

Duane Fernandes

Chair - Te Hapori Hauora Community Land Trust



1. What potential risks or complications do you foresee with the above financial instruments?

Concessional loans - Batteries and rooftop solar (to a lesser extent) are currently priced such that payback is in the 12-15 year timeframe based on a self-use business case. Additional revenue from FCAS services or exposure to spot rates for trading could bring this forward. In any case these are 10 year plus investments. For many businesses having access to 10-15 year loan terms unlocks the ability to take on the investment without experiencing near-term cost increases which currently put off many managers and owners of businesses from making these investments. The risk that concessional loans or favourable terms are at the whim of the political cycle will mean lower uptake by businesses.

2. Which model/s seems most feasible for your business and why?

Concessional loans would be most feasible for our community energy co-op because we are trying to unlock on-bill finance - that means the loans are repaid by adding a finance component to the electricity rates charged. To do this AND maintain savings vs grid supplied retail power we need a longer term loan. Term is more important than rate because we can make the numbers work even at term deposit market rates over a 15 year term.

Loan Underwriting would also unlock investment for us. Our project had this issue as it is a community energy co-op structured as a resident's body corporate and banks were unwilling to lend due to the lack of proven success and uncertainty over collateral value of generation and storage assets owned in common.

3. Do these offerings accurately reflect barriers to entry your business faces?

Yes

4. Are these models attractive and do you think they would be effective?

Yes. Structuring loan terms to match the useful life of the asset, and priced such that it is reflective of the level of risk (low as electricity use is predictable) vs regular commercial loans would unlock investment as the ROI is becoming obvious.

5. What sort of projects do you think would suit the suggested financial models?

Unusual ownership structure such as body corporates.

Landlords and tenants - Long term loans that landlords can price into their rents with tenants getting the lower cost of electricity benefit.

Commercial building owners - again can price the repayment of loans into the rents with tenants getting the lower cost of electricity benefit.

Regards,

Duane Fernandes

Chair - Te Hapori Hauora Community Land Trust

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EECA - Te Tari Tiaki Pūngao

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Wellington, 6011

Via email: star@eeca.govt.nz

6th June 2025

To whom it concerns,

On behalf of the Climate Navigator team, we wish to thank EECA for the opportunity to provide input to the [Green Paper on Update to EECA's targeted investment approach](#).

Questions for consideration:

1. What potential risks or complications do you foresee with the above financial instruments?
2. Which model/s seems most feasible for your business and why?
3. Do these offerings accurately reflect barriers to entry your business faces?
4. Are these models attractive and do you think they would be effective?
5. What sort of projects do you think would suit the suggested financial models?

We agree with the main premise, the transition from the early adopters of clean energy upgrades (energy efficiency and end-use electrification) to a majority of consumers, as shown in the technology and innovation curve, requires multiple investment models. Early on there is a high dependency on grants and direct incentives (rebates or vouchers) and to achieve a greater scale there is a need to use a braided approach of funding and financing.

Financial solutions centered around consumer loans present access barriers. As noted in the Green Paper and EECA site, traditionally the pay back periods for loans are very short and this makes it hard for most people to even consider them. Higher interest rates can also prevent people from getting loans. In addition, even if offered at a lower interest rate, loans are often not accessible to lower-income households, those with low credit records, those whose savings potential are not as high, and those who are renters and living in multifamily units.

There is a need for solutions that overcome these loan access barriers for all kinds of consumers. We offer some comments on the three models proposed and an additional model to consider specifically for residential consumers.

Model 1. Concessional Finance

This is an important model, loans with lower interest rates and extended repayment periods, can make a significant difference when financing products with higher up-front cost (i.e. new heat pump or an electric car). An important consideration is ensuring that the loan requirements do not leave people out. In California, there is the program [GoGreen Financing](#)¹ is a state-backed program designed to expand access to affordable energy upgrades with credit enhancements supported by electricity payers funds authorized by the California Public Utilities Commission (CPUC). The program partners with private lenders to reach participants. To date, the program offers loans with about 5-9%² interest and this still could be unaffordable or unattractive terms for lower income families. More significant loan application requirements from lenders, based on risk assessment, have not changed and low income - low credit score families are still non-eligible.

Our recommendation is to ensure community based financial institutions—that are mission aligned and understand their communities better—are included in the administration of this financial solution. These community lenders often have the trust of the community and would provide financial solutions that can fit better the needs of their communities, allowing for higher acceptance and enrollment.

