

REPORT ON

Accessing Regional Development Funding for Greenhouse Decarbonisation

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To: Vegetables NZ Inc., TomatoesNZ

Written on behalf of: Horticulture New Zealand

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Executive Summary

Covered crop growers who heat their greenhouses in New Zealand are under increasing pressure to decarbonise. Those who use fossil fuels continue to pay into the Emissions Trading Scheme, anticipating higher costs with allocative baseline changes, which the Government has given no indication of planning to reverse. The cost of energy transition is prohibitive, particularly for small and medium-scale growers. Meanwhile, the Government has disestablished the Government Investment in Decarbonising Industry (GIDI) fund, which was previously used to support greenhouse decarbonisation.

Alternative funding options for greenhouse decarbonisation do exist, and one pragmatic thing we can do as industry bodies now is help growers apply for those funding options. This internal report focuses on the Regional Infrastructure Fund (RIF), which has eligibility and prioritisation criteria well-matched to the needs of the covered cropping industry.

The RIF is a \$1.2 billion overall fund established to address regional infrastructure needs and administered by Kānoa - the Regional Economic Development & Investment Unit. The fund primarily provides loans and equity investments, rather than grants, and it requires co-investment from the private sector in most cases.

Based on the eligibility and prioritisation criteria for the RIF, greenhouse decarbonisation projects are well-suited to the funds' aims. The most significant limitation for the sector is that projects in the entire Auckland region (as well as the urban centres of Wellington and Christchurch) are ineligible. Key concepts to highlight in funding applications include that:

- Greenhouses support a food production system **that is resilient to climate change**, since crops grown indoors are protected from adverse weather events and a changing climate.
- Reducing the sector's emissions will **meet market and customer expectations**.
- Supporting the growth of the greenhouse sector will **diversify the types of produce New Zealand exports** and contribute to **doubling export value** (because greenhouse crops are **high value**) while providing for domestic food security.
- These projects contribute **positive spillover effects** of the community or region (e.g. employment).
- The significant upfront investment required to decarbonise greenhouses is **unachievable without Government financial support**.

More information about the RIF can be found [on the Kānoa website](#).

Funding Greenhouse Decarbonisation

1. Turning Our Attention to Funding

Covered crop growers who heat their greenhouses in New Zealand are under increasing pressure to decarbonise. Those who use fossil fuels continue to pay into the Emissions Trading Scheme, anticipating higher costs with allocative baseline changes, which the Government has given no indication of planning to reverse. The cost of energy transition is prohibitive, particularly for small and medium-scale growers. Meanwhile, the Government has disestablished the Government Investment in Decarbonising Industry (GIDI) fund, which was previously used to support greenhouse decarbonisation, while setting aside hundreds of millions of dollars for uncertain technological advancements to reduce agricultural emissions.¹

HortNZ has called on the Government to reestablish GIDI or separately establish a Sustainable Food Systems Fund,² but neither of those actions are expected to occur. Alternative funding options for greenhouse decarbonisation do exist, and one pragmatic thing we can do as industry bodies now is help growers apply for those funding options. This internal report focuses on the Regional Infrastructure Fund (RIF), which has eligibility and prioritisation criteria well-matched to the needs of the covered cropping industry.

2. Regional Infrastructure Fund (RIF)

The RIF is a \$1.2 billion overall fund established to address regional infrastructure needs and administered by Kānoa - the Regional Economic Development & Investment Unit.³ It is a capital fund, meaning that financing is mostly delivered through loan and equity investments - grants will only be given in very limited cases.⁴ To be eligible, projects must demonstrate that they would not happen (or happen far slower) without government investment.⁵ Projects ineligible for funding from other government agencies will be prioritised.⁶

The Minister intends for the RIF to be fully committed by the middle of 2025. Ministers meet to consider applications every two months, so only the February, April and June application cycles remain.

