assess and address the risks, including due diligence and remediation processes. The entities must describe how the reporting entity assesses the effectiveness of these actions. Reporting entities must prepare and submit an annual modern slavery statement that meets the seven mandatory reporting criteria of the Act. Reporting entities must submit their annual statement to the Australian Government within six months of the end of their reporting period.

Why is the horticulture industry in Australia considered higher risk?

The Harvest Trail Inquiry in 2018 found that there is widespread non-compliance by employers with Australian workplace laws in particular non-compliance with hourly pay rates and failure to keep records and pay slips. Companies were found to misuse piecework arrangements (whereby workers are paid for the quantity of produce harvested, rather than the hourly rate), resulting in many cases of workers being significantly underpaid. The horticulture sector has significant reliance on young transient overseas workers on temporary visas. These workers often have limited English language skills, or knowledge of their rights, and often don't know where to seek assistance. There is widespread use of labour hire contractors, sometimes with multiple levels of sub-contracting to source workers, many of which are itinerant and not properly regulated. The Fair Work commission has made a decision to include a minimum hourly wage guarantee and a requirement to record hours worked by pieceworkers into the Horticulture Award. The new provisions take effect from the first pay period that starts on or after 28 April 2022.

What can/should horticulture companies be doing?

There are a number of controls, processes and procedures horticulture companies can put in place to prevent Modern Slavery from occurring, some of which include:

- Implement recruitment controls, undertake recruitment directly, or have defined human rights due diligence processes for the pre-selection of recruitment agencies;
- Meet health and safety standards (in the workplace and in staff accommodation);
- Proactively address migrant worker vulnerabilities (such as ensuring workers can keep their identity documents, assisting workers to obtain and renew work visas, or providing information regarding their rights and conditions of recruitment and employment);
- Support freedom of association for workers and recognise unions' right to inspect farms, factories & employer provided accommodation (with worker permission) without employer knowledge or interference;
- Close the gap between piece rates and the minimum wage, including by factoring this into contract pricing;

