

EECA Market Update September 2023

EECA Business Group

 ACCELERATING BUSINESS
TOWARDS A LOW-EMISSIONS FUTURE

EECA
TE TARI TIAKI PŪNGAO
ENERGY EFFICIENCY & CONSERVATION AUTHORITY



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A lot can happen in 3 months ...

Here are some of the highlights since our June update:

GIDI: Partnerships Fonterra deal announced

GIDI: Industrial Round 5 projects announced and first 'always on' application approved

GIDI: Commercial Buildings \$40m fund open, first applications received

GIDI: Clean Tech Hot Water Heat Pump (HWHP) grants now live & applications coming in

West Coast **Regional ETA** report published

Tech Demo Monarch electric tractor launch at Forrest Lodge Orchard



Today's agenda

1. Opening reflections from our new CE, Dr Marcos Pelenur
2. National Direction for GHG from industrial process heat
3. Hot water heat pump funding: examples from the field
4. What's new in transport decarbonisation
5. Pātai



National Direction on Greenhouse Gas Emissions from Industrial Process Heat



What is the new national direction

A regulatory framework to apply to discharges of greenhouse gases to air from industrial process heat, consisting of a:


National Policy Statement (NPS)


- Sets a national objective and policies that must be considered in resource consent processes and given effect to in RMA policy and plan changes

National Environmental Standard (NES)

- Sets rules and conditions that must be met for greenhouse gas emitting activities from industrial process heat

The NPS and NES were gazetted on 29 June 2023 – and came into force on 27 July 2023.




Resource Management (National Environmental Standards for Greenhouse Gas Emissions from Industrial Process Heat) Regulations 2023

Cindy Kiro, Governor-General

Order in Council

At Wellington this 26th day of June 2023

Present:
The Hon Carmel Sepuloni presiding in Council

These regulations are made under section 43 of the Resource Management Act 1991—

(a) on the advice and with the consent of the Executive Council; and
(b) on the recommendation of the Minister for the Environment made in accordance with section 44 of that Act.

Contents

1	Title	
2	Commencement	
3	Interpretation	
4	Transitional, savings, and related provisions	
5	Regulations apply only to certain effects	
Part 1		
Activities of discharging greenhouse gases from heat devices		
<i>Device burns coal</i>		
6	Restricted discretionary activity: device burns coal, delivers heat at $\geq 300^{\circ}\text{C}$, etc	5
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Purpose of the National Direction

The NPS and NES seek to reduce greenhouse gas emissions from industries using devices to generate industrial process heat by:

- Prohibiting discharges of greenhouse gases from new industrial heat devices that burn coal in low-to-medium temperature processes (below 300°C) and phasing out existing heat devices that burn coal by 2037.
- Setting national policies and regulations to enable consistent assessment of resource consent applications for discharges from industrial process heat activities.
- Requiring greenhouse gas emissions to be reduced over time from heat devices through a resource consent process, and by developing and implementing emissions plans.
- Requiring consent holders to adopt the best practicable option to reduce greenhouse gas emissions.
- Ensuring decision-makers recognise and consider the cumulative effects of industrial greenhouse gas emissions when assessing resource consent applications.
- Providing nationally consistent resource consent conditions, including monitoring and reporting requirements.



Who will the NPS and NES apply to

- Industries discharging greenhouse gases from heat devices using fossil fuels when generating industrial process heat
- Definitions for heat device, fossil fuel, industrial process heat, low emissions sites and back up devices provide the scope of activities covered by the NPS and NES
- Note the exclusion for heat devices generating and transmitting electricity

Heat device is defined as:

heat device—

- (a) means a device that produces industrial process heat (for example, a boiler, furnace, engine, or other combustion device); but*
- (b) does not include a device used for the primary purpose of—*
 - (i) generating electricity, including a generator used for back-up electricity or for maintaining the electricity network; or*
 - (ii) transmitting electricity, including in mobile and fixed substation*

Who will the NPS and NES apply to

Exemptions are provided in the regulations for discharges of greenhouse gases from the following heat devices and sites:

Back up devices – are defined as:

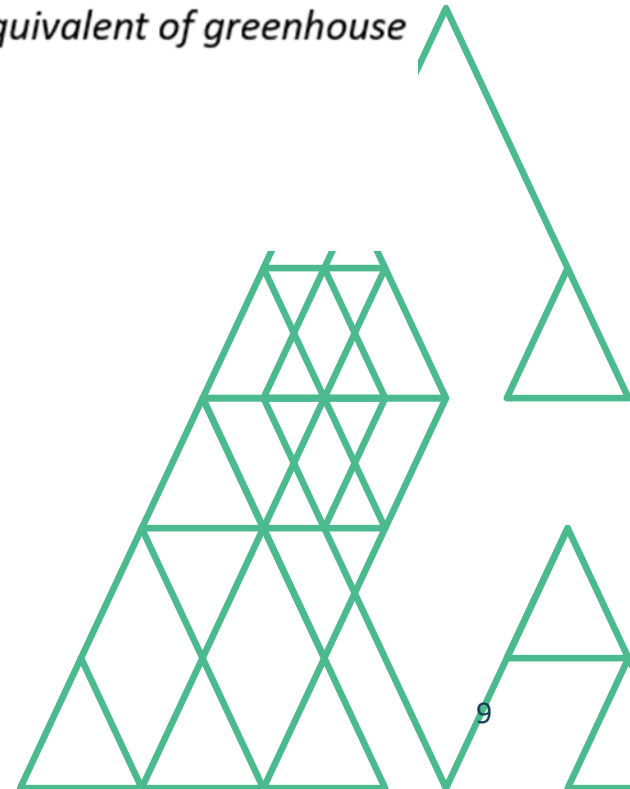
back-up device means a heat device that produces industrial process heat—

- (a) for 400 hours or less each year; and*
- (b) only when the heat is required but cannot be produced by another heat device at the site because its operation—*
 - (i) is prevented by maintenance or an unexpected event; or*
 - (ii) is not enough to meet a temporary, additional demand for the heat*

Low-emissions sites – are defined as:

low-emissions site means a site that, each year, emits less than 500 tonnes of carbon dioxide equivalent of greenhouse gases from heat devices that—

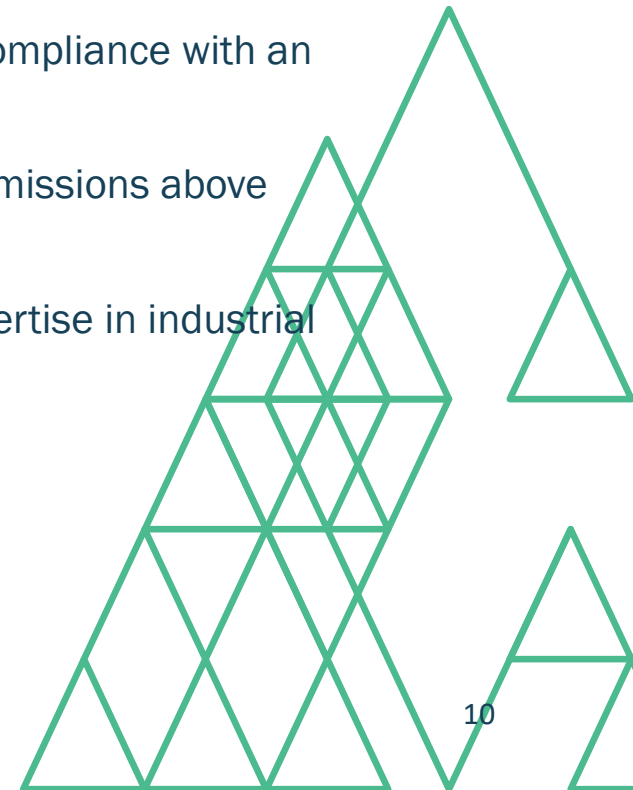
- (a) burn any fossil fuel; and*
- (b) are not back-up devices*



Emissions plan requirement

Industrial sites emitting over 500 tCO₂-e/year of site thermal demand require an emission plan.

