

February 2026

CLIMATE CHANGE TRANSITION PLAN

ZESPRI'S AMBITION FOR A NET ZERO,
CLIMATE-RESILIENT FUTURE





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**KA ORA TE WHENUA,
KA ORA TE TANGATA**

**WHEN THE LAND IS WELL,
THE PEOPLE ARE WELL**



CONTENTS

1. Executive Summary	04
2. Acting Decisively in an Uncertain Future	06
3. Our Climate Governance and Oversight	08
4. Our Ambition to Reach Net Zero Emissions by 2050	09
5. Our Decarbonisation Commitments	11
5.1 Corporate Emissions: Scope 1 & 2 Targets and Actions	12
5.2 Shipping Emissions: Scope 3 Targets and Actions	13
5.3 Orchard Climate Innovation Mission	15
6. Our Approach to Climate Adaptation and Resilience	17
6.1 Future Proof Supply Through Climate Insights, New Cultivars and Growing Systems	18
6.2 Research and Share Knowledge to Support Resilient Orchards	19
7. Measuring our Performance	21
8. Glossary	23
Appendix 1: Climate Change Scenario and Resilience Analysis	24



1. EXECUTIVE SUMMARY

Zespri supports alignment with the Paris Agreement and our ambition is to reach net zero emissions by 2050. Developing a credible, practical pathway to net zero is critical to our ambition to be the world's healthiest fruit brand, remain competitive and deliver long term value for growers and shareholders.

We are committed to setting science-aligned targets where feasible and to strengthening our approach to reporting as data, technology and market expectations evolve.

Acting now, while planning under uncertainty

Zespri has been driving climate action since 2019, building insights and taking steps to support a low emissions transition. This first phase of our transition plan¹ sets out the actions and targets we intend to take to 2030 as we continue to build a low emissions, climate resilient kiwifruit industry.

We have set three near term targets and priorities that focus on our most material emissions sources and areas of influence:

- **A 42% reduction in Zespri's scope 1 and 2 emissions by 2030**, reflecting our direct operational footprint.
- **A 30% reduction in shipping emissions per tray equivalent from New Zealand by 2030**, addressing our largest emissions source and a central lever for tangible emissions reductions.
- **An Orchard Climate Innovation Mission** to identify, trial and demonstrate practical emissions reduction and removals options on orchard.

These priorities focus on the parts of the system where early action is possible today, while we build the insight to shape longer term pathways.

¹ Refers to the period of time between 2026–2030. Activities cover 1 April 2026 to 31 March 2031, and progress against targets will be based on Zespri's financial reporting years.

² This refers to the 2030 kiwifruit supply year, financial year 2030/31 (FY2031). This convention applies throughout the document.

Integrated with our 2035 Strategy

We are releasing this first transition plan alongside our 2035 Strategy.

In developing our business strategy, we assessed future climate scenarios to understand how physical risks, transition pressures and evolving customer expectations may affect supply, quality, logistics, costs and market access. Climate mitigation and adaptation are now embedded across Zespri's strategic drivers to Unleash Brand-Led Demand, Transform Global Supply, and Create the Product Portfolio of the Future.

As our strategy anticipates significant volume and value growth over the next decade, including increased supply from the Northern Hemisphere, our climate actions focus on decoupling emissions intensity from growth – ensuring we can grow sustainably, efficiently and competitively while maintaining Zespri's premium brand.

A first generation transition plan that will mature

Given the dependencies across our value chain – including shipping fuels and bunkering, post-harvest infrastructure, orchard technologies, packaging systems and value chain data – this first transition plan does not specify a pathway to 2050. It focuses on building momentum to 2030, while laying the foundations for longer-term action. From 2030, we intend to set rolling five-year targets through to 2050, adopting science-aligned targets where feasible.

We will publish a fully developed 2050 pathway by 2030², alongside annual updates on the transition plan via our Annual Report Sustainability Statement with progress, changes and updated assumptions. Oversight is provided by the Zespri Board, via the Sustainability Board Committee, and the Executive Leadership Team, with progress monitored at regular intervals and supported by cross functional steering groups and industry engagement.

Building foundations: reporting, insights and capability

Zespri has progressively enhanced its greenhouse gas emissions (GHG) reporting since 2020. Following our transition to reporting in alignment with GHG Protocol standards in 2025, we will publish an assured organisational greenhouse gas emissions inventory with expanded scope 3 emissions categories in 2026.

**2035 STRATEGY AMBITION:
BY 2035, ZESPRI WILL BE THE WORLD'S HEALTHIEST FRUIT BRAND**

**TO BE THE
WORLD'S
HEALTHIEST
FRUIT BRAND**

UNLEASH BRAND-LED DEMAND

TRANSFORM GLOBAL SUPPLY

CREATE THE PRODUCT PORTFOLIO OF THE FUTURE

Lead on quality and taste while advancing decarbonisation.
Deliver improved growing systems, cultivars and origins for 12-month supply and climate resilience.

Commercialise new cultivars with improved resilience.
Anticipate and prepare for new demand spaces to optimise and build a resilient future portfolio.

2025

COLLABORATION WITH INDUSTRY AND SUPPLIERS TO GET TO A NET ZERO, CLIMATE RESILIENT FUTURE

2035

2050

2030 CLIMATE TARGETS

Corporate Target



42% reduction in scope 1&2 emissions

by 2030 from a 2024 base year

- Increase uptake of renewable energy
- Convert half of Zespri's combustion vehicle fleet to lower emitting alternatives

Shipping Target



30% reduction in shipping emissions per tray equivalent from New Zealand

by 2030 from a 2022 base year

- Improve shipping efficiency and utilisation
- Adopt low emission fuels

Orchard



ORCHARD CLIMATE INNOVATION MISSION

- R&D to demonstrate orchard emission reduction
- Support growers to reduce emissions and meet market assurance

Adaptation Goal 1



Future proof supply through climate insights, new cultivars and growing systems

Adaptation Goal 2



Research and share knowledge to support resilient orchards

ZESPRI'S CLIMATE AMBITION



NET ZERO EMISSIONS BY 2050

ACCELERATING ACTION

Zespri intends to:

- Set five-yearly targets from 2030
- Publish these targets in future transition plans
- Set science-aligned targets where feasible

2. ACTING DECISIVELY IN AN UNCERTAIN FUTURE

Our ambition to be the world's healthiest fruit brand requires a resilient environment and decisive climate action.

Our 2035 Strategy recognises climate change as a major external force reshaping the next decade, with more frequent extreme weather events, rising emissions costs and increasing sustainability requirements influencing how food systems operate.

As a business dependent on reliable value-chain activities such as orchard productivity, post-harvest operations, international shipping and cold chain energy, these pressures directly affect our cost base and ability to deliver high-quality fruit year-round. Even with initial efficiency gains, absolute emissions are likely to rise as our volumes grow and we sell more kiwifruit, until we decouple growth from emissions.

To respond, we have embedded climate mitigation and adaptation across the three key drivers of our 2035 Strategy. This recognises decarbonisation, supply resilience and improved cultivar performance are integral to how we grow, transform our supply chain and develop the portfolio of the future.

Climate change is a material risk and opportunity for Zespri

In developing our 2035 Strategy, we assessed a range of future climate scenarios to understand how physical climate impacts and transition related changes – such as extreme weather, evolving regulations and emissions costs – could affect our ability to grow, move and market premium kiwifruit worldwide. Our climate scenarios, risk and opportunities are described in Appendix 1.

As part of Zespri's annual enterprise risk management process, climate related risks and opportunities are identified, prioritised



and reviewed to support operational decision-making and risk management. This ensures climate considerations inform operational decision making, investment planning and our approach to managing risk across the value chain.

Our transition plan also reflects our double materiality assessment, where we consider both how Zespri impacts the climate and how climate related risks and opportunities affect Zespri's business model, resilience and long term performance.

Our net zero ambition

We have set an ambition to reach net zero emissions by 2050.

Zespri has various options for pathways to get to net zero, including a combination of: cutting our own Scope 1 and 2 emissions, which are small but fully within our control; reducing shipping emissions, our largest source and one where our direct commercial relationships can help us to influence change; and working with growers, post-harvest operators, customers and markets to support wider system-level decarbonisation across the value chain.

Positioning for the long term, facing uncertainty

Our transition plan is designed to position Zespri to deliver on our long-term strategy in the face of uncertainty about future climate conditions and their impact on Zespri's business. While looking further ahead increases uncertainty, it also provides clearer insight into the choices we need to make.

Transition planning therefore requires an adaptive approach – acting early to remain competitive across a range of future scenarios, while regularly testing and refining the assumption we rely on today. As our understanding of climate impacts, technology, infrastructure and market conditions improves, we will develop a more detailed long-term pathway to net zero through future updates to our transition plans.