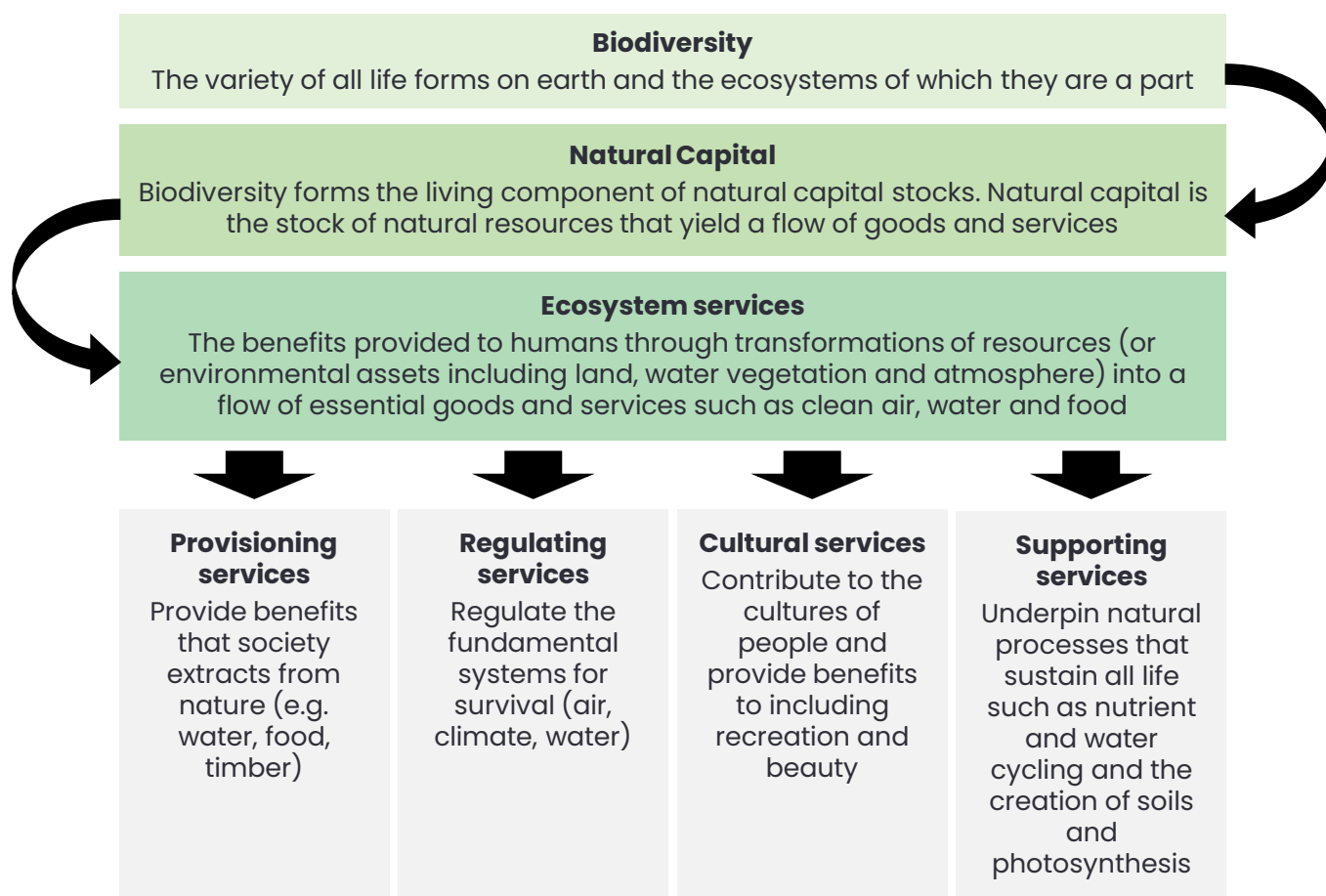
Sustainability and Governance

- Collaborate with unions, government and other employers to help lift standards and address systemic exploitation across the industry
- Seek third party accreditation and compliance that is determined through a multi-stakeholder approach, involving workers and the representative organisation(s) of their own choosing.
- Workers receive peer-led labour rights education with the involvement of representative organisation(s) of their own choosing.
- Establish grievance procedures are led by workers, and involve the representative organisation(s) of workers' own choosing in the resolution of complaints

Biodiversity and Natural Capital

Biodiversity is the diversity of life in the natural world, including plants, animals and micro-organisms, as well as the ecosystems they are part of.³⁸ Biodiversity forms the critical living component of 'natural capital', which is the stock of the Earth's renewable and non-renewable resources, which are facing destruction at unprecedented rates globally.³⁹ Natural capital supports the flow of the ecosystem services, which are the benefits derived from the ecosystem for both people and businesses.⁴⁰ As the world transitions to a low-carbon economy, companies could be increasingly expected to demonstrate and disclose not just their decarbonisation strategies, but also how they are reducing negative impacts on (and ideally enhancing) biodiversity.⁴¹ Biodiversity is an emerging ESG issue, with Australian investors seeking to understand how to manage and address the financial risks to businesses they invest in. Figure 12 shows the relationship between biodiversity, natural capital, and the four categories of the ecosystem services.

Figure 12. The relationship between biodiversity, natural capital and four types of ecosystem services



Biodiversity: The numbers

Globally, ecosystem services have been valued at more than \$125 trillion USD annually. More than half of the world's GDP, around \$44 trillion USD,⁴² is moderately or highly dependent on nature according to the World Economic Forum (WEF). In a business-as-usual scenario, between 2011 and 2050, biodiversity loss could cost the global economy almost \$10 trillion USD or \$479 billion USD annually.⁴³ In Australia, our natural capital in 2016 – 2017 was identified as \$6.1 trillion (AUD).⁴⁴ The Great Barrier Reef alone is estimated to have a social and economic value of \$56 billion AUD⁴⁵ and the Murray-Darling Basin creates \$24 billion of agricultural production per year.⁴⁶