- The NES outlines the purpose and content of emissions plans – EECA is also preparing guidance on preparing and assessing emissions plans
- Emissions plans must form part of a resource consent application and if consent is approved, compliance with an emissions plan must be a condition on a consent
- Plans must be independently reviewed by a "suitably qualified person" for high emission sites (emissions above 2000tCO₂-e per year per site)
- NES determines a "suitably qualified person" must be a person or practitioner with relevant expertise in industrial process heat and in the reduction of greenhouse gas emissions



How soon must a resource consent be applied for

For new fossil fuel heat devices discharging at or above the consent threshold of 500t CO₂-e per year per site:

- Immediately (on the date of enactment of the NPS and NES of 27 July 2023)

For existing fossil fuel heat devices discharging at or above the consent threshold:

- If operating under an existing discharge to air consent – on the date of expiry of the existing consent
- If operating under permitted activity rules in plans (with no resource consent) - 18 months after 27 July 2023 (26 January 2025)



Resources in development

What

- Emissions Plan Guidance (with support from Pattle Delamore Partners)
- Best Available Techniques Reference Documents (with support from Strategic Energy)
- Suitably Qualified Person (SQP) qualifications and certification (with support from Carbon and Energy Professionals)

When

- Road testing of the Emissions Plan Guidance to occur late September 2023
- Seeking input from a range of stakeholders. Register interest - email mike.durand@pdp.co.nz or sarah.cooper@eecca.govt.nz
- Publication expected October 2023



More information

NPS and NES:

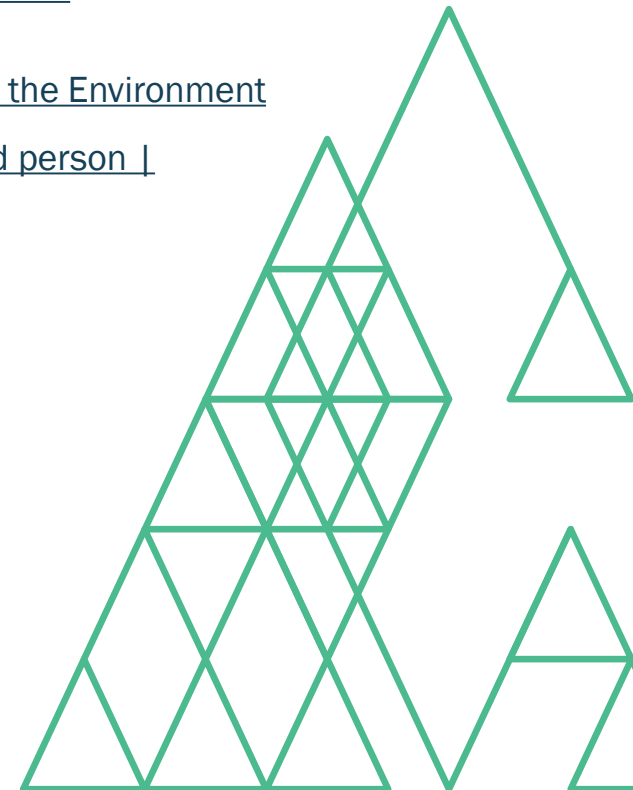
- [National policy statement for greenhouse gas emissions from industrial process heat | Ministry for the Environment](#)
- [National environmental standards for greenhouse gases from industrial process heat | Ministry for the Environment](#)

Facts sheets:

- [National Direction for Greenhouse Gas Emissions from Industrial Process Heat: Industry factsheet | Ministry for the Environment](#)
- [National Direction for Greenhouse Gas Emissions from Industrial Process Heat: Council factsheet | Ministry for the Environment](#)
- [National Direction for Greenhouse Gas Emissions from Industrial Process Heat: Attributes of a suitably qualified person | Ministry for the Environment](#)

Support to decarbonise:

- [ABOUT THE GOVERNMENT INVESTMENT IN DECARBONISING INDUSTRY FUND](#)
- [SUPPORT TO DECARBONISE BUSINESS SECTORS](#)
- [ENERGY TRANSITION ACCELERATOR](#)
- [HOT WATER HEAT PUMPS PROGRAMME](#)