Model 2 and 3. Energy Savings Guarantees and Loan Underwriting

These are very similar and for both EECA is proposed as the service provider of energy savings guarantees and the underwriting. We very much agree about the need of these instruments. It is very important to offer these guarantees and loss loan reserves to mitigate real or perceived risks associated with participant savings realisation and non-payment. Public agencies are in the best position to offer these instruments.

One consideration for these guarantees is the need to track closely and attract more private capital to reduce liabilities and leverage always limited public funds.

Alternative Model: Tariffed on-Bill (Inclusive Utility Investments)

There is an alternative model piloted in the U.S. and implemented through the utility bill. Tariffed on-Bill model, also known as Inclusive Utility Investment. This model supports the adoption of clean energy solutions at scale, focusing on reducing access barriers, reducing risks, and attracting private investment. In the New Zealand context the service provider could be the retailers as the utilities closer to the customers and in charge of the billing system. There is also a precedent with retailers working with EECA co-funding programs.

Tariffed on-bill (TOB) as defined by the [U.S. EPA](#)³ is “a financial solution for distributed clean energy upgrades (including energy efficiency) via a tariff for site-specific utility investment and

¹ Go Green website: <https://www.gogreenfinancing.com/>

² Go Green. Quarterly Report and Program Status Summary. First Quarter 2024. <https://www.treasurer.ca.gov/caeatfa/cheef/quarterly/2024/20240331.pdf>

³ U.S. EPA Inclusive Utility Investment. Under Energy Resources for State and Local Governments <https://www.epa.gov/statelocalenergy/inclusive-utility-investments-tariffed-bill-programs> This page can be discontinued anytime under the current administration (2025)

cost-recovery, approved by the utility's regulatory authority and designed to ensure net annual cost savings for participants.”

These programs enable a utility to invest / pay for cost-effective clean energy upgrades at a customer site. The utility recovers those costs through a fixed, site-specific charge on the customer's monthly utility bill that is less than the estimated savings from energy bill reductions. The tariff duration is the cost recovery period of all costs by the utility and it is also based on the estimated savings.

Tariffed on-bill programs have been designed to enhance the benefits of clean energy to more customers as they do not have the same access requirements for loans (such as income qualification, credit records) and they can be accessed by renters since the tariff is associated with the meter rather than an individual. Further, there is no required upfront cost to the customer. More information can be found also in the [Smart Electric Power Association](#) (SEPA) and [Clean Energy Works](#)' Inclusive Utility Investment Guide for Distributed Energy Resources⁴.

We recommend EECA to explore tariffed on-bill programs, and work directly with retailers to examine the terms of programs and with the Electricity Authority to ensure compliance with current regulations and the needed approval for the tariff.

We understand Rewiring Aotearoa is also proposing improving Ratepayers Assistance Scheme (RAS) in their recent Policy Manifesto⁵ which can leverage low interest rate loans from local governments. This loan scheme could work in tandem with the recommendation above to enhance consumer protections.

Alternative Funding Model: Social Enterprise

We would also like to draw your attention to an innovative funding mechanism which could achieve the intended outcome: A number of social enterprise models have been developed around the world which create sustainable revenue streams to 'accelerate clean and clever energy use projects'. For example in the UK the [Oxford Low Carbon Hub](#) uses equity crowdfunding, along with other sources of finance, to develop a portfolio of locally owned renewable assets. The profits from these assets are directed to a Community Benefit Fund, which supports a range of services for households and SMEs, including energy literacy, audits, smart retrofits and innovation. [Energy4All](#) supports community energy cooperatives across the UK with similar models, and is currently consulting on an opportunity to scale up⁶ through a partnership with a commercial offshore wind developer. We also draw your attention to this recent report from [Regen](#) on Unlocking shared ownership for a fast and fair transition⁷.

⁴ SEPA and Clean Energy Works. Inclusive Utility Investment Guide for Distributed Energy Resources <https://sepapower.org/resource/inclusive-utility-investment-guide-for-distributed-energy-resources/>

⁵ Rewiring Aotearoa. Policy Manifesto. <https://www.rewiring.nz/manifesto>

⁶ Energy 4 All <https://energy4all.co.uk/offshore/>

⁷ Regen. Sharing Power: Unlocking Shared Ownership for a Fast and Fair Net Zero Transition. <https://www.regen.co.uk/insights/sharing-power-unlocking-shared-ownership-for-a-fast-and-fair-net-zero-transition>

Final consideration

No one financial instrument can solve the barriers of scaling up deployment of home clean energy upgrades. Having a diverse set of braided approaches (alternative funding models, direct incentives, low cost loans, loan guarantees and loss loan reserves) and more stakeholders involved (tariffed on-bill by utilities) will provide the necessary options to reach all New Zealanders regardless of income or house ownership.