The fund's initial focus is on flood resilience and Māori economic development. Māori greenhouse businesses would already be well-placed to apply for funding. Greenhouse

¹ environment.govt.nz/assets/publications/climate-change/New-Zealands-second-emissions-reduction-plan-Discussion-document.pdf

² [24.07.26 HortNZ-FINAL-submission-on-ETS-Ag-Obligations.pdf](https://www.hortnz.co.nz/assets/Uploads/24.07.26-HortNZ-FINAL-submission-on-ETS-Ag-Obligations.pdf)

³ [Regional Infrastructure Fund | Grow Regions](#)

⁴ [Regional Infrastructure Fund | Grow Regions](#)

⁵ [About the Regional Infrastructure Fund | Grow Regions](#)

⁶ [Regional resilience and prosperity focus of new fund | Beehive.govt.nz](#)

decarbonisation projects in general fit neatly under the fund's eligibility and prioritisation criteria, but they may be approved after the initial focus areas are funded.

The sections below outline how greenhouse decarbonisation or energy efficiency projects fit under the various layers of prioritisation and eligibility related to the fund.

2.1. Alignment with the Resilience and Enabling Infrastructure Funding Components

Projects are only eligible to receive funding under the RIF if they meet at least one of the RIF funding component definitions of resilience or enabling infrastructure, copied below.⁷

Resilience infrastructure:

This category supports projects that improve a region's ability to absorb, adapt and/or respond to stresses and shocks. Investment under this category includes flood and weather event protection, water supply resilience (exclusions under this category are most potable water, wastewater, or storm water assets), energy security, water security, food security, connectivity or ensuring the resilience of existing infrastructure.⁸

Decarbonising greenhouses aligns with the objective of resilience infrastructure because growing indoors will be necessary to adapt our food system to the growing impacts of climate change. As adverse weather events grow more intense and more frequent, indoor growing affords control over environmental conditions for food production that outdoor growing cannot.

As New Zealand shifts to a low-emissions economy, ETS costs increase, and natural gas becomes prohibitively expensive, decarbonising our indoor growing systems will ensure greenhouse crops remain economically viable to grow. These arguments are explored further in section 5 of this report.

Enabling infrastructure

These projects will support growth by ensuring regions are well-connected and productive by supporting shared services, innovations facilities and solutions that connect multiple businesses and communities.⁹

Greenhouse decarbonisation projects could potentially fit this definition of enabling infrastructure when they include partnerships between multiple businesses. The Reporoa Organics Processing Facility is a great example, where a food waste-to-bioenergy facility provides energy to heat T&G's neighbouring tomato glasshouse. The organics processing facility also provides carbon dioxide to fuel the growth of the tomato plants.¹⁰ Other projects of this nature would be well-suited to apply for funding under this funding definition.

⁷ [Eligibility for the Regional Infrastructure Fund | Grow Regions](#)

⁸ [About the Regional Infrastructure Fund | Grow Regions](#)

⁹ [About the Regional Infrastructure Fund | Grow Regions](#)

¹⁰ [Ecogas opens its flagship Reporoa Organics Processing Facility – Ecogas](#)

2.2. Alignment with the Food Production Position Paper

The RIF has outlined their approach to investing in regional food production infrastructure proposals. The Government’s vision is that “The RIF will support the **resilience** of regional food production and **enable transition** to more productive and/or **more sustainable** activities within the food production sector” (emphasis added).¹¹

Greenhouse decarbonisation fits well under this vision because greenhouses support a more resilient and climate adaptive form of growing. Funding would precisely enable the transition to more sustainable growing through the transition from fossil fuels to green energy or energy efficiency improvements.

The investment principles for RIF food production projects are copied below, alongside commentary about how greenhouse decarbonisation fits each principle.