GIDI: Clean Tech

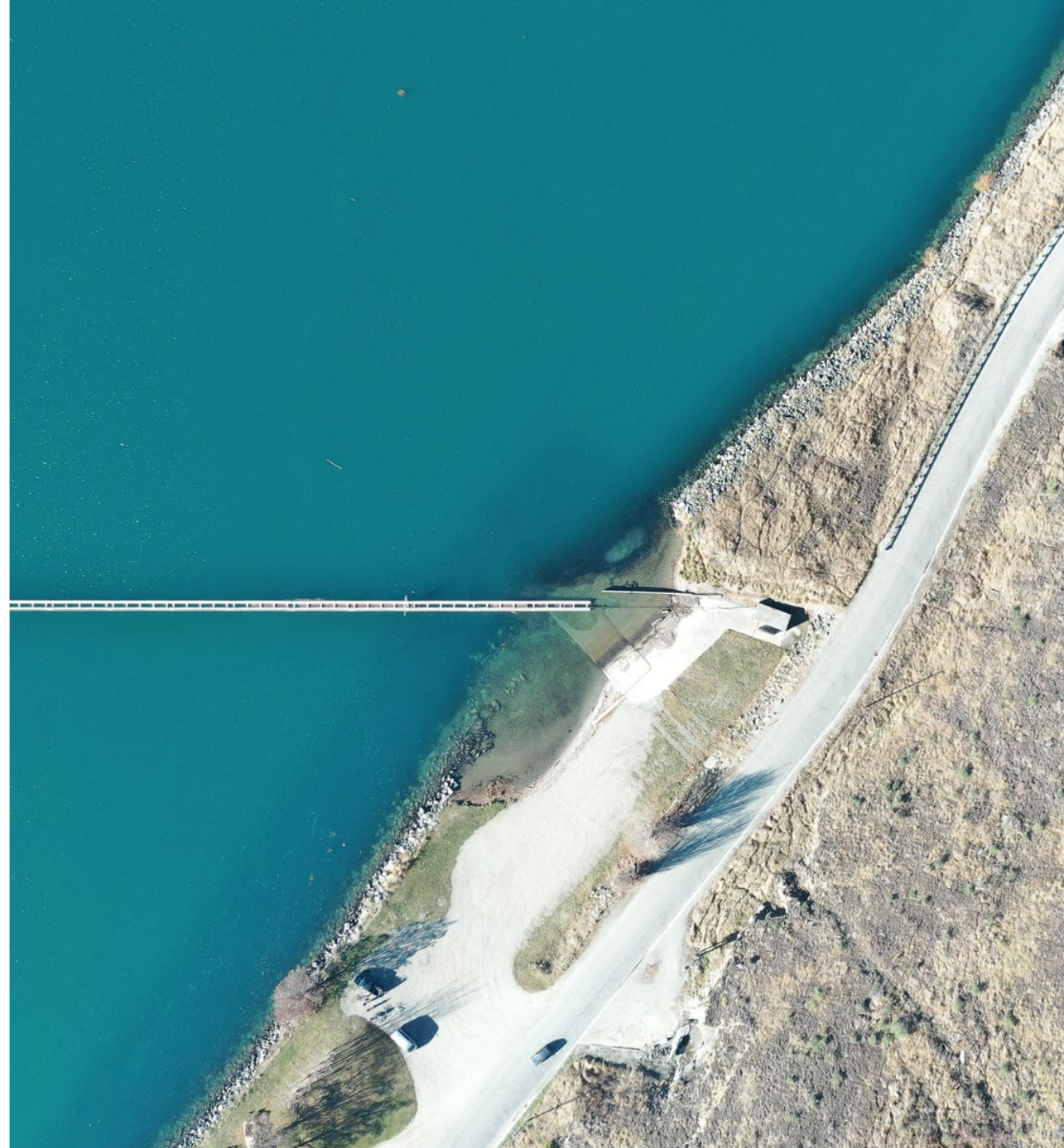
Hot water heat pump examples from the field



GIDI: Clean Tech

GIDI: Clean Tech offers help for businesses in the commercial and industrial sectors with installing and upgrading to off-the shelf, energy-efficient equipment and solutions needed to run a business day-to-day.