Collaboration is key

Collaboration and communication with our key industry partners is central to Zespri's transition because climate challenges and opportunities span our entire value chain. Building resilience and reducing emissions depends on working with those who control the assets across our value chain, advocating for the changes consistent with recognised climate pathways and supporting their decision-making processes.

The points below reflect the different realities and conditions that can influence both the feasibility and timing of emissions reductions across different parts of our value chain:

- For growers: reductions depend on having practical, integrated emissions data and tools that support real time, on orchard decision making and helps growers adopt lower emission practices with confidence.
- In post-harvest: emissions are tied to long lived, energy intensive infrastructure – particularly cooling, transport and site operations – requiring coordinated investment and innovation to decarbonise over time.
- Getting fruit to market: our largest emissions opportunity relies on global partnerships exploring potential solutions for shipping such as alternative fuels, vessel efficiency and improved port infrastructure.

Early collaboration with these key value chain partners has already added critical insights into our transition planning. This has given us a strong platform from which we've been able to develop this transition plan, update our targets and to guide action towards Zespri's net zero ambition and 2030 targets.

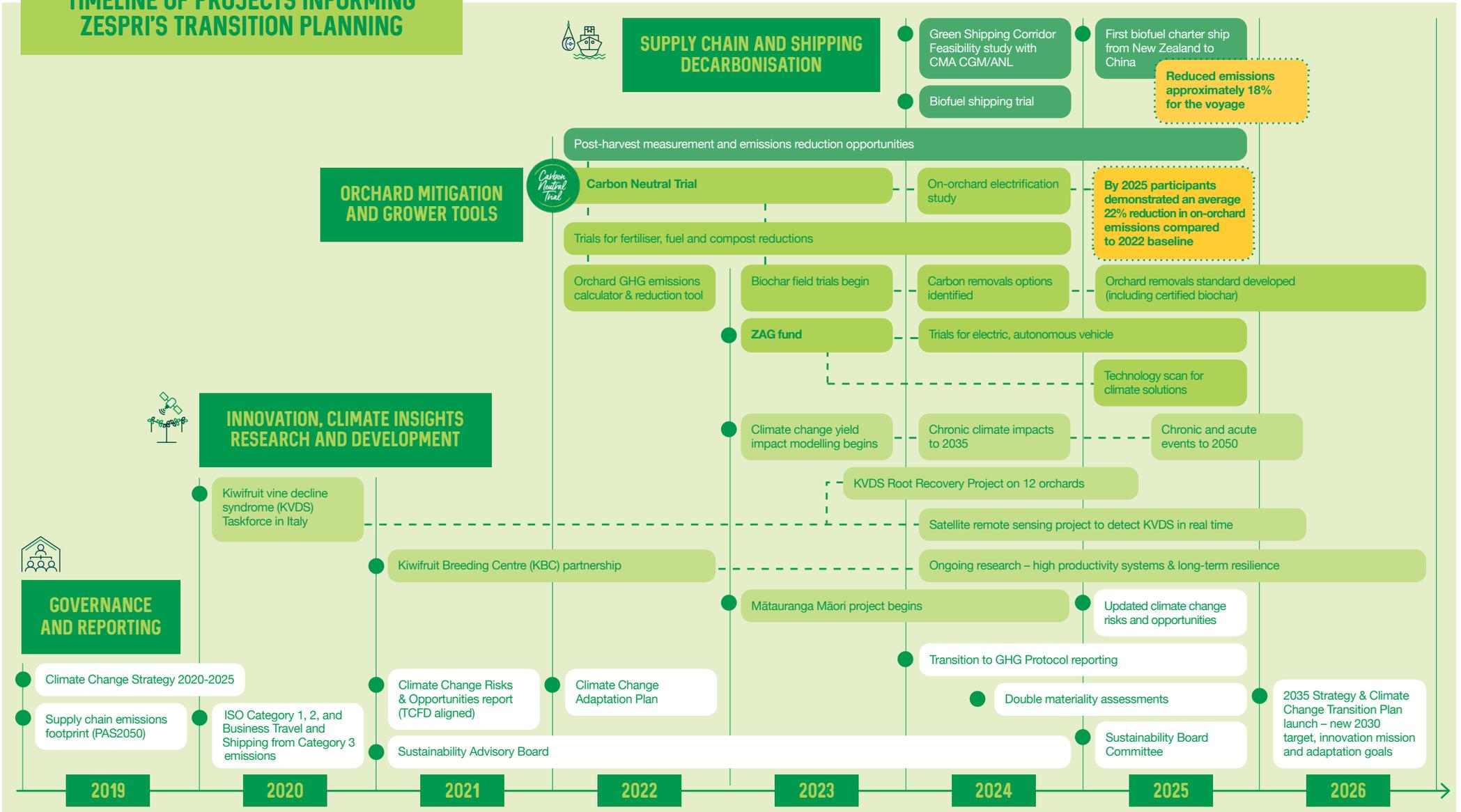
What we've learned from early action

Zespri has taken steps over many years to understand and address climate change impacts and opportunities. This has provided us with new data and insights about where our dependencies lie, what can be achieved and some of the uncertainties we are working within.

“Being part of the trial has made reducing our carbon footprint feel possible. It has inspired us to think long-term about our goals and put together some targets to work towards. We would like to first go fossil fuel-free and one day achieve carbon zero.”

– Growers in the Zespri Carbon Neutral Trial, Jessica Beech and Kaspar Beech

TIMELINE OF PROJECTS INFORMING ZESPRI'S TRANSITION PLANNING



3. OUR CLIMATE GOVERNANCE AND OVERSIGHT

Zespri's climate governance structure ensures clear accountability and integration of climate considerations across strategic, operational and industry levels. It combines Board-level oversight with executive leadership and industry collaboration to support the effective delivery of the transition plan.

Board and Committee accountability

Zespri's Board of Directors holds ultimate accountability for the governance and successful delivery of the transition plan. The Sustainability Board Committee provides strategic oversight, guidance and recommendations to ensure Zespri's material climate and sustainability issues are effectively integrated into business strategy and risk management.

Management governance and cadence

Management's Climate Change Steering Group and Low Emissions Shipping Steering Group convene experts within the business to manage delivery of climate change targets and design of the actions to achieve them. Each group meets a minimum of four times each year.

Industry engagement cadence

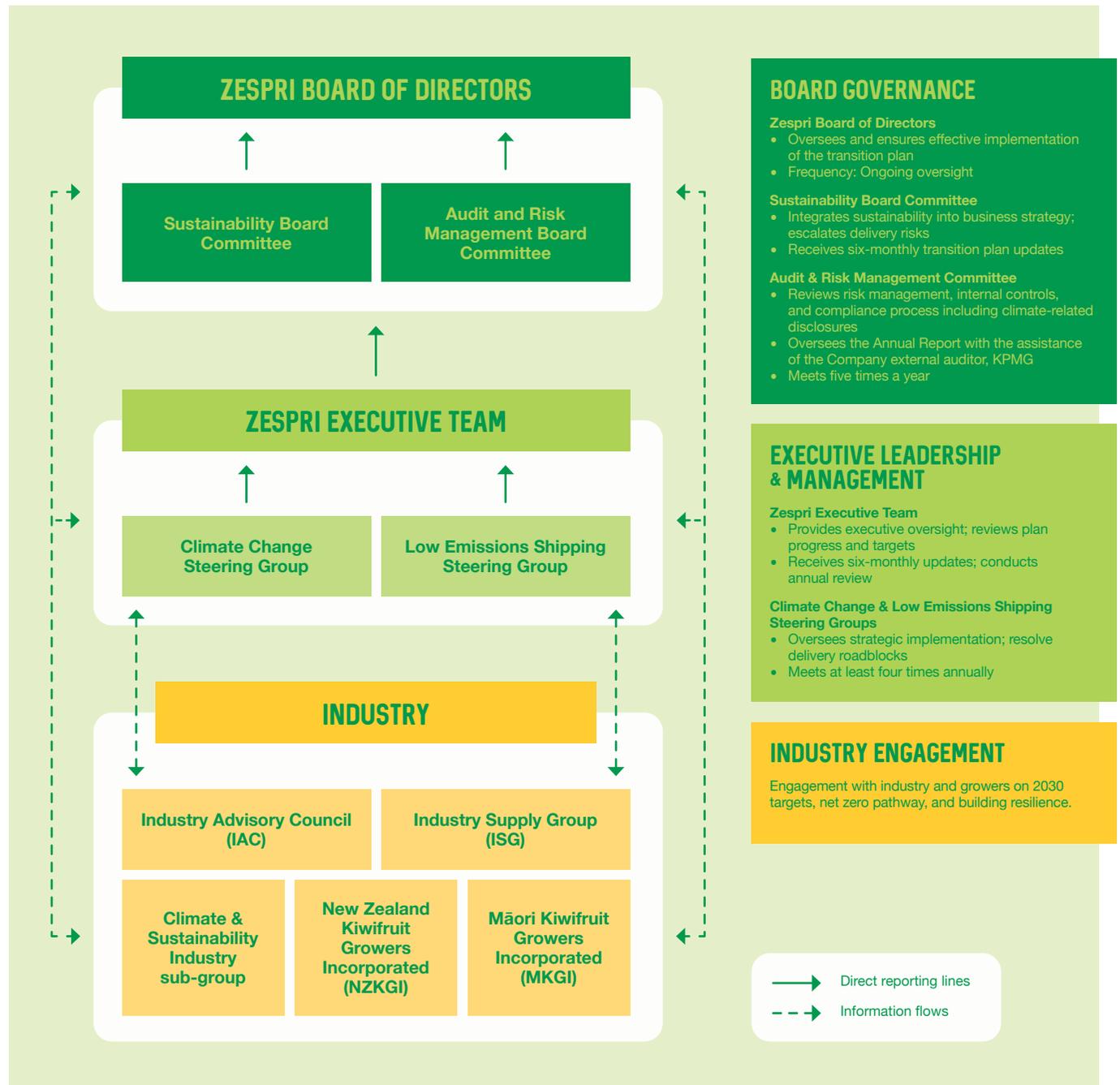
The Climate and Sustainability Industry Sub-Group, comprising Zespri, growers and post-harvest representatives, will be updated on progress annually, and consulted with to develop future roadmaps to net zero.

