Accelerating Business Energy Transition

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- 1. Who is EECA
- 2. Market engagement
- 3. Regional ETA
- 4. GIDI Fund
- 5. EECA & geothermal
- 6. Pātai



EECA's role is to mobilise New Zealand

Our purpose

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





Productive and low-emissions business



Efficient and low-emissions transport

Our desired outcome

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



Energy efficient homes



Government leadership



Engage hearts and minds







EECA's three levers

Decarbonising business process heat and stationery energy (and transport)



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EECA's Market Engagement





EECA's business market engagement

• Direct Engagement (Large Energy Users) – Account Managed



• Sector Decarbonisation Programme (Medium to smaller energy users) – Industry Partnerships



• EECA / Genless (all and the rest) – Marketing and Comms









Programmes, Funds, Products

Other Programmes:

- Energy Transition Accelerator (ETA)
- Regional Energy Transition Accelerator (RETA)

Funds:

- Government Investment in Decarbonising Industry (GIDI) Fund
- State Sector Decarbonisation Fund (SSDF)
- Technology Demonstration Fund (Tech Demo)
- Low Emission Transport Fund (LETF)

Products:

- ETA Opportunity Assessment/Energy Transition Plans
- Energy Graduate
- Identification Audits, Feasibility Study, Design Advice
- Optimisation ESO, M&T, EMP



Energy Transition engagement approach



ETA approach with Large Energy Users

Sector Decarbonisation Programme **Five Step Pathway**



Measure & Engaged

Get

Target

Optimize & Improve

Engage hearts & minds



Demand Fuel Reduction Switch Technology

Productive & low emissions business



GIDI Clean Tech **Private Finance**

Funding Opportunity



Regional Energy Transition Accelerator (RETA)





RETA to accelerate action regionally

Planning - Regional view and engagement, not just a report

- Understand demand & supply at a **regional level**
- Identify and address barriers real and perceived
- Who: Process heat users, biomass industry, EDB's, regional stakeholders, lwi
- Workshops designed to facilitate connections and collaboration
- EECA lead workstreams and **pathway models**
- **Report** for each region

Implementation - has already started

- Enable informed investment decisions and fast track opportunities
- Supply chain awareness and **confidence in future markets**
- Cluster opportunities to **optimise investment** and accelerate timelines
- Regional commitment all participant's and stakeholders support goals
- Inform EECA funding and support channels







Demand side workstream



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EECA

Electricity supply workstream

Site	Transpower GXP	Network	Peak site demand (MW)	Total cost (\$m) ⁶⁵	Timing
Alliance	GOR	TPC	4	\$0.12	2-4 months
Ascot Park Motels	INV	EIL	1.6	\$0.57	3-6 months
Balclutha swimming pool	BAL	OJV	0.6	\$0.20	3-4 months
Blue Sky Meats	EDN	TPC	4.1	\$3.70	12-18 months
Downers Roading Invercargill	INV	EIL	1.4	\$0.40	3-6 months
Fiordland Hotel	NMA	TPC	EnergyLink retail electricity price forecast Annual average prices; Real \$2022		

Fiordland Hotel	NMA	TPC
Great Southern Invercargill	INV	EIL
Great Southern Milton	BAL	OJV
ILT Stadium Southland	INV	EIL
Invercargill Prison	INV	EIL
Fonterra Edendale	EDN	TPO
Silver Fern Farms Finegand	BAL	OJ
Mataura Valley Milk	GOR	TP

×+++++++



---- Low ----- High

Regional and sight specific insights



"In Mid-South Canterbury a likely 12% increase in electricity consumption. ... and ... Up to 240MW increase in peak demand"

EEC/

Biomass availability workstream





EECA

Regional and sight specific insights



Region specific workstrea

Geothermal Opportunity Mapping – (Bay of Plenty)

- Currently work in progress
- Partnering with GNS regional view
- Analysis of targeted site-specific opportunities

Organic Waste Stream mapping – (Mid-South Canterbury)

- 3% of the total process heat required in Mid-South Canterbury
- Many 'waste' streams have other 'productive' uses
- Opportunities are very site/location specific

Municipal Wastewater Mapping – (Major metro's)

Analysis of site-specific opportunities

EV charging infrastructure overlay – (Nationwide)

 $\overline{\mathbf{e}} = \overline{\mathbf{A}} \mathbf{n}$ alysis site specific opportunities



Pathway modelling and scenario analysis



RETA report for each region

- List of significant process heat sites
- Projected timing and fuel needed for transition
- Electrification infrastructure availability, costs and timing
- Various decarbonisation scenarios:
 - 'Electricity centric'
 - 'Biomass centric'
 - 'MAC optimal'
- Forecast of potential bioenergy availability and accounting for known demands for the resource
- Where additional bioenergy could come from (e.g. in forest, KIS, processor residues)
- Actions needed to unlock it
- Information about cost / price
- Recommendations