This nation-wide scheme provides co-funding to businesses to encourage them to switch to energy efficient equipment.





GIDI Clean Tech

Co-funding to upgrade equipment used by industrial and commercial businesses.

Up to **50%** co-funding of equipment and installation costs

Applications for Hot Water Heat Pumps open now



GIDI Commercial Buildings

Co-funding for medium to large space and water heating projects.

Projects over **\$300,000**
Up to **50%** co-funding of incremental cost

Applications now open

Clean Tech Pilots

Commercial Lighting

- The Commercial Lighting Pilot has been running since December 2022 to test the energy efficiency potential within the market.
- Upgrading to LED lighting is expected to deliver 46% energy savings on average, as most commercial lighting is fluorescent tubes.
- The Clean Tech Team are preparing to launch a commercial lighting programme. If businesses are interested in learning about this opportunity, then register on GETS to be kept up to date.

Electric Motor Systems

The Electric Motor Systems pilot has been running since January 2023 to test whether there is an opportunity to accelerate the uptake of more energy efficient motor systems by replacing outdated / inefficient components to optimise system efficiency and the related carbon impact.

HWHP Programme

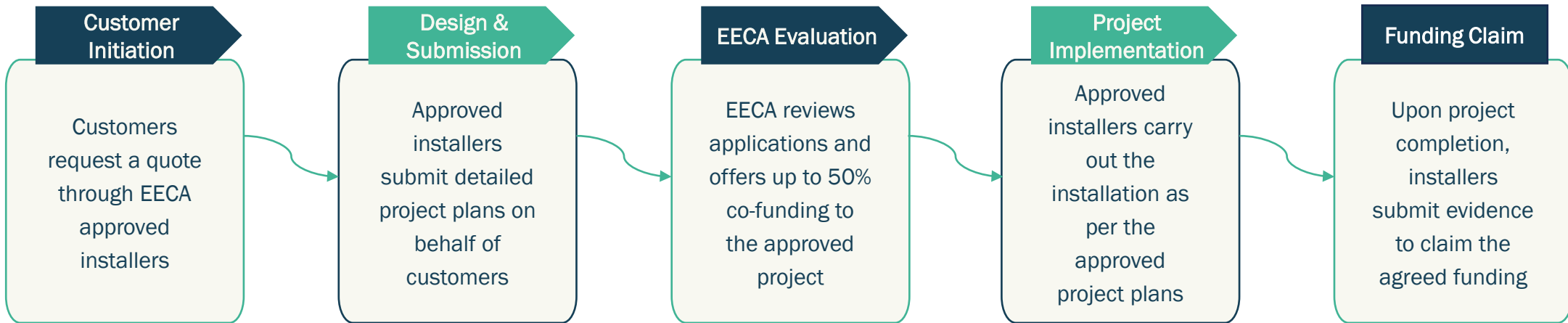
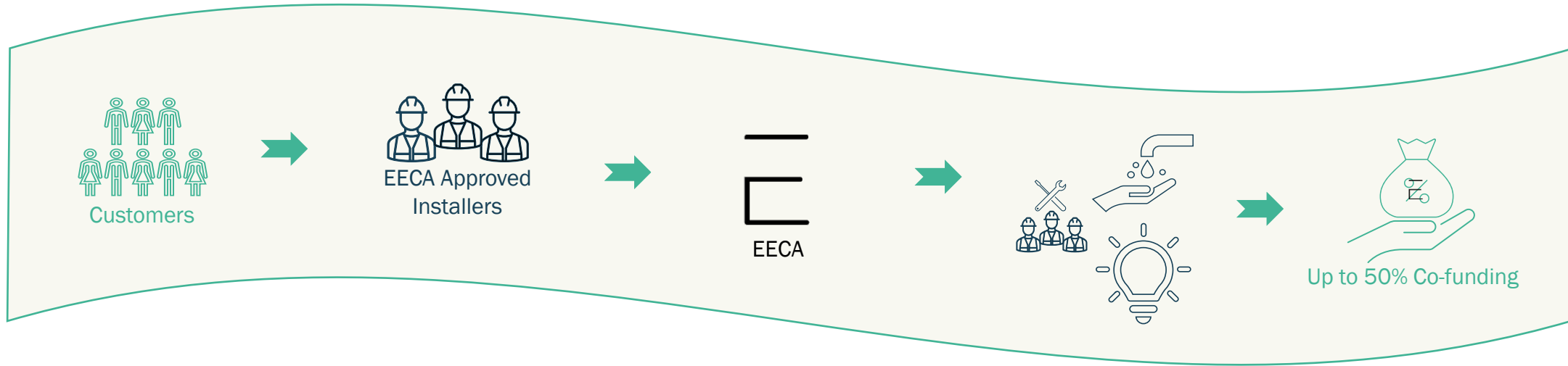
(Under \$150k, Above 15kw)