Digital internal controls over sustainability reporting are being embedded through Zespri's Horizon Programme (through systemised data capture, approvals and review).

Strengthening Zespri's transition plan over time

Transition planning is an iterative governance process that will mature as better data, technologies and industry dependencies emerge³. We intend to publish a fully developed 2050 pathway by 2030 and annual updates via our Annual Report Sustainability Statement to detail progress against targets, together with our maturing insights and assumptions.

³ Consistent with emerging regulations and best practice on pathways and governance over time from EU Corporate Sustainability Reporting Directive (CSRD) and the New Zealand External Reporting Board (XRB).



4. OUR AMBITION TO REACH NET ZERO EMISSIONS BY 2050

Our ambition to reach net zero emissions by 2050 underpins our ambition to be the world's healthiest fruit brand, remain competitive and deliver long-term value for growers and shareholders.

EMISSIONS ACROSS THE VALUE CHAIN



Our emissions across the value chain

Our net zero emissions ambition covers scope 1, 2 and 3 emissions. Over 99% of Zespri organisational emissions are scope 3 emissions, with international transportation and distribution of kiwifruit accounting for the largest proportion of our total emissions. Purchased goods and services (orchard and post-harvest inputs) are also collectively our second largest source.

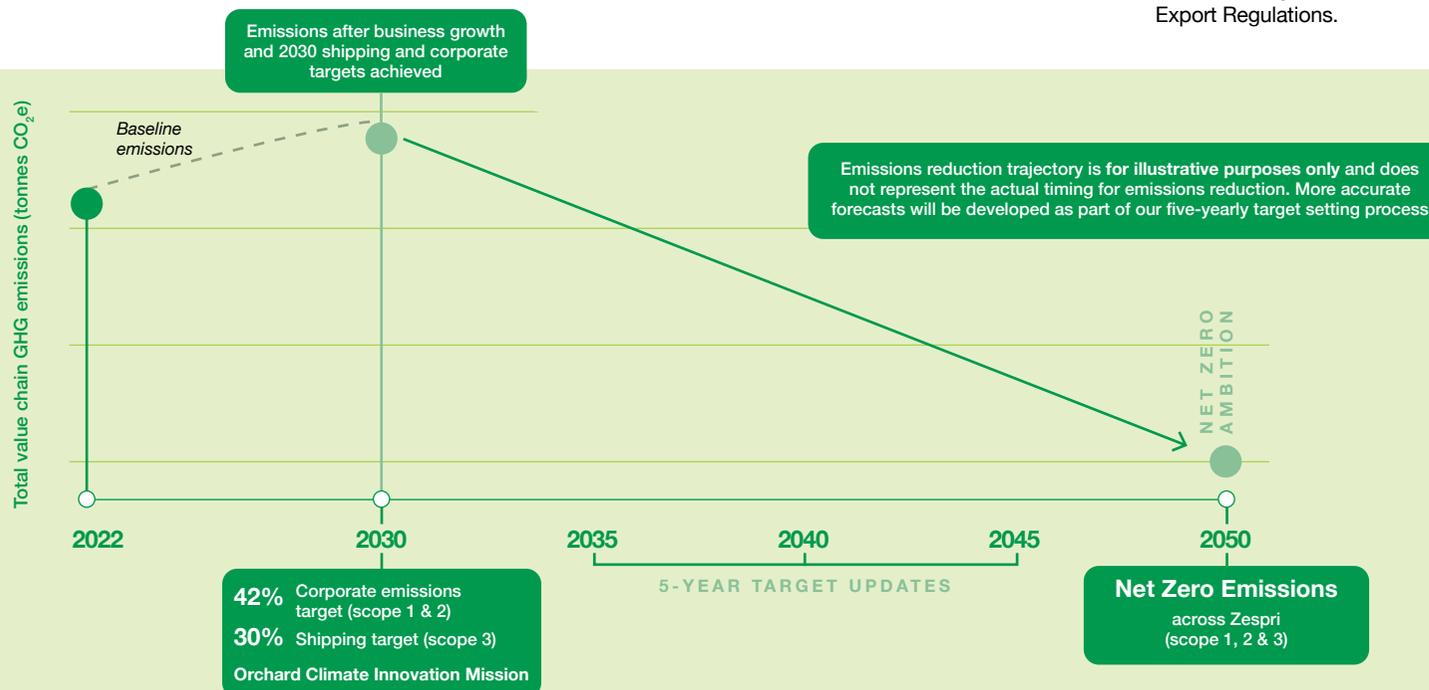
Combined, these emissions, make up the dominant share of our emissions footprint, contributing around three quarters of our total emissions.

We directly control corporate operations, commercial decisions and choice of logistics partners. Across the rest of our value chain, Zespri plays an influencing role through collaboration, partnerships and advocacy, in a manner that is consistent with our core business obligations under the Kiwifruit Export Regulations.

Pathway to net zero emissions

Zespri's pathway to net zero begins with our 2030 targets and is embedded into the 2035 Strategy. Our early focus is on reducing scope 1 and 2 emissions, lowering the emissions intensity of shipping from New Zealand, and accelerating orchard based innovation.

Over time, we will broaden action across the full value chain, working with growers, post-harvest, suppliers, customers and markets to further develop a roadmap to net zero.



--- Anticipated emissions trajectory
 → Illustrative trajectory to 2050 (pathway in development)

Baseline emissions values are from an assessment undertaken in 2023 by International experts. Projected emissions based on 2035, market allocation from Zespri's 10 year plan (2025). The emissions here are based on emissions factors available at the time of publication and are likely to change as our measurement of emissions improves.

Assumptions and interdependencies

Achieving net zero emissions by 2050 will require a significant transformation away from fossil fuels and other greenhouse gases across Zespri's supply chain.

Our ambition relies on:

- Systems and infrastructure being in place within our supply chain, for example, low emissions shipping infrastructure alternative fuels, or consumer waste methane capture facilities built in our major markets; and
- Economically viable solutions becoming widely available for Zespri, growers and the industry.

In addition, the volume of kiwifruit we supply is expected to continue to grow, as consumer demand increases, placing upwards pressure on absolute emissions.



Collaboration and innovation will be critical for the system change required for our industry to achieve net zero. We will work across our value chain, industry and governments to advocate for the implementation and scaling of low-emissions solutions. To prepare for Zespri's future transition plans, we will work with suppliers over the coming years to further develop a roadmap to net zero.

Post-harvest climate change action

Independently owned post-harvest suppliers are a critical component of Zespri's supply chain, providing packing and cool storage of kiwifruit. Emissions from post-harvest are generated from transport packaging, fuel use, electricity use, refrigerant losses, waste to landfill and new picking bins.

Post-harvest suppliers in our industry are actively leading the way to address emissions. Across the industry, tangible examples of innovation and commitment include:

- **Cool store upgrades** are replacing traditional refrigerants with environmentally friendly alternatives, including the construction of next-generation facilities that use ammonia/glycol — a natural refrigerant with significantly lower environmental impact.
- **Enhanced maintenance protocols** are being implemented to prevent refrigerant leaks, ensuring systems operate efficiently and sustainably.
- **Energy efficiency and emissions reduction initiatives** are being rolled out to reduce operational emissions, with measurable improvements already being seen. Examples of this include energy monitoring and implementation of solar power at some sites.
- **Fleet conversions** are reducing fuel use, as companies transition to electric vehicles and forklifts, setting a new standard for low-emission logistics.
- **Waste diversion** from landfill to third party processors and food redistribution charities reduces waste and emissions.