Principle	Alignment with Greenhouse Decarbonisation
<i>Supports the resilience of the food production sector to anticipated risks by increasing diversity of produce, transitioning to more sustainable production methods or increasing resilience of food production to the impact of weather events.</i>	Greenhouse decarbonisation meets all three of these aims: <ol style="list-style-type: none"> 1. Diversifying New Zealand’s produce 2. More sustainable (lower emissions) production in a system that already uses less land and water than outdoor production 3. More resilient growing system in the face of weather events due to cover and less exposure to the elements.
<i>Enhances productivity of the sector by transitioning to higher value land/water uses, or value-added food production.</i>	Unknown if decarbonising will increase the value of existing greenhouse crops but new greenhouse projects could be higher value per hectare than other uses of that land.
<i>Supporting innovation to add value, scale, and attract investment to New Zealand’s food production sector.</i>	Decarbonisation projects can be innovative and be part of increasing the scale of growing operations.
<i>The food production sector is market-led, and as such we expect that much of the RIF’s investment in food production infrastructure assets will be based around loans, equity, or other capital instruments. Some grant funding may be available to accelerate community-centric projects in very limited cases.¹²</i>	The applicant will need to have co-funding.

¹¹ [Regional Infrastructure Fund Position Paper: Food Production](#)

¹² [Regional Infrastructure Fund Position Paper: Food Production](#)

2.3. Alignment with the Regional Development Priorities

Projects must also align with regional development priorities, which are region-specific and developed by local authorities. Priorities that could align with greenhouse decarbonisation are bolded.

Region	Priorities	Region	Priorities
Northland	<ul style="list-style-type: none"> • Grow and improve food processing • High value manufacturing • Infrastructure and construction • Digital and technology • Destination 	Waikato	<ul style="list-style-type: none"> • Logistics and distribution • Sustainable food and agriculture / land use • High value manufacturing • Technology, digital, and I.C.T • Energy and sustainability • Tourism
Bay of Plenty	<ul style="list-style-type: none"> • Accelerate a globally focused, high-value wood products industry • High-value horticulture product delivery • Growing and diversifying the Māori economy • Driving sustainable aquaculture opportunities • Tourism • Freight and logistics • Energy and decarbonisation 	East Coast / Tairāwhiti	<ul style="list-style-type: none"> • Maximise land potential (greenhouses do more with less land) • Circular economy • Sustainable timber practices • Amplify business growth • Housing • Cruise tourism • Technology economy (greenhouses are high-tech) • Health science economy • Water for the economy • Energy • Te Ara Tipuna

Region	Priorities	Region	Priorities
Taranaki	<ul style="list-style-type: none"> • Energy • Food and fibre • Tourism • Land use • Māori development • Housing 	Hawke's Bay	<ul style="list-style-type: none"> • Water security • High-value food production • Addressing the labour shortages • Housing • Freight logistics
Manawatū-Whanganui	<ul style="list-style-type: none"> • Food and fibre • AgriTech • Advance manufacturing • Tourism • Housing • Transport infrastructure • High performing workforce • Māori economy • Specialised services - digital, agritech and advanced manufacturing 	Kāpiti-Wairarapa	<ul style="list-style-type: none"> • Water resilience (specifically Wairarapa) • Food and fibre (specifically Wairarapa) • Transport resilience (specifically Wairarapa) • Tourism - Dark Skies (specifically Wairarapa) • Food and beverage (specifically Kāpiti) • Medical tech (specifically Kāpiti) • Advanced tech (specifically Kāpiti) • Education (specifically Kāpiti)
Top of the South	<ul style="list-style-type: none"> • Blue Economy • Horticulture, Food and Beverage • Forestry and Wood Product Manufacturing • Research, Science, and Technology • Aviation • Viticulture and Wine Making • Visitor Economy 	Canterbury	<ul style="list-style-type: none"> • Energy • Transport / Planning • Housing • Public infrastructure • Water • People • Food

Region	Priorities	Region	Priorities
West Coast	<ul style="list-style-type: none"> • Housing and infrastructure resilience • Health care • Workforce and business education. • Regional connectivity • Mineral extraction • Renewable energy • Value add to minerals sector 	Otago	<ul style="list-style-type: none"> • Connectivity • Productivity • Talent • Housing • Sustainability
Southland	<ul style="list-style-type: none"> • Aquaculture • Tourism • Housing • Agriculture • Forestry • Transport and roading • Energy • Water 		

2.4. Alignment with the Eligibility Criteria

Projects must meet the following criteria or have the following attributes:

- New Zealand-based legal entity
- Project will be delivered outside of Auckland, Wellington or Christchurch
- Project will deliver a tangible, physical asset
- Contribute to regional resilience and/or productivity
- Meet the RIF definition of resilience or enabling infrastructure
- Project has an implementation plan, robust project governance, decision-making systems and risk identification/management
- Co-investment from private sector, iwi or other NGO
- Project requires Government financial support to progress or attract private sector investment (e.g. wouldn't happen w/out RIF support)
- Alignment with regional development priorities
- Project is not yet underway
- Cannot include purchases of land (with small exception)

2.5. Eligibility for Individual Businesses

When the RIF investment is for an asset in an individual business, there are particular requirements to ensure flow-on effects for the wider community.

- Benefits and outcomes from the project should be non-exclusive to the individual business, meaning, the investment must generate broader benefits or services for other businesses or the community; and
- The business must have a primary focus on one of the following areas: energy security, water security, **food security**, connectivity (transport solution or digital connectivity), or growth of a Māori-owned business that is critical to enabling outcomes throughout a community or region.

Projects which will only be used a single grower are unlikely to receive RIF investment. Where a greenhouse or energy upgrade is being developed to service multiple grower businesses or has other spillover benefits, it will be a good fit.

2.6. Elevator Pitch for Applications to this Fund

Based on the sections above, key concepts to highlight in funding applications include that:

- Greenhouses support a food production system **that is resilient to climate change**, since crops grown indoors are protected from adverse weather events and a changing climate.
- Reducing the sector’s emissions will **meet market and customer expectations**.
- Supporting the growth of the greenhouse sector will **diversify the types of produce New Zealand exports** and contribute to **doubling export value** (because greenhouse crops are **high value**) while providing for domestic food security.
- These projects contribute **positive spillover effects** of the community or region (e.g. employment).
- The significant upfront investment required to decarbonise greenhouses is **unachievable without Government financial support**.

3. Alignment with Government Priorities

One of the pillars of the Government’s Climate Change Strategy is that “infrastructure is resilient and communities are well prepared”.¹³ Greenhouse decarbonisation supports local food supply and domestic food security, ensuring that there will be fresh produce available in the wake of adverse weather events or if the climate in key growing regions limits outdoor production.

Hon. Shane Jones is the Minister for Regional Development, with Hon. Mark Patterson as Associate Minister. Jones has asked that applicants, “Bring us strategic partnership opportunities, not wish lists”.¹⁴ So long as horticultural applicants have co-investment, they will meet this request.

Greenhouse decarbonisation projects meet the following aims of the Aotearoa Horticulture Action Plan (AHAP), a sector strategy co-owned by Government, Industry, Science and Māori.¹⁵

Key Priority 1.5 Transition to a Low-Emissions Economy:

Action: “identify energy-intensive areas of the horticulture value chain and support conversion to systems that reduce greenhouse gas emissions”

Outcome: “Financial structures support conversion to higher productivity and lower input/emission systems.”

4. Opportunities for Engagement with Government

Hon Minister Jones is hosting Regional Growth Summits around the country. As of November 2024, these are the dates and locations for upcoming summits.

¹³ [The Government’s climate strategy | Ministry for the Environment](#)

¹⁴ [Growing our regions - inaugural Regional Growth Summit speech | Beehive.govt.nz](#)

¹⁵ [HOR-4619 Horticulture-Action-Plan-FA web.pdf](#)

Friday 6 December	Hawke's Bay, 8:30-11 am, Foodeast-Haumako, 4 Hanui Road, Tomoana, Hastings
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The details for Canterbury, Wairarapa, Kāpiti and Chatham Islands summits are yet to be announced and will take place in early 2025. The dates for all other regional summits have passed.

5. Background Information on Greenhouse Decarbonisation

5.1. Greenhouses are Needed for a Resilient Food System

Growing indoors, also known as covered cropping, is what allows New Zealanders to buy tomatoes, cucumbers, capsicum, courgettes, eggplants, leafy greens and herbs year-round.