Replacing existing califont instant/on demand hot water type boilers and/or providing new heat pumps to operate with existing combustion boilers (hybrid systems).

- Availability of dedicated off-the-shelf replacement units with integrated storage tanks
- Can typically run off existing electrical infrastructure
- Require little to no engineering design and can be installed by competent tradespeople (plumbers & electricians)



Hot Water Heat Pumps



Dairy Farm

Old System: Electric Boiler

New System: 30kW Hot Water Heat Pump

Daily Requirement: 2,500 litres at 90°C

Funding: 40% co-funded, received \$32,000 from the Hot Water Heat Pump programme

Estimated Annual Savings:

- \$20,000 Operating Costs
- 8.7tCO₂ Emissions
- 89,200 kWh Energy



Beverage Manufacturer

Old System: Cylinder with Electric element

New System: 40kW Hot Water Heat Pump

Daily Requirement: 3,500 litres at 90 °C

Funding: 30% co-funded, received \$26,800 from the Hot Water Heat Pump Programme

Estimated Annual Savings:

- \$22,000 Operating Costs
- 9.1 tCO₂ Emissions
- 93,700 kWh Energy



Private Hospital

Old System: Diesel Boiler

New System:

- Two 15kW HWHP
- Operate 5 hours overnight, fill 2,400-litre storage tanks
- Peaks: 1,200 litres/hours (twice daily)

Daily Requirement: 3,850 litres at 70°C

Funding: 41% co-funded, received \$28,800 from the Hot Water Heap Pump Programme

Estimated Annual Savings:

- \$8,100 Operating Costs
- 24 tCO₂ Emissions
- Diesel costs reduced by \$12,000; added electricity cost: \$4,000



Boutique Hotel

Old System: Two 70kW Gas Boilers

New System: Three 5kW HWHP with three 800-litre tanks (one per storey)

Daily Requirement: 2,400 litres at 60 °C

Funding: 41% co-funded, received \$20,600 from the Hot Water Heat Pump Programme

Estimated Annual Savings:

- \$9,900 Operating Costs
- 14.6 tCO₂ Emissions
- Gas costs cut by \$12,000; added electricity cost: \$2,100