About Climate Navigator

We are a strategy and innovation consultancy, partnering with groups across the public, private and community sectors, to unlock the power of people and places to accelerate just climate & energy transitions. More information: <https://www.climatenavigator.co.nz/>

Warmly,

Margarita Parra

Energy Transition Specialist
Climate Navigator



[Climate Navigator | Energy Transitions | Aotearoa New Zealand](#)

Submission by



to

EECA

on the

Updates to EECA's targeted investment approach

30 April 2025

Updates to EECA's Targeted Investment Approach

– SUBMISSION BY BUSINESSNZ ENERGY COUNCIL–

Introduction

1. BusinessNZ Energy Council (BEC)¹ is pleased to have the opportunity to provide feedback on the Energy Efficiency and Conservation Authority (EECA) working paper titled *Updates to EECA's Targeted Investment Approach*.
2. BEC represents a diverse array of leading energy-sector businesses, government bodies, and research organisations dedicated to creating a sustainable, equitable, and secure energy future.
3. As a brand of BusinessNZ, New Zealand's largest business advocacy organisation, we represent the World Energy Council in New Zealand, aiming to shape better outcomes for our wider energy system both locally and globally.
4. BEC supports the work undertaken by EECA in supporting 'clean and clever' energy projects and supports the introduction of new co-investment models.
5. BEC acknowledges that in the goal of reducing risks and uncertainties for investors there are issues in investment going into projects that are not sound particularly if the models are to be used throughout adoption stages.
6. There are risks of creating debt dependency, inefficient resource allocation, distorting competition, loan defaults and market instability.
7. However, as businesses are forced to move away from gas due to diminishing supply it has become necessary for government to provide access to capital to facilitate transition into alternative and economically efficient fuel sources.

Key Recommendations for EECA

- Move to implement concessional loans on the basis of reducing financial barriers for businesses to move away from gas to more energy efficient and economic sensible solutions.
- Avoid energy saving guarantees and loan underwriting due to ineffectiveness or added risk.
- Consider market-enabling reforms to complement direct investment. Lower regulatory barriers that hinder new energy technologies and practices, allowing innovation and competition to drive cost reductions and efficient resource use instead of relying on public funding.

General discussion

¹ More about BEC in APPENDIX One

8. EECA is considering three alternative co-investment models to support the development and uptake of new energy-efficient technologies and practices.
9. The proposed co-investment models are; concessional financing, energy savings guarantees, and loan underwriting.
10. Similar co-investment models have been trialled internationally, including in the United States², Germany³, and Australia⁴. These programmes have supported the deployment of clean energy technologies and helped de-risk early-stage investment. They do often, however, face a common critique: public funding can be allocated to projects that would have proceeded without government support.
11. This raises concerns about additionality and the efficient use of taxpayer money. In some cases, co-investment has also been accused of crowding out private capital, distorting market signals, or favouring established firms over emerging competitors. These examples highlight the importance of carefully targeting any government intervention to avoid inefficient or duplicative spending.
12. In the New Zealand context some of these issues are mitigated as businesses cannot access private investment due to high costs of transitioning from gas to electricity. The issues do highlight the need for stringent criteria surrounding the approval of loans and guarantees.
13. Concessional financing involves offering loans on more favourable terms, such as lower interest rates or extended repayment periods, to encourage investment in projects that may otherwise be considered too risky or unprofitable.
14. While concessional loans carry the risk of debt dependency, lengthy approval processes and a lack of incentive for efficient resource allocation. These risks can be mitigated through clear eligibility criteria and strong oversight. When targeted appropriately, concessional loans can play a key role in the adoption of technologies that improve energy efficiency. **Given the current situation and the need for alternative energy supply, BEC supports the introduction of concessional loans.**
15. Energy savings guarantees (ESGs) involve a commitment from the financier (EECA) to ensure that a specified level of energy savings is achieved. If the expected savings are not realised, EECA would compensate the investor, reducing the financial risk for the technology adopter.
16. Measuring energy savings can be difficult due to external variables, making the reliability of such guarantees, particularly when based solely on new uptake, uncertain. Poorly designed guarantees risk distorting market competition by favouring specific technologies. For these reasons **BEC does not support the implementation of ESGs.**
17. Loan underwriting occurs when EECA guarantees part of a loan, absorbing some of the associated risk. This can help enable investment in projects that might otherwise struggle to secure financing due to perceived risk, lack of proven success, or insufficient collateral.