5. OUR DECARBONISATION COMMITMENTS

Zespri has three priority action areas across the value chain to drive progress to 2030.

Corporate Target



42%

reduction in Zespri's scope 1 and 2 emissions by 2030

2024 base year

Zespri's scope 1 and 2 GHG emissions account for less than one percent of our total emissions footprint but are fully within our organisational control.

This target has been developed using methodologies consistent with limiting global warming to 1.5°C⁴, although it is not a validated science-based target.

Shipping Target



30%

reduction in shipping emissions per tray equivalent from New Zealand by 2030 (scope 3 shipping intensity target)

2022 base year

Reducing shipping emissions per tray equivalent of kiwifruit is a top priority for decarbonising Zespri's supply chain. Shipping is our largest single source of emissions.

As kiwifruit volumes continue to grow, reducing emissions per tray is critical to ensuring growth does not result in a proportional increase in emissions.

The majority of Zespri Kiwifruit is grown in and exported from New Zealand, where growing conditions are optimal for producing our premium fruit. While production in global growing regions continues to increase to support 12-month supply to our customers, New Zealand is the core of our business and expansion of production outside New Zealand requires approval from New Zealand producers. This underscores the importance of ensuring our shipping from New Zealand is as emissions-efficient as possible⁵.

The global maritime industry is also on a pathway to a low-emissions future. In 2023, the International Maritime Organization (IMO) set an ambition to reach net zero emissions by 2050, and introduced regulation to drive energy efficiency and the adoption of low emissions fuels. Zespri's approach to decarbonising shipping emissions will help ensure we remain competitive in the face of the maritime industry's transition to renewable energy.

Orchard



ORCHARD CLIMATE INNOVATION MISSION

2026-2030

We have set an orchard innovation mission, to collaborate, innovate research and develop new methods of mitigating greenhouse gas emissions from kiwifruit orchards.

Land based emissions are important because they arise from biological systems that both release and absorb greenhouse gases, and therefore play a meaningful role in the pathway to net zero.

Current indications are also that this may become a market access requirement in future.

This will enable us to validate feasible reductions, support grower readiness and develop robust data – as critical enablers of considering a science aligned target, if feasible.

⁴ Science Based Target Initiative, 2025, Science-based Target Setting Tool.

⁵ Target for shipping emissions from New Zealand-sourced fruit only. For reporting purposes, 2030 refers to the 2030/31 financial year, and 2022 refers to the 2022/23 financial year.

Zespri's 2030 scope 1 and 2 emissions reduction target

**OUR TARGET IS TO:
REDUCE SCOPE
1 & 2 EMISSIONS BY**



42%
**BY 2030 FROM A
2024 BASE YEAR**

Key actions for 2026-2030 focus on corporate fleet and renewable electricity.

Actions	Expected timing	Expected emissions reductions
1.1: Conversion of approximately half Zespri's combustion vehicle fleet to lower emitting alternatives	2029	~25%
1.2: Increase uptake of Energy Attribute Certificates at Zespri offices	2030	~20%

Note Zespri's planned scope 1 and 2 emission reduction activities are estimated to result in a 45% reduction in emissions. The exact emission reductions from each action may shift.

How we will achieve the actions

We will deliver our corporate emissions target by transitioning Zespri's vehicle fleet to lower emissions alternatives and increasing the use of renewable electricity across our operations. These actions are being implemented progressively to maximise emissions reductions while maintaining operational efficiency. Our European operations have already begun implementing this through operational policies.

What this relies on

Delivery of this target relies on renewable electricity certificates being available across most Zespri operating markets, and the transition to low emissions vehicles remaining economically viable and practical over time.

Where total cost of ownership remains unfavourable, we will adapt our approach by prioritising energy efficiency, increasing renewable electricity procurement, or sequencing fleet conversion differently as market conditions evolve.

What's in scope

Our approach focuses on emissions sources where Zespri has direct operational control or strong influence. Corporate business travel is not included in the scope 1 and 2 target, as it is classified as scope 3 under the GHG Protocol reporting standards. These emissions have been managed through sustained reductions in travel volumes, following changes introduced after COVID-19.

Zespri's 2030 shipping emissions reduction target

OUR SCOPE 3 TARGET IS
TO REDUCE SHIPPING
EMISSIONS PER TRAY
EQUIVALENT OF KIWIFRUIT
FROM NEW ZEALAND BY



30%
BY 2030 FROM A
2022 BASE YEAR

Shipping emissions are our biggest emissions activity and one where we have direct relationships with our shipping suppliers, enabling us to work together on solutions as they become viable. This target is for New Zealand kiwifruit only, as this represents the majority of Zespri's shipping emissions.

We have prepared a low-emissions shipping roadmap to:

Increase vessel loading efficiency and optimise shipping

Zespri continues to seek opportunities to optimise its supply chain to drive efficient shipping, which minimises cost for growers, protects the high quality of Zespri Kiwifruit and lowers the emissions per tray equivalent. We will seek opportunities to increase the utilisation of our chartered vessels, ensuring they are optimally loaded. The higher the utilisation, the lower the emissions per tray equivalent.

Zespri also utilises a mix of shipping modes to best match the supply of kiwifruit and market demand while working within shipping capacity constraints in New Zealand. There are opportunities to lower total emissions per tray equivalent by gradually increasing the use of container vessels over charter vessels (compared with the 2022 baseline).

Work with our shipping partners to improve fuel efficiency

Zespri's shipping partners are taking action to improve the fuel efficiency of their vessels. This is expected to reduce the amount of

Spotlight

Technical note: This target is what is known as an intensity target, where we aim to reduce emissions per unit of production (in this case, per tray equivalent of kiwifruit), rather than reduce emissions in absolute terms. This approach allows Zespri to continue to focus on increasing the volume of kiwifruit provided to consumers while still taking climate action. Zespri's 2050 net zero ambition outlines our commitment to ensure absolute emissions across our supply chain are decreased over the medium-to-long-term.

fuel required, ultimately reducing emissions per tray equivalent of kiwifruit. Zespri is working with our shipping partners to ensure they are taking action to improve vessel fuel efficiency. This includes vessel upgrades, such as Fresh Carriers Co., Ltd delivering two new vessels in 2025 built with the latest enhancements of engine efficiency and container capability with a further two sets to be delivered in 2028.

Utilise available low emission fuel options and solutions for shipping

Lower-emissions fuels, like biofuel, produce fewer emissions than traditional heavy fuel. Biofuel is particularly easy to adopt, requiring minimal engineering changes for most vessels. Zespri intends to utilise low-emissions fuels to contribute toward our targets. As a transition option, this may include utilising shipping companies' mass balance low emission fuel solutions (mass balance schemes use certification to attribute sustainable fuel use to cargo owners within the network). In order for the vessels in Zespri's supply chain to utilise low emission fuels, we rely on these fuels being provided at key ports.

What this relies on

Decarbonising international shipping represents a significant system wide transformation for the global maritime industry. Achieving this transition will require coordinated industry wide action, substantial investment, and continued innovation across fuels, vessels, ports and supporting infrastructure.

Our shipping target relies on the availability of economically viable renewable fuel solutions, including the use of mass balance schemes as a transitional mechanism, while low emissions fuel solutions scale globally. The target also assumes that alternative fuels are expected to price-match fossil fuels around 2040⁶, driven by declining renewable energy costs and the introduction of carbon pricing and regulatory incentives.

Zespri's role is to work with shipping partners, industry and governments to support this transition, while advocating for the enabling policies, infrastructure and market conditions needed to accelerate uptake of low emissions shipping fuels.



Collaboration is critical: Our Green Corridor Feasibility Report found that cross exporter and supply chain partnerships are required to aggregate demand, reduce costs and accelerate investment in low emissions shipping solutions.



Capability: Zespri is strengthening capability across the business to support delivery of this target, including improved insights, modelling and decision support functions. As our transition plan matures, we will continue to review how our governance, resourcing and commercial practices can best support a more efficient and lower emissions shipping network.

We have prepared a low emissions shipping roadmap across four actions:

Actions	Expected timing	Expected emissions reduction by 2030 (per tray equivalent)
1.3: Increase charter vessel loading efficiency and optimise modal split between charters and liners	2027	~6%
1.4: Improving vessel efficiency	2030	~5%
1.5: Utilise available low emission fuel options and solutions for shipping (including potentially through mass balance low emission fuel solutions)	2029-2030	~19%
1.6: Continue to advocate for policies to enable the uptake of low emission shipping fuel	Ongoing	–

⁶ Our Green Corridor Feasibility Report (2024) indicated that alternative fuels are not expected to price-match fossil fuels before 2040, but may reach cost parity from around 2040 onwards due to declining renewable electricity cost, the removal of subsidies on fossil fuel and carbon pricing.