Covered crops provide a supply of fresh produce at times of the year when outdoor cropping is challenging, which evens out the supply of fresh produce and extends the availability of seasonal crops. Indoor growing systems work by using technology to provide a stable growing environment for their crops through environmental controls. Indoor growing systems also use less water, land and nutrients than growing outdoors, which means they have a low impact on freshwater quality while making efficient use of resources.

An increase in covered cropping will be essential to build resilience into the food production system to the variable weather that comes with a changing climate while still producing enough food for our population. New Zealand needs to recognise the risk climate change poses to food security and focus on sustaining a productive food system through a changing climate. Indoor growing reduces vulnerability to external environmental conditions and pressures such as significant weather events. During Cyclone Gabrielle, 80% of the tomatoes grown outdoors for processing were destroyed, whereas the supply of indoor grown greenhouse tomatoes was relatively unaffected.¹⁶

5.2. Government Funding is Needed for Greenhouse Decarbonisation

The horticulture sector supports New Zealand's net-zero target and market mechanisms to achieve that goal. The greenhouse industry is undergoing decarbonisation through efficiency improvements and a transition to renewable energy sources. Many greenhouses use heating sources powered by fossil fuels in colder months and rely on the CO₂ captured when burning natural gas to pump into the greenhouses to boost plant productivity.

The problem is that the hurdle of decarbonisation is prohibitively expensive, particularly for small and medium-sized growers. That is where Government investment through the RIF, or otherwise, is needed.

¹⁶ Tomatoes NZ, personal communication.

The cost for a greenhouse grower to decarbonise is roughly \$1 million per hectare.¹⁷ Vegetable growing already has incredibly slim margins, so this transition cost and the slow return on investment makes the change to renewable energy sources unachievable for most covered cropping businesses. Efficiency and emissions improvements can also be made through mitigations like installing screens, which reduce the amount of fuel needed.

Only 25 ha of greenhouses from the largest companies have already decarbonised. These companies were able to make the transition with co-investment from the GIDI Fund.¹⁸ GIDI funding was only available to the largest greenhouse companies because small and medium-scale growers could not meet the emissions threshold for eligibility.

Small and medium-scale growers, who make up half of the industry at current estimates, do not have the capital on hand to make these changes. There are still 216-285 ha of greenhouses that are not decarbonised, which would cost roughly \$216- 285 million to transition.¹⁹ These growers need grants for co-investment to either switch fuels or improve energy efficiency. Easily accessible low interest loans would also help.

5.3. Energy is Part of Resilience

Greenhouses provide resilience for our food supply, but the greenhouse industry itself will only be resilient with decarbonisation.

Natural gas, which heated two-thirds of heated greenhouse area in 2020, is only available on the North Island, and it is becoming prohibitively expensive.²⁰ The closure of Marsden Point Refinery has put pressure on CO₂ availability. Alternative energy sources are needed to continue heating glasshouses at a reasonable cost.

Growers will switch fuel sources if natural gas becomes too expensive, but their yields will decrease without alternative sources of CO₂ to boost plant production. Some growers already buy tanks of supplementary CO₂ at high cost, especially those using non-gas heating sources. There are not many alternative sources of CO₂, and the supply chain is fragile, as evidenced by an acute shortage in early 2023. This argument can be used to support applications for funding to pair greenhouse decarbonisation with alternative CO₂ production, like the Reparoa Organic Waste Processing example discussed in section 2.1 of this report.

Changes to the allocative baseline for fresh tomatoes, cucumbers and capsicums mean that growers will be paying more into the ETS. This added cost means that decarbonisation is all the more urgent. Growers are already under tight financial pressure. According to one greenhouse grower, the cost of production increased 30-50% in recent years, while the price of cucumbers only went up 10%.

¹⁷ Vegetables NZ, Inc. estimate

¹⁸ EECA. "[Final stage of energy strategy for fresh produce company](#)". 28 July 2022. Accessed 25/07/24.

¹⁹ Vegetables NZ, Inc. estimates

²⁰ Deta Consulting. Covered Crops Decarbonisation Plan: Final Report Revised. 08/02/2022. (p. 10)