² US Department of Energy. Loans programs office. Accessed 14.4.2025. <https://www.energy.gov/lpo/loan-programs-office>

³ KfW. Our financial products. Accessed 14.4.2025. <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Development-Bank/Tasks-and-goals/Unsere-Finanzprodukte/>

⁴ CEFC. CEFC Investment Policies. September 2024. <https://www.cefc.com.au/document?file=/media/xcf42tt/cefc-investment-policies-2024.pdf>

18. Like any financial tool, credit risk remains a concern, particularly in the electricity sector, where revenue from generation or storage is often delayed or uncertain. Additionally, sovereign risk stemming from shifting climate policy creates uncertainty in the regulatory landscape. These concerns can be managed through more conservative underwriting standards, ongoing monitoring and alignment with broader energy strategies.
19. Despite this **BEC does not support the implementation of loan underwriting** as it is generally most effective for higher-risk, higher-reward projects and not the comparatively lower risk transitional projects that these tools should be aimed at.
20. Market reluctance to invest in certain projects may reflect genuine barriers, such as information asymmetries, lack of scale or policy uncertainty, rather than inherent lack of return. Co-investment mechanisms help address these challenges by signaling government confidence, reducing perceived risk. With appropriate design, they can bridge the gap between innovation and commercialisation without creating long-term dependence on public funding.
21. In addition to financial tools, EECA should explore opportunities to reduce regulatory barriers and improve market conditions for investment. Co-investment and regulatory reform are complementary strategies. By combining financial support with policy certainty and streamlined approvals, New Zealand can create an environment that rewards innovation and accelerated the transition to a low-emissions economy.

APPENDIX ONE – BACKGROUND INFORMATION ON THE BUSINESSNZ ENERGY COUNCIL

The [BusinessNZ Energy Council \(BEC\)](#) is a group of leading energy-sector business, government and research organisations taking a leading role in creating a sustainable, equitable and secure energy future.

BEC is a brand of BusinessNZ and represents the [World Energy Council](#) in New Zealand. Together with its members, BEC is shaping the energy agenda for New Zealand and globally.



[BusinessNZ](#) is New Zealand's largest business advocacy body, representing:

- Regional business groups: [EMA](#), [Business Central](#), [Canterbury Employers' Chamber of Commerce](#), and [Business South](#)
- [Major Companies Group](#) of New Zealand's largest businesses
- [Gold Group](#) of medium sized businesses
- [Affiliated Industries Group](#) of national industry associations
- [ExportNZ](#) representing New Zealand exporting enterprises
- [ManufacturingNZ](#) representing New Zealand manufacturing enterprises
- [Sustainable Business Council](#) of enterprises leading sustainable business practice
- [BusinessNZ Energy Council](#) of enterprises leading sustainable energy production and use
- [Buy NZ Made](#) representing producers, retailers, consumers of NZ-made goods

BusinessNZ is able to tap into the views of over 76,000 employers and businesses, ranging from the smallest to the largest and reflecting the make-up of the New Zealand economy.

In addition to advocacy and services for enterprise, BusinessNZ contributes to Government, tripartite working parties and international bodies including the International Labour Organisation ([ILO](#)), the International Organisation of Employers ([IOE](#)) and the Business and Industry Advisory Council ([BIAC](#)) to the Organisation for Economic Cooperation and Development ([OECD](#)).



FMANZ feedback on EECA's targeted investment green paper

FMANZ is the Facilities Management Association of New Zealand. We are the peak industry body representing the tens of thousands of people employed in the multi-billion dollar facilities management industry in Aotearoa.

Facilities managers are the custodians of Aotearoa's physical places, taking care of billions of dollars of assets – our offices, warehouses, shopping malls, hospitals, schools, sports stadiums, museums, art galleries and more. Together, these places use large amounts of energy.

This significant industry is on the frontline of, and offering solutions to, some of our greatest challenges, including climate change, health and wellbeing, and rising costs. Facilities managers ensure all indoor places and infrastructure operates productively and healthily. They are responsible for using energy cleverly and efficiently, driving down climate change pollution and operating costs, and looking after the millions of New Zealanders who enter a facility every day.