Innovation mission statement

OUR ORCHARD CLIMATE INNOVATION MISSION STATEMENT IS:



COLLABORATE, INNOVATE, RESEARCH AND DEVELOP NEW METHODS TO MITIGATE GREENHOUSE GAS EMISSIONS FROM KIWIFRUIT ORCHARDS, BUILDING VALUE AND RESILIENCE FOR THE KIWIFRUIT INDUSTRY AND ENABLING ZESPRI TO MEET FUTURE MARKET ACCESS REQUIREMENTS.

Zespri intends to work with researchers, industry and other partners on an Orchard Climate Innovation Mission to identify, trial and demonstrate emissions reductions tools and methods on orchards.

This work will give us a better understanding of the emissions reduction options available and feasible for growers.

Emissions reduction actions may also provide an opportunity to lower orchard costs and improve grower profitability through actions such as electrification of vehicles and machinery, increasing productivity, implementing alternative production systems, optimising orchard inputs, and improving data driven decisions.



Key actions between 2026-2030

Actions	Expected timeframe
1.7: Undertake orchard climate R&D to validate and demonstrate orchard emissions reductions options to meet market requirements	2029
1.8: Develop a standard for recognition of New Zealand orchard carbon removals such as from eligible vines, shelterbelts and other plantings e.g. natives	2027
1.9: Share orchard R&D learnings and advocate for industry action	2026 onwards
1.10: Support growers in understanding how to meet compliance requirements from market assurance schemes such as Zespri GAP.	Ongoing

What this relies on



Zespri does not own or manage kiwifruit orchards in our supply chain. As a result, we will work collaboratively with growers, post-harvest operators and industry partners to support the development and adoption of emissions reduction roadmaps and activities across orchards and post-harvest systems.



Orchard emissions represent a relatively small proportion of Zespri's organisational footprint⁷. If Zespri were to pursue Science Based Targets initiative (SBTi) validation in the future, as a food sector company we would be required to set FLAG (Forest, Land, and Agriculture) targets for orchards, alongside separate emissions-reduction targets for the remainder of the supply chain. We are also seeing a rise in climate-related reporting regulation globally⁸ as well as increasing customer requests for Zespri to set science-based targets.



For the kiwifruit industry, continued innovation will be essential to identify and validate practical technologies and approaches to reduce orchard emissions, support the achievement of FLAG targets and meet evolving market expectations over time.



Zespri will share these innovation, research and development insights with the industry and advocate for industry-wide action where collective approaches can accelerate progress.



We require growers to meet market assurance standards and certification schemes, such as GLOBAL G.A.P. and ZESPRI G.A.P., as part of our environmental commitments. This provides customers with the assurance they need and expect, protecting Zespri's premium brand.



⁷ For further information on Zespri's organisation footprint, see the Zespri Annual Report. We expect to publish updated details on Zespri's Scope 3 orchard emissions in our annual GHG disclosures, starting with the 2025-26 Annual Report.

⁸ See Aotearoa Circle, 2025, <https://www.theaotearoacircle.nz/post/update-protecting-new-zealands-competitive-advantage>



6. OUR APPROACH TO CLIMATE ADAPTATION AND RESILIENCE

Zespri published its first Climate Change Adaptation Plan in 2022. Many of these actions have been completed or embedded within the business. Building on this foundation, Zespri is strengthening its approach to climate resilience across the value chain through two refreshed goals.

Zespri's physical climate risk assessment and adaptation planning considers how climate change may affect the business across the value chain, including New Zealand and offshore growing regions, as well as climate related supply risks affecting distribution and global production. Our adaptation actions apply where Zespri has influence, including cultivar development, supply planning, innovation programmes, grower practices and industry knowledge sharing.

Our climate risk assessment highlighted that Zespri and the wider kiwifruit industry face ongoing and escalating physical climate risks across all climate scenarios. Long-term adaptation will depend on continued innovation, the availability of appropriate technologies, and alignment with evolving customer and consumer demands.

Material physical risks include extreme rainfall, hail and wind events, warmer winters that reduce chill hours, drought and heat impacts, increased pest and pathogen pressures, and supply chain disruption from weather events. Opportunities include potential improvements in fruit quality in some regions, innovation in growing systems and diversification of growing locations. Our scenario analysis draws on three IPCC aligned pathways (approximately 1.7°C, 2.8°C and 4.7°C) and shows that physical risks persist across all scenarios.

Zespri's approach to climate adaptation and resilience is embedded in our 2035 Strategy through the strategic drivers Transform Global Supply and Product Portfolio of the Future. This includes a focus on:

- Breeding climate-resilient cultivars
- Developing new growing systems
- Diversifying supply

The development and adoption of new growing systems, and the diversification of supply, are expected to increase over time across all scenarios, particularly as technologies advance and regulatory frameworks evolve.

Adaptation outcomes will depend on the pace of climate change, technology readiness, regional infrastructure, and extent to which resilient practices are adopted across the industry. These uncertainties are reflected in the nature and design of the actions in this plan.



To continue to strengthen our adaptation response, Zespri will begin assessing measurable adaptation targets. The goals and actions we set in this transition plan will be critical enablers for the development of these targets over time.



Goal 1

Future proof supply through climate insights, new cultivars and growing systems.

Zespri's business depends entirely on the production of quality kiwifruit from our growing regions.

To protect our supply and future value creation, we need to ensure that both the types of kiwifruit and the way in which they're grown remain productive, resilient, and sustainable under future climate conditions.



Goal 2

Research and share knowledge to support resilient orchards.

The long-term resilience of Zespri's supply depends on growers being well equipped to respond to changing climate conditions.

To support this, we focus on identifying the adaptation measures growers may need across regions and understanding how widely these measures are being adopted.

By generating practical, region specific insights and sharing them through industry channels, we aim to equip growers with clear, actionable information to strengthen orchard resilience.

FUTURE PROOF SUPPLY THROUGH CLIMATE INSIGHTS, NEW CULTIVARS AND GROWING SYSTEMS

Zespri's commitment to research and innovation has helped strengthen the kiwifruit industry over the past two decades.

Building climate resilience requires future-focused research and integration into business planning to enable action. Looking ahead, our research aims to deepen our understanding of future climate impacts and continue to embed climate knowledge into our business planning and strategic decision-making.



Alongside this, the kiwifruit industry's breeding programme at the Kiwifruit Breeding Centre (KBC), and the future growing systems programme, play critical roles in enabling the industry to adapt to changing climate conditions. Together, these programmes form a critical component of the industry's long-term adaptation strategy.



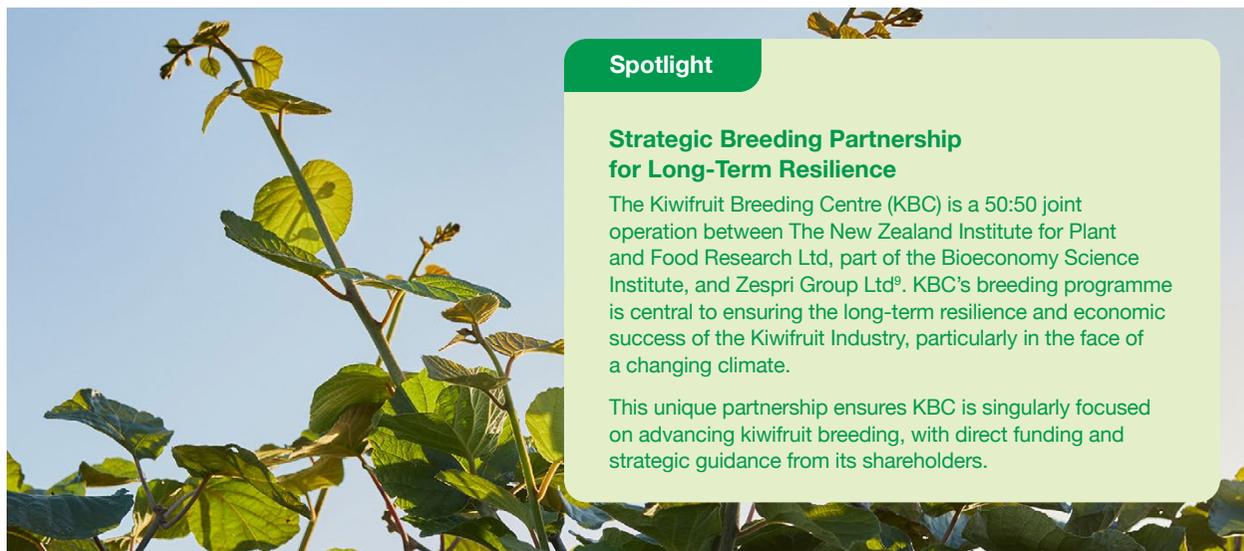
By aligning scientific insights with operational and strategic priorities, Zespri aims to ensure the kiwifruit industry remains resilient, competitive and sustainable.