Drivers of biodiversity and nature loss

Biodiversity loss is primarily human-induced and alters 75 per cent of the Earth's land surface, impacting over 65 per cent of the ocean, and causing the loss of over 85 per cent of wetlands. Human activity has also contributed to an average 60 per cent decline in the population size of mammals, birds, fish, reptiles and amphibians between 1970 and 2014.⁴⁷

There are a number of direct and indirect drivers that contribute to biodiversity loss, which are outlined below.⁴⁸

Direct Drivers

Exploitation of organisms

For example, the direct exploitation of fish through wild-catch fisheries, or the commercial hunting of crocodiles to near extinction in 1970s in Australia

Land and sea use change

For example, through land clearing to make way for horticulture, residential or commercial land development.

Physical impacts of climate change

For example, extended periods of climate change induced drought can lead to the loss of less drought tolerant plants and animals

Pollution

For example, land, water and air pollution can make some areas uninhabitable leading to localised biodiversity loss

Invasive species

For example, the introduction of red foxes and cats is a significant contributor to the loss of mammals within Australia

Indirect Drivers

Socio-economic and demographic trends

For example, population growth has led to land use change to make way for residential housing

Technological innovation

For example, genetically modified crops and livestock could mix with wild populations and alter the wild gene pool leading to adverse impacts on local populations

Culture

Changes to consumer preferences, such as increased demand for meat in developing nations can lead to increased land clearing to make way for horticulture

Government and regulation

Regulation can drive both negative and positive outcomes for biodiversity, for example by creating tighter requirements for land clearing.

Sustainability and Governance

Financial impacts of biodiversity change from both impacts and dependencies

Biodiversity could present a material financial impact for many companies stemming from a company's contribution to biodiversity change (impacts); and/or a company's dependence on biodiversity-related benefits (dependencies). Horticulture is an industry with a high dependency on nature. Industries with high impacts on biodiversity in their value chains account for approximately 90 per cent of global biodiversity loss.

Biodiversity risks and opportunities for companies

Physical risks and opportunities

Arise from changes in biodiversity-related ecosystem services on which a company is dependent

Productivity – Changes to biodiversity can result in increased productivity (opportunities) and decreased productivity (risks). For example, a reduction of soil biodiversity may result in reduced cropping productivity leading to reduced cash flow.

Availability and cost of raw materials – Changes to biodiversity can trigger fluctuations in the availability and cost of raw materials, presenting both risks and opportunities. As an example of a risk, the loss of wild coffee varieties could limit the availability of cultivated coffee, leading to increased costs for retailers

Business and supply chain continuity – Business and supply chain resilience can be both positively and negatively impacted by changes to biodiversity. For example, years of ecosystem degradation has led some areas to be less resilient to natural disasters, which has the potential to disrupt both business operations and supply chains.

Transition risks and opportunities

Arise from changes in the legal, societal and economic expectations of a company's impact on biodiversity

Liability and litigation– Companies may be subject to legal action relating to their biodiversity impacts presenting as a risk to companies

Regulation and compliance – Increased regulatory requirements can pose a risk insofar as they can limit or reduce activities which cause biodiversity impacts (e.g. reduced fishing quotas).

Market– Market demands relating to biodiversity create both risks and opportunities. For example, consumers may avoid products with higher biodiversity impacts, leading to reduced sales.

Technology and Innovation– Technology can increase and decrease impact on biodiversity, creating risks and opportunities. For example, new technologies such as less harmful pesticides may enable companies to reduce their impact on biodiversity without decreasing their productivity.

Systemic risks

Arise from economy wide dependencies on, and impacts to, biodiversity

Critical natural systems – No longer function properly, resulting in the loss of irreplaceable ecosystem services

Portfolio-wide financial stability – Instability due to biodiversity loss arises at the portfolio level, rather than the organisation or transaction level

System-wide financial stability – Instability due to biodiversity loss arising at economy-wide level

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