The roll-out of renewable energy across the globe is accelerating towards a fierce momentum. Despite an increase in energy demand, [renewables provided 40% of worldwide electricity in 2024](#). Solar power alone has doubled in three years. In a decade, the international clean energy market is projected to soar to [over US\\$2 trillion](#) (NZ\$3.3 trillion). And the demand for electricity is set to rise, as more people use electric vehicles, heat pumps, and AI.

Here in Aotearoa, with a largely clean electricity sector, we are well set to take advantage of the increase in clean energy, and realise the benefits for our businesses. Our government is also a signatory to the widely reported COP28 pledge to triple global renewable energy, and double the rate of energy efficiency improvements.

FMANZ is, overall, supportive of the proposals in EECA's targeted investment green paper. They make business sense, and align with our international obligations.

All too often, New Zealand's buildings suffer from operational inefficiencies, as the long-term use and function of our places is not properly considered at the design and construction stage. Huge amounts of buildings have not been built to use energy efficiently, and require improvements and retrofits.

Concessional loans, energy savings guarantees, and loan underwriting are reasonable ways to unlock more energy efficiency projects – especially in places where upfront cost or risk has been a barrier. Every day, thousands of our members see the upgrades needed to improve energy efficiency in buildings, yet face difficulties selling the case for improvements to be made.

The co-investment models would will significantly help de-risk investments for businesses to make buildings more energy efficient, and to encourage more property sector business to get some skin in the energy efficiency game.

For each of the three models, we feel that concessional loans are especially good for older buildings and capital-poor organisations, energy savings guarantees are especially attractive – but only if the savings can be independently measured and trusted, and loan underwriting could make a real difference where internal governance or finance teams are particularly conservative.

To gain the most from the co-investment models, we think that they should be made to work for large projects, and also for smaller buildings and places, and community places too.

Facilities managers are key to making these projects work. They are the people operating the building, and implementing the energy efficiency measures, so they should be involved as early as possible.

When making energy efficiency improvements in buildings, our members find that the most successful projects happen when facilities management is included right from the start, and that wider team members are brought along the energy efficiency journey too.

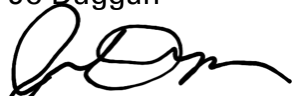
Education and storytelling around the project will help support these projects, and increase uptake.

Much of the green paper coincides with ways that FMANZ sees our community helping to make places in Aotearoa healthier, more productive, and happier.

We would be very happy to help act as a connector between EECA and the FM community, to ensure the success of these investments.

Nāku noa, nā

Jo Duggan


CEO

Facilities Management Association of NZ (FMANZ)

27 May 2025

RE: Submission on Updates to EECA's Targeted Investment Approach

Dear Sir / Madam,

GeoExchange NZ Limited is a multidisciplinary team of scientists, engineers and social scientists that have over 70 years combined local and international experience. We provide independent design and advisory services to the public and private sector on geothermal heating (geoheat) systems.

We firmly support that a range of different investment approaches will unlock barriers to renewable energy uptake in Aotearoa New Zealand and serve as a catalyst for the clean energy transition. We expect such mechanisms will increase uptake in all forms of renewable energy, this is positive as, in our view, a wide range of energy options is required to accelerate the transition. However, for the purposes of this response, we will focus on what impact these proposed initiatives may have for the role of geoheat, our area of expertise, as we endeavour to decarbonise heating through the removal of fossil fuel combustion.

Geoheat Introduction

Geoheat is a portmanteau of geothermal heating. Different to high temperature geothermal systems used to generate electricity, geoheat utilises the ambient and lower temperature end of the geothermal spectrum to provide highly efficient heating and cooling.

Unlike other renewables, a major benefit of geoheat is that it is not weather dependent, it sustainably generates heat 24/7. For this reason, it is an attractive renewable to consider when looking to replace gas for heating purposes. Direct use of geothermal energy - where the geothermal temperature meets or exceeds the requirements of a facility - can almost eliminate the need for additional energy for heating (or cooling) systems. Indirect use of geoheat - involving systems that use heat pumps - is typically 40 to 60% more efficient than air source heat pumps, and even more efficient when compared to electric boilers. Both geothermal applications are an investment in decarbonisation but also in reducing the electricity used for heating as well as peak demand.

High temperature heat pumps that utilise (low temperature) geothermal resources (also known as high temperature ground source heat pumps) are able to produce steam and with pending technological advancements are an increasingly attractive opportunity to decarbonise process heat. These geothermal heat pumps convert ambient, or geothermally enhanced groundwater, and deliver desired temperatures to a facility. The higher the source ground water temperature, the more efficient the operation. Commercially available industrial heat pumps are now capable of delivering steam at temperatures of up to 180 °C, with systems reaching 200 °C currently in development (European Heat Pump Association AISBL, 2024).