A priority for our adaptation research and development is to assess acute and chronic climate change impacts on fruit supply, and develop integrated, region specific climate models to support localised decision-making and planning. For example, we want to explore how changes to key climate variables could impact the timing of the season, the commercial performance of different varieties and the suitability of growing methods and what that means for current and future growing locations.



This involves considering the role of new growing systems, investing in the development of new cultivars that are better suited to future climates and undertaking research to understand the potential future impacts of climate change.



Spotlight

Strategic Breeding Partnership for Long-Term Resilience

The Kiwifruit Breeding Centre (KBC) is a 50:50 joint operation between The New Zealand Institute for Plant and Food Research Ltd, part of the Bioeconomy Science Institute, and Zespri Group Ltd⁹. KBC's breeding programme is central to ensuring the long-term resilience and economic success of the Kiwifruit Industry, particularly in the face of a changing climate.

This unique partnership ensures KBC is singularly focused on advancing kiwifruit breeding, with direct funding and strategic guidance from its shareholders.

Objective	Action	Expected timeframe
Generate climate insights to guide supply planning	2.1 Model chronic and acute climate impacts on kiwifruit yield by region and integrate into five-year planning	2027/ Annually
	2.2 Investigate how shifts in key climate variables affect season timing	2028
	2.3 Consider the contribution of climate variables to fruit quality issues in the industry's quality review and annual season reviews	Annually
	2.4 Assess climate risks and mitigation readiness for new offshore supply chain partners and growing regions in accordance with approved 12-month supply activities	Ongoing
	2.5 Understand the commercial performance of varieties and growing methods by current and future growing locations	Ongoing
Develop climate-resilient cultivars and growing systems	2.6 Invest in the development of scions and rootstocks that are resilient to physical climate risks	Ongoing
	2.7 Develop concepts and cultivars suitable for high productivity growing systems and build on-orchard resilience and productivity with a smaller production footprint	Ongoing
	2.8 Assess the climate benefits of future production systems to ensure innovations reduce physical climate change risks	Ongoing
	2.9 Run an extension programme to drive adoption of climate-resilient cultivars	Ongoing

⁹ Plant & Food Research is a group of the Bioeconomy Science Institute. Formed on 1 July 2025, the Bioeconomy Science Institute brings together AgResearch, Manaaki Whenua – Landcare Research, Plant & Food Research and Scion into a single organisation, conducting research to advance innovation in agriculture, horticulture, aquaculture, forestry, biotechnology and manufacturing; protect and enhance ecosystems from biosecurity threats and climate risks; and develop new bio-based technologies and products.

RESEARCH AND SHARE KNOWLEDGE TO SUPPORT RESILIENT ORCHARDS

This adaptation goal focuses on strengthening on-orchard adaptive capacity across Zespri's global supply, with two objectives:

- Identify and test orchard adaptation options
- Share knowledge and enable industry wide action on climate adaptation

Zespri plays an enabling and influencing role in the kiwifruit industry by supporting research, innovation and knowledge sharing that helps growers respond to increasing climate variability.

Physical climate risks on orchard can be mitigated through a combination of adaptive practices and

infrastructure, such as frost protection, hail netting, irrigation and soil management. Zespri is building a clearer understanding of which adaptation options are most relevant for each New Zealand growing region, informed by climate impact research and grower uptake.

This work also extends beyond New Zealand. Across Zespri's global supply, regional climate challenges differ, and adaptation responses must reflect local conditions. A key focus outside New Zealand is the industry response to Kiwifruit Vine Decline Syndrome (KVDS) in Europe, which provides important insights into managing complex, climate related orchard stressors.

Objective	Action	Expected timeframe
Identify and test orchard adaptation options to reduce climate risk	2.10 Identify adaptation options for each New Zealand growing region based on forecast climate impacts over the next 25 years	2027
	2.11 Review uptake of adaptation infrastructure in each region to highlight exposure to risks	2028
	2.12 Manage new pest risks by investing in systems and technologies	Ongoing
	2.13 Continue implementing a comprehensive KVDS strategy to prevent spread, support recovery and enable industry resilience	Ongoing
Share knowledge and enable industry-wide action on climate adaptation	2.14 Support external innovation on climate adaptation through the ZAG fund	Ongoing
	2.15 Share adaptation research and insights with the industry to enable an industry-wide response	Ongoing
	2.16 Engage Māori growers to learn and share insights on Mātauranga Māori and sustainability principles in a Te Ao Māori context	2026 Onwards
	2.17 Survey growers at least every five years to assess demand for natural disaster insurance (beyond hail)	2027



Certain risks, including severe hail events, may benefit from additional mitigation strategies, such as insurance coverage. The industry self-insures for hail damage, contributing to resilience, and there may be potential to extend coverage to other severe weather events as climate-related risks increase. Growers' views on expanding coverage will be tested periodically.



Findings from adaptation research and innovation will be shared with industry partners locally and internationally. Relevant practices from other regions – such as tunnel houses used in South Korea to prevent wind damage – could be useful in other regions.



When providing information on climate-impacted topics like water use or pest control, Zespri will increasingly integrate climate data to support resilient orchard practices. Insights will continue to be shared through Zespri's usual Industry communication channels including Canopy, Zespri's secure online platform for growers and industry.



Zespri's ZAG fund supports collaboration with external partners to trial and validate innovation, including adaptation options in a kiwifruit context to strengthen on-orchard climate resilience.



Māori are key partners in New Zealand's kiwifruit industry. Zespri will continue to engage with Māori growers to support the sharing of Mātauranga Māori and sustainability principles from a Te Ao Māori perspective, contributing to more holistic approaches to orchard resilience.

Spotlight

Mātauranga Māori and orchard resilience

Māori growers bring intergenerational knowledge and practices that emphasise working in balance with the natural environment and protecting land for future generations. There is growing interest in ensuring Mātauranga Māori perspectives are reflected in discussions on climate adaptation and orchard resilience.

In response, Zespri initiated a project to deepen understanding of Te Ao Māori principles and their relevance to sustainable growing and climate adaptation, supporting more holistic approaches to resilience across the industry.

Spotlight

Kiwifruit Vine Decline Syndrome (KVDS) – adapting to complex climate stress

As climate change increases both the frequency and intensity of extreme weather events, co-occurring stressors can drive declines in orchard health and productivity. KVDS is an example of this challenge in practice.

KVDS has significantly affected root health in parts of Italy and highlights risks that may emerge in other growing regions over time. Similar vine decline has been observed in New Zealand following extreme weather events.

The industry response to KVDS focuses on innovation and collaboration, including research into irrigation, soil and water management, rootstocks, replanting strategies and extension support. Lessons from this work help strengthen orchard resilience across both hemispheres.





7. MEASURING OUR PERFORMANCE

We are committed to transparent, ongoing climate reporting as this plays a vital role in delivering our transition plan.

Our key performance metrics, targets, and pathways are embedded within our wider business strategy, ensuring that progress on this transition plan is directly linked to our long term value creation and operational performance.

We will continue to:

- Strengthen accountability through clear oversight, internal controls, and transparent disclosures.
- Report openly and consistently on our Environmental, Social and Governance (ESG) performance using recognised frameworks.
- Integrate transition related metrics into business planning, risk management, and executive governance.
- Track progress annually to ensure we remain on course to meet our climate and other environmental, and social objectives.



Improving data and insights

Zespri's digital systems programme, Horizon, is modernising and integrating our systems to capture and report climate change data, including creating a platform to better capture end-to-end emissions data across the supply chain. We are also exploring how advanced analytics, data automation, real-time insights and data sharing can improve our climate change reporting and understanding of climate change risks and opportunities.



Advocacy is essential to shaping a resilient, low-emissions future for the kiwifruit industry

Zespri will continue to work with industry bodies, partners and governments to accelerate the enabling conditions for this transition plan. Many of our dependences require collaboration and policy support.

We engage in local, national and international policy forums to influence fair, science based rules and standards that reflect the needs of kiwifruit growers and exporters.

NZKGI works closely with MKGI and Zespri to develop environmental policy, drawing on insights from government, industry and other sectors. Together, the industry invests in these relationships to contribute to water and climate policy at all levels.

Zespri also participates in organisations such as Sustainable Business Network and The Aotearoa Circle to represent industry interests and advocate for the evidence based recognition of New Zealand and sector specific practices in global climate standards.