Key messages

Current status

- Reports completed for Southland, Mid-South Canterbury, and West Coast.
- Draft reports completed for Otago, North Canterbury, Nelson-Tasman-Marlborough
- Will collate a South Island wide report to look at inter-regional relationships
- North Island has commenced in Northland, Tairawhiti, and Bay of Plenty regions
- Rest of North Island into 2024

Key messages

- South Island RETA covers **263** sites and **588** decarbonisation pathway steps
- Percent MAC Optimal fuel from electricity is 54% (highest in a region is 63% and lowest is 13%)
- 760 MW (\$392M) or 410 MW (\$183M) of peak electricity demand (Pathway dependent)
- Infrastructure need is pressing and there is a need to act now
- Timing of infrastructure will play a key role in setting the pace for decarbonisation
- Need innovation to go faster while maintaining long term resilience of the system
- Challenges become relatively less complex and more efficient when it is broken down
- Process heat users need everyone's collaboration to get the clarity needed to commit Early \bigwedge



Government Investment in Decarbonising Industry (GIDI) Fund





GIDI 2.0: \$630m co-investment over 4 years



Original GIDI 1.0: \$69m under CRRF fully committed (GIDI Industrial)





GIDI Investment Principles

- 1. Carbon Emission Reductions
- 2. Additionality
- 3. Leveraging co-funding
- 4. Accelerating the transition
- 5. Enabling New Zealand's long-term transition
- 6. Long-term efficiency of the energy system
- 7. Support a fair energy transition
- 8. Encouraging innovation







GIDI Industrial making tangible

4 rounds* | 69 approved | 13 operational | 9 in commissioning phase | \$32.1m paid out so far | 3 projects @ too rave \$5

66 Projects \$79.5m EECA co-investment

> **\$135.7m** Private funding

8.12m tCO_{2e} Lifetime abatement





TOWARDS A LOW-EMISSIONS FUTURE

*Round 5 to be announced early August

Types of Projects



High Temperature Heat Pumps



Coal to biomass conversions



Biomass boilers



Electrode boilers



Commercial heat pumps



Clean Tech electrification





GIDI Partnerships



The Steel Deal:

- Electric arc furnace
- \$140m GIDI co-funding, for \$16.20/t
- NZ's biggest abatement opportunity 800,000 tCO₂ p.a.





The Dairy Deal:

- Target 6 coal boiler sites, primarily in South Island
- \$90m GIDI co-funding
- Emission reductions of up to 330,000 tCO₂ p.a. by 2030







GIDI Infrastructure

- Energy supply side Capex can be considered for GIDI funding
 - Enables decarbonisation project
 - Acceptable impact on project/fund \$/t
- Electricity Infrastructure
 - Included in individual project applications
 - Electrification clusters identified by RETA
- Biomass supply chain development
 - ROI/RFP to increase fuel ready biomass from residues
 - South Island: Finalising Rol decision, invite to RFP
 - North Island: Open ~early 2024 (TBC)

Cluster Opportunities







GIDI Commercial Buildings & Clean Tech

GIDI Commercial Buildings

- \$40m co-funding to decarbonise commercial building space and water heating
- Opened 1 July 2023 for project applications over \$300k
- First-in-first-served and will be open until 30 June 2024
- Processes and investment principles consistent with GIDI Industrial

GIDI Clean Tech – Hot Water Heat Pumps

- Panel of approved installers approved about to go live
- Target medium and small emitters in the commercial and industrial sectors
- Replace smaller fossil-fuel and old electric boilers with 15 50 kW HWHP's
- Provide co-funding for **'domestic' hot water HP** projects under \$150k.
- Also underway, LED lighting & motor system Clean Tech pilots underway
- More technologies to follow!







EECA and the geothermal sector

- Industry support and engagement
 - support for NZGA,
 - engagement with GNS
- RETA Geothermal mapping workstream in BoP
- Site specific opportunities assessed through ETA and Feasibility Study
- GSHP technology demonstration and support
- GIDI opportunities



Questions/Pa tai









Stay in the loop of latest developments (<u>@EECA_nz</u>, <u>LinkedIn</u>)

Contact us with any questions Business@eeca.govt.nz GIDIfund@eeca.govt.nz

Find everything on the web here <u>www.eeca.govt.nz</u> <u>www.genless.govt.nz</u>





Ngā mihi



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Public Sector & Transport





Public Sector

- Carbon Neutral Government (CNGP) 2025 focus
- \$220m State Sector Decarbonisation Fund (SSE
 - 124 Projects announced
 - \$215m co-funding committed
 - 945,700 t CO_{2e} abatement (ten year life)
- Future SSDF funding TBC
- Fleet Transition Programme







Transport

Low Emission Vehicle Transport Fund (LETF)

- 233 Projects / \$43.4 Govt co-investment
- Successive funding rounds infrastructure, vehicles, off-road, marine
- Fleet transition programme
- Journey hub pilots

Budget '23 additional \$144m

- Clean Heavy Truck Scheme \$114m
- EV Charging Journey Hubs \$80m
- Rural/Community Charging \$30m