Using geothermal heat directly requires drilling, pumps and pipes. As with solar and wind, the capital investment is high, but it rewards with abundant 'free' energy, thus a favourable return on investment (ROI) is possible. Although maintenance is required and there is a risk of well failure, a properly constructed and maintained geothermal well can operate for decades (Violante et al., 2022),

significantly outlasting solar and wind power plants, which typically have a lifespan of around 20 years (Piotrowska et al., 2022).

It is noted that numerous countries are drilling more than 8x the well depth, at significant expense, to access geoheat temperatures available at comparatively shallow depths in New Zealand. While the social and political context in Europe differs significantly from that in New Zealand, there have been many different public policies and funding mechanisms that have contributed to this uptake. In the IEA's Future of Geothermal Energy report (2024), it lists 32 countries with supporting policies for geothermal heat and power. Most of the listed countries have less favourable geoheat resource than New Zealand, however, many of these countries have risk mitigation / finance schemes and consequently, significant uptake of geoheat projects. It lists New Zealand's only supporting policy as the recent grant for supercritical geothermal research.

Perhaps the largest barrier globally to the uptake of geoheat is the capital cost of the system, especially with respect to preliminary site investigations. Solutions are starting to appear internationally that address the upfront capital cost and will be discussed further in the below.

Response to EECA's proposed targeted investment approaches

It is our belief that each of approaches outlined will benefit geoheat uptake to some extent and to address this we have discussed each approach in the following. We have also graded each approach from unlikely, likely and very likely for its potential direct causation to increased geoheat investment and uptake.

Concessional Loans: 'likely'

Even though the direct and indirect use of geoheat is a well-established and proven technology internationally, uptake in New Zealand remains relatively low. This slow adoption is due in part to socio-technical barriers, including limited market familiarity, perceived investment risk, and a lack of visible, bankable local projects.

Introducing concessional loans for geoheat infrastructure could play a pivotal role in mainstreaming this technology across New Zealand's energy and industrial sectors. By de-risking early projects and supporting first movers, concessional finance would help establish a credible track record for geoheat applications. We believe that public intervention in this manner will result in paving the way for lending from commercial banks and private investors over time. This has been the experience in parts of central Europe, Turkey and Indonesia.

Given the long operational lifespan of geothermal installations (30 - 50 years +), particularly in facilities such as greenhouses, food processors, and district heating systems, the economics are well suited to long term loans with extended repayment periods. Amortising repayments across decades of stable, low-carbon heat supply enhances affordability and creates a compelling, cash-flow-positive investment case for end users.

Energy Savings Guarantees: 'unlikely'

Ground source heat pumps (GSHPs) consistently outperform air source heat pumps (ASHPs) in terms of efficiency, making them a beneficial technology in New Zealand's broader shift toward

electrification of heating. While GSHPs offer superior return on investment over their lifespan, their higher upfront capital cost remains a key barrier to adoption. This challenge can be compounded by socio-technical perceptions, specifically, that the projected energy savings may appear overly optimistic or “too good to be true” to cautious investors or business owners. For these cases, Energy Savings Guarantees could provide the necessary confidence to proceed, helping to unlock investment in geoheat systems.

However, we believe Energy Savings Guarantee models are most effective when it is offered by a provider. We believe that contracting a third-party guarantor in an agreement is complicated and, as such, the complexity to achieve this could reduce the commercial viability for provider and customer. EECA may be able to play a leadership or enabling role that encourages a private sector model, however, we do not see a role for EECA to be the guarantor.

Loan Underwriting: ‘very likely’

While publicly backed loan guarantees or underwriting are a valuable step toward improving access to finance for geoheat projects, they primarily address financial risk. If this concept could be expanded to consider geological uncertainty (a key component of geoheat financial risk) that occurs early in geoheat project development, this would have significant impact.

Geoheat projects carry a unique risk profile, particularly in the early stages of resource confirmation. Investors must commit substantial capital upfront to drill a test well in order to assess subsurface temperature, flow rate, and fluid chemistry. This “boots-in-all” approach means that resource risk is front-loaded: if the well proves viable, it becomes a productive asset, either as a production or reinjection well and thus forming part of the long-term system infrastructure. However, if the test well reveals poor flow rates, lower-than-expected temperatures, or problematic fluid chemistry, the investment becomes a sunk cost. Drilling costs for low-temperature geothermal wells typically range from NZD \$600 to \$1,300 per metre, meaning a single 100-metre well can cost between \$60,000 and \$130,000. This creates a significant financial risk that could deter either the business owner or their traditional financier.