The table below outlines our priority actions across data, governance, and advocacy that support this accountability framework and enable credible, measurable progress.

Objective	Action	Expected timeframe
Improve Data and Insights	3.1 Best practice Environmental, Social and Governance (ESG) data systems and standards are adopted by Zespri	Ongoing
	3.2 Review Climate Change Risks & Opportunities as part of the annual risk assessment process. In addition more detailed Climate Risk assessments are conducted in alignment with business strategy processes at least every four years	Ongoing
Govern Effectively	3.3 Provide six monthly Climate Change Transition Plan Status Updates to the Sustainability Board Committee	2026 Onwards
	3.4 Report annually to Sustainability Board Committee on emerging climate risks and opportunities and the industry response	Annually
	3.5 Work in conjunction with the Climate and Sustainability Industry Sub-Group on the Kiwifruit industry's climate adaptation and decarbonisation response	Ongoing
	3.6 Provide regular updates to industry, growers and customers on the progress of the Climate Change Transition Plan	Annually
Advocate Effectively	3.7 Continue to advocate on climate and water issues and standards at global, national and regional levels	Ongoing
	3.8 Leverage collaboration platforms to represent the industry's interests and contribute to national strategies	Ongoing

Basis of preparation

This plan covers the period of time between 2026–2030, with activities from 1 April 2026 to 31 March 2031, and progress against targets based on Zespri's financial reporting years. We expect to reset targets in five year periods from 2030. Updated performance data, progress and assumptions for the transition plan will be published each year in Zespri's Annual Report.

Zespri's organisational greenhouse gas (GHG) emissions footprint comprises emissions across our supply chain, from orchard through to product end of life. Zespri has reported its scope 1, scope 2 and selected scope 3 emissions to limited assurance standards in its annual

report since 2020. In 2024/25 we transitioned to reporting in accordance with the Greenhouse Gas Protocol. Prior to this, ISO 14064 2018 was used. We have disclosed a partial GHG emissions inventory covering scopes 1 and 2, and partial scope 3 and we're continuing to develop the systems and data needed to produce a comprehensive emissions inventory.

The table above outlines our priority actions across data, governance, and advocacy that support this accountability framework and enable credible, measurable progress.



8. GLOSSARY

Text	Definition
Carbon footprint	A carbon footprint measures the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product.
Climate adaptation	Climate adaptation is the process of reducing climate risks and vulnerability through adjustments to existing systems.
Climate change mitigation	Climate change mitigation is human intervention to reduce emissions or enhance the sinks of greenhouse gases (IPCC, 2018[1]).
Climate-resilient/ climate resilience	The ability of natural, social, and economic systems to adapt to, withstand, and recover from the adverse impacts of climate change – including extreme weather events, long-term climate shifts and related hazards.
Decarbonisation	Reducing greenhouse gas emissions over time, including through improved efficiency, electrification, renewable energy and low-emissions fuels.
Double materiality	An approach that considers both (1) how the organisation impacts climate and (2) how climate-related risks and opportunities affect the organisation's performance, position and resilience.
Emissions	The release of greenhouse gases into the atmosphere, usually expressed as carbon dioxide equivalent (CO ₂ e).
Energy Attribute Certificate (EAC)	A certificate representing the environmental attributes of one unit of renewable electricity generation, used to substantiate renewable electricity procurement claims.
Forest, Land-use, Agriculture (FLAG) emissions	FLAG emissions are greenhouse gas emissions and removals from activities in the Forests, Land, and Agriculture sectors. They include biogenic emissions (e.g., from soils, vegetation, livestock) and changes in carbon stocks due to land-use and land management practices.
Greenhouse Gases (GHG)	Carbon dioxide (CO ₂); methane (CH ₄); nitrous oxide (N ₂ O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF ₆)
GHG Emissions	Emissions of greenhouse gases, commonly reported as carbon dioxide equivalent (CO ₂ e) to allow different gases to be compared using global warming potentials.

Text	Definition
GHG Protocol	The Greenhouse Gas Protocol standards used for measuring and reporting greenhouse gas emissions, including the Corporate Standard and the Corporate Value Chain (Scope 3) Standard.
Innovation mission	An innovation mission is an ambitious and transformative measurable goal, aiming to tackle large-scale, complex problems with radical solutions, cutting-edge technologies and collaboration.
Intensity target	A target expressed per unit of output (in this case emissions per tray equivalent) rather than a target for total (absolute) emissions.
Low and Lower Emissions shipping fuels	Marine fuel options that reduce greenhouse-gas emissions compared with conventional marine fuels such as VLSFO (Very Low Sulphur Fuel Oil). This may include bio-fuel, bio-fuel blends and other renewable or alternate fuels.
Mass Balance	A mechanism allowing emissions reductions generated on a ship burning lower emissions fuels that isn't specifically carrying the beneficiaries cargo to be claimed by the beneficiary by making a financial contribution to cover the differential in fuel price incurred by the carrier from using a low emissions fuel.
Net zero emissions	A state where greenhouse gas emissions are reduced as far as possible, with any residual emissions balanced by removing an equivalent amount of greenhouse gases from the atmosphere.
Per tray equivalent	Standard unit of measure which refers to number of pieces of fruit in a pack by the size for that weight band.
Physical risks	Physical climate risks are related to the direct physical impacts of climate change on society, the economy, and ecosystems from more frequent or severe weather events and long-term changes in climate patterns, such as floods, heatwaves, sea level rise and wildfires. These can be categorised as acute (event-driven, like a flood) or chronic (long-term shifts, like higher temperatures).
Scope 1 emissions	Direct greenhouse gas emissions from owned or controlled operations. For Zespri, this includes mobile combustion emissions from our vehicle fleet.

Text	Definition
Scope 2 emissions	Indirect greenhouse gas emissions from the generation of purchased electricity. For Zespri, this includes electricity consumed at our premises.
Scope 3 emissions	All indirect greenhouse gas (GHG) emissions that occur in a company's value chain, excluding the direct emissions it produces (Scope 1) and the indirect emissions from purchased electricity/ energy (Scope 2). They include upstream and downstream activities. For Zespri this includes, but is not limited to: Upstream <ul style="list-style-type: none"> • Purchased goods and services • Capital goods • Fuel- and energy-related activities not included in Scope 1 or 2 • Business travel • Transportation and distribution from suppliers Downstream <ul style="list-style-type: none"> • Use of sold products • End-of-life treatment of sold products • Investments • Transportation and distribution to customers
Supply chain	This refers to the entire sequence of processes involved in the production and distribution of kiwifruit, from orchard operations, post-harvest handling, packing, and cool storage, through to international shipping and delivery to end markets. It encompasses all the physical and logistical steps required to move fruit from growers to consumers.
TCFD	Task force on Climate-Related Financial Disclosures
Transition risks	Transition Risks are associated with the world's transition to a low emissions economy – from changes in policy, regulation, legal, technological, market or other societal responses.
Value chain	Includes all activities and stakeholders that add value to kiwifruit as it moves from orchard to consumer, including growing, harvesting, post-harvest processing, shipping, marketing, and product end-of-life. It covers both upstream (inputs, growing) and downstream (distribution, consumption, disposal) activities, and considers how each step contributes to the overall value and sustainability of the product. All activities associated with the business model and operations of Zespri.

1 https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Annex1.pdf

APPENDIX 1. CLIMATE CHANGE SCENARIO AND RESILIENCE ANALYSIS

Scenario Analysis

We used climate scenario analysis to explore how physical and transition risks may evolve under different global decarbonisation pathways. This has helped to navigate the lack of certainty around what the future impacts of climate change will be – and when, and what pathway the world will take to respond over time.

Three scenarios were developed using the Intergovernmental Panel on Climate Change (IPCC)¹⁰ scenarios, which were:

Scenario A: Rapid transition to a low-emissions economy with significant disruptions, net zero CO₂ achieved by mid-to-late century, limiting global warming to 1.7°C by 2100.

Scenario B: Middling progress towards decarbonisation, global CO₂ emissions peak by 2040, warming reaches around 2.8°C by 2100, with late and disruptive transition efforts and persistent physical climate challenges.

Scenario C: Backtracking on decarbonisation leads to CO₂ emissions continuing to rise, warming reaches 4.7°C by 2100, resulting in marked chronic and acute impacts that disrupt global supply chains.

We considered and aligned with globally recognised best practices in selecting combined (SSP-RCP) climate scenarios¹¹. These scenarios have been developed for analytical purposes; they do not represent forecasts.

The scenario analysis highlighted that Zespri and the wider kiwifruit industry face ongoing challenges from escalating physical climate risks across all climate scenarios. Transition risks are most pronounced under a rapid transition or middling progress scenario, with short-term regulatory pressures expected to rise as governments enforce stricter environmental standards. Long-term adaptation will depend on innovation development, technology availability and alignment with evolving customer and consumer demands.