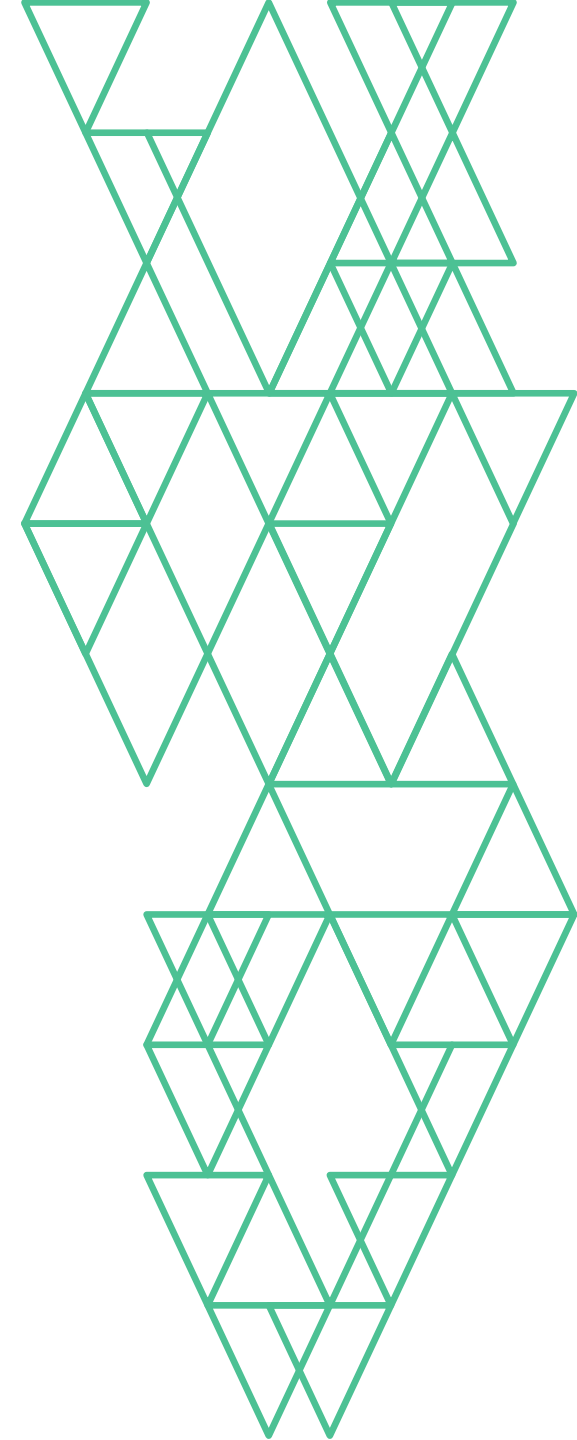


More information

[GIDI: Clean Tech | EECA](#)

[Hot water heat pumps programme | EECA](#)

[GIDI: Commercial Buildings | EECA](#)



What's new in transport funding?



The ERP set transport targets and direction

The Emissions Reduction Plan includes three focus areas for transport:

- Reduce reliance on cars and support people to walk, cycle and use public transport
- Rapidly adopt low-emissions vehicles
- Begin work now to decarbonise heavy transport and freight

EECA is focusing on developing a sustainable transport culture in New Zealand

- Removing barriers to entry for low emission transport
- Transforming how Kiwis consider transport for short journeys
- Demonstrating solutions for wider take-up across a range of sectors and use cases
- Extending support for freight decarbonisation and heavy vehicles



Transport decarbonisation solutions

To support the demonstration and adoption of low emission transport technology, innovation and infrastructure to accelerate the decarbonisation of the New Zealand transport sector



Demonstrate innovative and replicable transport technology, vehicles and solutions



Demonstrate marine, aviation, and off-road projects



Demonstrate low carbon refuelling infrastructure



Support the rollout of public EV charging infrastructure



Transition of vehicle fleets with a focus on commercial and heavy road vehicles



Provision of market services, products and programmes



Four areas of focus

Transforming how Kiwis consider transport for short and longer journeys

GenLess campaigns encouraging use of public transport, shared mobility solutions, awareness of climate impacts, switching to EVs

Case studies and stories

Removing barriers to entry

Co-funding to accelerate the growth of the light EV charging network across NZ.

Ongoing

Demonstrating solutions for wider take-up across a range of sectors and use cases

Co-funding for on- and off-road vehicle and marine decarbonisation, decarbonisation trackers and planning, dashboards, software and battery solutions

Co-funding for mobility-as-a-service solutions

Applications now open

Extending support for freight decarbonisation and heavy vehicles

Co-funding for freight decarbonisation solutions

Co-funding for heavy vehicle purchase – trucks, non-public transport buses and vans

Coming soon



Questions / Pātai



What's next?

In our next EECA Market Update webinar in early December 2023 we will be sharing EECA's priorities in the post-election environment

Until then, we remain committed to...

Our purpose

Mobilise New Zealanders to be world leaders in clean and clever energy use.

Our desired outcome

A sustainable energy system that supports the prosperity and wellbeing of current and future generations.





ACCELERATING BUSINESS TOWARDS A LOW-EMISSIONS FUTURE



Find everything on the GIDI Fund here (www.eeca.govt.nz)

Stay in the loop of latest developments ([@EECA_nz](#), [LinkedIn](#))

Contact us with any questions (GIDIfund@eeca.govt.nz)