This is a known risk quandary for geothermal that has successfully been addressed in other countries. Most notably, France, the Netherlands, Japan, Mexico, Turkey, and Indonesia. This is discussed in detail in a paper co-authored by GeoExchange and GNS Science – see reference below.

Wells, C., Seward, A., Barr, A., Carden, Y., & Glassey, P. (2024). Decarbonising primary industries with geothermal heat – a pathway to greater direct use. *New Zealand Journal of Geology and Geophysics*, 1–12. <https://doi.org/10.1080/00288306.2024.2407124>

France is a world leader of direct geothermal energy use. Amid early geothermal development and exploration phases in the 1970s, it became apparent that geological risk was a critical concern for French investors.

France pioneered the use of public risk guarantee mechanism to support the development of direct-use geothermal energy. The scheme, administered by the national geological survey BRGM, provides insurance against the failure of geothermal wells for a sign-up fee of 1.5% of the covered costs. If a drilled well proves non-productive – due to low temperatures, inadequate flow rates, or unfavourable

fluid chemistry – the fund reimburses a substantial portion of the exploration costs, typically between 65% and 80%. This scheme is the recognised catalyst for increased geoheat investment in the Paris Basin, where some of the world's largest district heating networks exist.

The government in the Netherlands also de-risked investments in geothermal development through a well insurance program that essentially acts as a guarantee. The scheme is based on the 'French risk model' discussed. In The Netherlands, upon drilling, if a geothermal doublet underperforms the pre-drill geothermal production P90 estimates (these pre-drill assessments are approved by TNO, the national geological society) and it is discovered that the aquifer has unsuitable characteristics, the project may be eligible for an insurance claim. This de-risking mechanism has been crucial for expanding geothermal heating in Dutch horticulture and urban district heating.

The public role in risk mitigation schemes and insurance programmes in Europe and elsewhere has, in time, paved the way for private insurance to successfully operate in this space, reducing the need for the public initiative. No such schemes exist in New Zealand and if included alongside the other proposed financial mechanisms, could accelerated uptake of geoheat.

In summary, we see immense value in each of the initiatives proposed and hope our geoheat specific response compliments other submissions received. Should you require any further details or clarification, we would welcome the opportunity to discuss this further with you.

Ngā mihi



Yale Carden
Managing Director



Celia Wells
Director, Strategic Projects

26 May 2025

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Submission on the Targeted Investment green paper.

Who is Vegetables New Zealand Inc:

1. Membership organisation representing the interests of indoor and outdoor growers
2. +550 members
3. 56 crops under representation – including glasshouse crops using process heat
4. 5500 staff employed
5. +30,000 ha under production
6. 888 enterprises*
7. \$526m GDP*
8. \$1.6b in revenue*
9. Exports \$721m*
10. Covered Crop industry represents 330 ha
11. Employment in covered crops is 2500
12. Covered crop revenue \$175m

*(Muka Tangata 2025)

Vegetables New Zealand Inc advocates for and represents the interests of New Zealand's +550 vegetable growers who grow 56 crops in outdoor and indoor environments. This diverse range of growing environments and crops enables Vegetables NZ to have a unique mandate as a commentator for the vegetable industry.

The industry employs over 5500 people, occupies some 30,000ha of land, and provides critical regional development opportunities in Northland, Auckland, Bay of Plenty, Hawke's Bay, Gisborne, Manawatu-Horowhenua, Marlborough, Nelson, Canterbury, Otago and Southland.

90% of all fresh vegetables grown in NZ are for the domestic market. With the right policy settings and investment certainty, vegetable growers can double exports by 2030. The focus on the supply into the domestic market highlights the critical impact vegetable growing has on food security in NZ.

Vegetables NZ submits for covered crops and energy solutions:

Background and context to covered crop growing / process heat in NZ:

1. *Indoor / glasshouse growers have been working with EECA on a transition pathway to renewable energy for process heat for the past 3 years.*
2. *65% of process heat for covered crops is from gas furnaces.*
3. *CO₂ is captured from the gas furnace flue end to pump back into the glasshouse to give a 20% increase in production*
4. *In the last 3 years growers have reduced CO₂ emissions from 212,000 tCO₂ to 137,000 tCO₂.*
5. *EECA tech demo fund and Transition Accelerator grants have been the catalyst to 6 renewable energy / energy efficiency activations in the covered crop industry.*

NZIER – Valuing Covered Crops – A national perspective, March 2018.