Summary of Climate Variable Analysis

Extreme Events: Hail and Rain

Extreme hail and rainfall events may occur more over the long-term (30-80 years), particularly in areas which are already hail-prone including Northern Italy and the Nelson-Tasman region in New Zealand. The greatest risk is likely to occur under Scenario C (abandoned decarbonisation) in the long-term¹², but there are many examples of increasingly severe acute weather events occurring in the present day globally. For example, in December 2020, a severe hailstorm destroyed crops on several kiwifruit orchards in the Tasman region¹³.

Extreme Events: Wind

Changes in wind speed are unlikely to be severe before mid-century. The intensity of tropical cyclones that could impact New Zealand growing regions is predicted to increase, including windspeeds¹⁴.

Temperature Change

Minimum temperatures increase in all growing regions under all scenarios. Increases are highest in the long-term under the high emissions scenario. Additionally, extreme temperatures (i.e. maximum temperature experienced each year and nationwide hot days over 30°C) similarly increase in all regions and the most under the high emissions scenario. Increases are generally higher in Europe, while New Zealand's hot days appear to not change much, sub-national regions may be affected much more than the national average¹⁵.

Changes in Rainfall

Chronic changes in rainfall and water availability will have an impact on kiwifruit growers and the wider kiwifruit industry over the short to long-term (the next 5-80 years). In particular, it is expected to become drier on average in Europe over time. In New Zealand, while annual rainfall may remain relatively stable, more is expected to fall as heavy rain, with longer dry spells and possible shifting seasonal patterns¹⁶. The degree of risk increases over time under all of the climate change scenarios, relative to the present day. However, the risk is greatest under Scenario B (uncoordinated and middling progress) and Scenario C (abandoned decarbonisation).

Zespri's Strategic Resilience

We assessed the resilience of our 2035 Strategy in the face of climate change. The analysis highlighted key strengths, including progress in embedding low-carbon practices and enhancing climate resilience across the value chain — notably through the decarbonisation programme, innovation and diversified global production.

We also identified areas of potential exposure, such as barriers to expanding global supply, rising costs from carbon pricing, increasing regulatory pressures and vulnerability to a range of physical climate impacts.

While Zespri's current strategy aims to address material climate risks and opportunities, a continued proactive approach helps enable progress under our 2035 Strategy by enhancing brand perception and building long-term resilience to critical climate impacts.

¹⁰ Emissions Scenarios, IPCC (2000) <https://www.ipcc.ch/report/emissions-scenarios/>

¹¹ Zespri has updated its climate risks and opportunities in accordance with globally-recognised climate risk and opportunity practices and standards, with external advice provided by PwC.

¹² Fischer et al. 2025 – How hail is changing in Europe: 3 things to know about climate change and hail risk. WTW Research Network Newsletter.

¹³ [Some Motueka fruit growers lose entire crop in hailstorm | RNZ News](#)

¹⁴ [Niwa Rain from tropical cyclones to increase under warmer climate | Earth Sciences New Zealand | NIWA](#)

¹⁵ [Assumptions based on data from countrywide, multi-model medians from the World Bank Climate Change Knowledge Portal, derived from CMIP6 global climate model outputs. S, M, and L refer to the 2025-30, 2031-35, and 2046-2050 averages](#)

¹⁶ [Harrington et al. 2024- Robust changes to the wettest and driest days of the year are hidden within annual rainfall projections: a New Zealand case study, and Gibson et al. 2024- New Zealand Climate Projections Dataset](#)

Physical Risks and Opportunities

Zespri and the kiwifruit industry face a number of material physical climate risks and opportunities (Table 1)¹⁸. These have been assessed using Zespri's overall risk rating for 2035 and 2050 under our moderate warming scenario (Scenario B outlined), factoring in financial, reputational, supply chain and grower relationship impacts and likelihood.

Table 1: Physical Risks and Opportunities

Ref	Risk/ Opportunity	Climate variables	Potential impact	Risk Rating in 2035 (Scenario B)	Risk Rating in 2050 (Scenario B)
Physical Risks			Potential impact		
P1	Extreme event crop damage, from acute hail and rain events	<ul style="list-style-type: none"> Extreme rainfall events Extreme hail events 	Increased volatility, intensity and duration of extreme weather events for rainfall and hail leading to harvest losses, soil erosion, flood damage, diminishing soil productivity and reduced quality.	MODERATE	HIGH
P2	Extreme event crop damage, from acute wind	<ul style="list-style-type: none"> Extreme wind speeds 	Increased volatility, intensity and duration of extreme wind events leading to crop damage or reduced fruit quality.	LOW	LOW
P3	Increased pests and pathogens	<ul style="list-style-type: none"> Average temperature 	Rising average temperatures may increase the ability of pests and pathogens to establish in primary growing regions and/or reduce crop resilience to pests and pathogens.	MODERATE	HIGH
P4	Reduced yield from minimum temperature increase	<ul style="list-style-type: none"> Minimum temperature 	A rise in winter temperatures may prevent consistent bud-break and king flower production in primary growing regions (due to insufficient winter chill hours).	HIGH	HIGH
P5	Changes in average rainfall impeding fruit development	<ul style="list-style-type: none"> Number of dry days Drought Average rainfall 	Kiwifruit vine water demand may increase with rising temperatures, impeding fruit development in water-deprived areas, and an increase in dry days may marginally alter the risk of drought and water stress in primary growing areas. An increase in the severity and frequency of droughts, especially in already dry areas, may impede fruit development.	LOW	MODERATE
P6	Heat impacts on the supply chain	<ul style="list-style-type: none"> Maximum temperature Number of hot days 	Increased temperatures impact operations through increased heat stress on orchards (people) and energy use in post-harvest sorting and distribution centres.	LOW	LOW
P7	Supply chain disruption	<ul style="list-style-type: none"> Extreme rainfall events Extreme wind events 	Chronic and acute climate changes, including increased volatility, intensity, and duration of extreme weather events leading to supply chain disruption.	LOW	LOW
Physical Opportunities					
O1	Better growing conditions: diversify supply	<ul style="list-style-type: none"> Average temperature 	The increase in temperatures may provide opportunities to diversify/expand growing locations (NZ and offshore).	MODERATE	MODERATE
O2	Better growing conditions: higher fruit quality	<ul style="list-style-type: none"> Average temperature 	The increase in temperatures may lead to higher fruit quality in current growing regions, e.g., increased dry matter.	MODERATE	MODERATE

¹⁸ Zespri has updated its climate risks and opportunities in accordance with global climate risk and opportunity standards, with external advice provided by PWC.

Transition Risks and Opportunities

Zespri and the kiwifruit industry face material transition climate risks and opportunities (Table 2). We have assessed these using Zespri's overall risk rating for 2035 and 2050 under Scenario B, factoring in financial, reputational, supply chain and grower relationship impacts and likelihood.

Table 2: Transition Risks and Opportunities

Ref	Risk/ Opportunity	Potential impact	Risk Rating in 2035	Risk Rating in 2050
Transition Risks		Potential impact		
T1	Emissions pricing and carbon taxes	Increased costs arising from stricter regulatory requirements, increased carbon taxes, i.e., increased energy and fuel prices.	MODERATE	HIGH
T2	Increasing customer demands	Customer demands shift to set stringent environmental requirements that could be difficult to meet and/or could impose significant direct and indirect cost increases.	MODERATE	MODERATE
T3	Market access regulatory requirements	Regulatory requirements shift to set stringent environmental requirements that could be difficult to meet and/or could impose significant direct and indirect cost increases.	MODERATE	MODERATE
T4	Reduced consumer demand	Consumer demand shift to strongly favour environmental performance and/or more locally sourced produce.	MODERATE	MODERATE
T5	Reduced insurance access/affordability	Climate change may create long-term access and affordability challenges for insuring crops and assets, particularly in high-risk areas.	LOW	LOW
Transition Opportunities				
O3	Market opportunity for leading sustainable product	Offering environmentally conscious, underpinned by science products can boost brand reputation and increase consumer appeal.	LOW	LOW
O4	Reduced operating costs and increased efficiencies	Investing in research and development relating to technologies and approaches to improve climate resilience and reduce emissions on orchard may lead to reduced operating costs, improved performance, and potential revenue streams (e.g., solar, carbon removals).	LOW	LOW
O5	New growing systems to protect supply and reduce impacts	Conducting research and development within the kiwifruit industry to identify and demonstrate the value of innovative growing systems and processes to protect the industry in a changing climate.	MODERATE	MODERATE
O6	New cultivars to protect supply and reduce impacts	Conducting research and development within the kiwifruit industry to support identification and demonstrate the value in new cultivars, and activate the uptake of climate resilient cultivars to protect the industry in a changing climate.	HIGH	HIGH