Muka Tangata – Vegetables Industry Stats, 2025 (StatsNZ)

6. *Industry data shows that of the 359 ha of covered crop production in NZ, 65% use gas, 20% renewable energy, 17% other carbon-based fuels*
7. *The Vegetable industry is proactive in supporting growers to decarbonise. While employing an energy engineer for 2 years the industry completed – 15 energy audits, produced 16 grower tools and case studies, hosted 5 grower energy events and workshops, spoke at industry conferences about the grower case studies, and delivered 18 demand reduction opportunities – identifying 5 optimal methods of fuel switching.*
8. *Vegetables NZ and Tomatoes NZ have partnered with GNS to produce research and grower tool to – Decarbonising covered crops with geoheat - project*

EECA has identified financial instruments that could enable business to transition into renewable energy with more certainty.

1. Concessional loans
2. Energy saving guarantees
3. Underwriting loan activity

The vegetable industry and vegetable growers support any assistance to enable access to capital for energy transition activity. While there is general support for Concessional Loans, Energy Saving Guarantee, Underwriting; the devil will be in the detail, as to the long-term benefits for growers.

Each option has its merits and a hybrid solution – with elements of each – could be a better final solution if the economic landscape and key participants work together to land the optimal solution.

Concessional Loans: *These are loans offered at more favourable terms, such as lower interest rates or extended repayment periods, to encourage investment in projects that may otherwise be considered too risky or unprofitable.*

Energy Savings Guarantees: *An energy savings guarantee is a commitment made by a service provider or financier (in this case EECA) to ensure that a specific level of energy savings will definitely be achieved through the adoption of energy-efficient technologies or practices. If the expected savings aren't realised, the provider will compensate the investor or cover the difference, reducing the financial risk for the party adopting the technology loans.*

Underwriting: *Loan underwriting is when a financial institution or investor (in this case EECA), agrees to absorb the risk associated with a loan, often by providing a guarantee for a portion of the loan amount. This practice helps facilitate investments in projects that might otherwise struggle to secure financing due to risk, lack of proven success or perceived lack of collateral value.*

Specific considerations:

There are 2 critical factors facing glasshouse entities:

1. How do we keep the existing glasshouse infrastructure going to see out their remaining useful life. Another 5 to 10 years.
2. Any greenfield site will not involve any fossil fuel.

A problem explained:

Let's say you are paying 1,000 per week to rent your house. What would you think if the following week that was put up to \$2,500 or even \$3,000 per week?

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Muka Tangata – Vegetables Industry Stats, 2025 (StatsNZ)

This is what the covered crop industry is facing in the current energy reality. Energy costs have gone up by upto 200% over the last 5 years. For the average greenhouse grower, the increase in energy costs obliterates their bottom line.

An economic dilemma:

1. Growers are motivated to uptake renewable energy solutions due to market conditions derived from ETS movement and limited gas contracts
2. Growers are looking at hybrid energy solutions for their energy demand (solar, waste oil, biomass, biogas)
3. Growers need to have the useful life of plant realised for the life of the asset
4. New plant and infrastructure will be required in NZ in the next 10 years
5. Growers are price takers and have been growing crops below cost at regular times over the last 3 years. Consequently, they do not have retained earnings to fund new investment – EBITDA number don't stack up if bank covenants are followed
6. Boards will struggle to green light capital investment expenditure in today's market due to political flip flopping in the energy space
7. Investment decisions will need political certainty of a cross-party approach for long term high value energy solutions

In summary:

1. Vegetable growers and the vegetable industry will need EECA / Government support to transition into renewable energy solutions
2. Concessional loans will be needed by the industry to transition more quickly off carbon-based process heat sources
3. Energy saving guarantees are essential for EBITDA and ROI business case applications. It further cements the partnership between the parties – grower, supplier and financier – as vested parties in ensuring the optimal outcomes
4. Growers will also need the support of the energy suppliers to ensure the requisite ROI is delivered to give investment certainty.
5. Government needs to signal (with cross-party support) a national energy strategy which delivers a clear line of sight for policy settings and reinforces an energy direction for geothermal, biomass, biogas, solar and wind technologies.
6. While meeting a renewable energy transition plan, growers will need economically viable gas contracts (5 years).

[end]