

We are working to
make New Zealand a
better place to live -
economically,
environmentally
and socially,
through the better
use of energy.



Energy Efficiency and
Conservation Authority
Te Tari Tiaki Pūngao

Briefing to the Incoming Minister of Energy and Resources

October 2017

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From the Chair

The Energy Efficiency and Conservation Authority (EECA) is the Government's agency responsible for encouraging, promoting, and supporting the uptake of energy efficiency, energy conservation, and renewable sources of energy in New Zealand.

Our programmes deliver public and private benefits, including energy savings, productivity improvements, health benefits, reduced carbon emissions and improved energy security.

EECA's focus is on delivering benefits for New Zealanders through programmes in its target markets. We influence energy use across the country by working towards three main outcomes:

- efficient, safe and lower carbon transport – with a focus on electric vehicles;
- efficient, competitive, and lower carbon businesses; and
- warm, dry, more energy efficient homes.

EECA's experience means it is a trusted and credible source of information and analysis, providing expert guidance on the potential of energy efficiency and renewable energy to reach New Zealand's carbon reduction and productivity goals.

The national strategy for energy efficiency and renewable energy – *the New Zealand Energy Efficiency and Conservation Strategy (NZECS 2017 – 2022)* – was launched in July 2017, and sets a goal for New Zealand to have an energy productive and low emissions economy. EECA is now aligning our activities with the NZECS goals and responding to fast changes in the market.

We use a combination of tools and direct interventions including regulation, funding grants and co-funding models, social marketing, technology demonstrations, expert advice and information provision to achieve our outcomes. As such, our brands are visible in the market and are well recognised by the public.

Our ENERGYWISE campaigns reach thousands of New Zealanders every day and, since 2009, the Warm Up New Zealand programme has delivered more than 300,000 insulation retrofits to help keep New Zealand homes warm, dry and healthy.

EECA has a key role in the Electric Vehicles (EV) Programme through running a public information campaign and an annual \$6 million contestable fund, both designed to accelerate the uptake of EVs in New Zealand.

We work in partnership with businesses, energy management consultants, service providers and the public sector to improve knowledge and expertise in energy efficiency and the uptake of new technologies, with a new focus on delivering energy-related emissions reductions.

There is significant scope to build on EECA's existing delivery programme to reduce New Zealand's emissions from energy.

Under your leadership, we look forward to building on EECA's track record of successful delivery, to take the steps needed to transition to a low emissions economy. We clearly see the opportunity for EECA to use its skills, expertise, and our ability to work with and communicate directly with consumers and businesses to help meet New Zealand's commitments under the Paris climate agreement.

I look forward to meeting you soon to discuss EECA's current programmes and future opportunities.



Tom Campbell, Chair

EECA priorities in your first 100 days

The following table contains the issues EECA will need to consult you on during your first 100 days in office. You will be provided with detailed briefings on each topic.

Issue	What is happening	When it's happening
Annual levy consultation process	EECA receives some of its funding from three energy levies: • Electricity levy • Gas levy • Petroleum or engine fuel monitoring levy (PEFML). EECA is currently developing a consultation document on its levy-funded work programme for 2018/19. The plan is to commence a four week public consultation in mid-November 2017. As Minister, you are required to approve the release of this consultation document. Following consultation, you will be required to consider and approve EECA's recommendation for levy funding in early 2018. The approved appropriations will then be announced on Budget Day.	EECA will brief you in early November on our 2018/19 levy consultation document and on the process.
The Warm Up New Zealand (WUNZ) insulation programme	The current WUNZ: Healthy Homes extension programme is behind target in delivering 20,000 insulation retrofits to low-income households by July 2018. This is despite an expansion of the programme from its original focus on rental properties occupied by low income tenants to also include homeowners (with low income or high-health needs). We are currently investigating options for programme development and will discuss these with you soon.	EECA will brief you in November 2017 on the latest information on the WUNZ programme and options for programme development.
Council of Australian Governments (COAG) Energy Council responsibilities	New Zealand is a member of the Australian COAG Energy Council and, as the responsible Minister, you have voting rights, along with Australian state Ministers, who oversee the Equipment Energy Efficiency (E3) products programme. New Zealand and Australia have a partnership to align regulated minimum energy performance standards and labelling for commercial and residential products and equipment. EECA works with its Australian counterparts to develop proposals under the E3 programme.	EECA will brief you on these matters in December 2017, as we expect you will be required to seek Cabinet approval for amendments to regulations in early 2018.
Performance Improvement Review	EECA is undertaking a Performance Improvement Review which commenced in mid-October this year. The review will be completed in mid-December. We will engage with your office as early as possible on your involvement in the review process.	Review underway and will be completed by December 2017.

About EECA – facts, figures, and people

EECA is a Crown entity established under the Energy Efficiency and Conservation Act 2000. It is a small organisation with 76 staff based in offices in Wellington, Auckland, and Christchurch.

EECA implements the Government's energy priorities in the areas of energy efficiency and renewable energy. The Ministry of Business, Innovation and Employment (MBIE) is EECA's monitoring agency and advises you on EECA's performance.

EECA Board Members

EECA is governed by a Board of up to eight members with experience in the energy, commerce, local government and the public sector. The Board reports to you as Minister of Energy and Resources and its members are appointed by you.



EECA Board members

Left to right–top to base

Tom Campbell

Chair of EECA, appointed to February 2019

Catherine Taylor

Deputy Chair of EECA and Chair of the Risk and Audit Committee, appointed to February 2020



Janet Carson

Appointed to 4 December 2017

David Coull

Appointed to February 2020

Phil Heatley

Appointed to February 2019

Karen Sherry

Appointed to February 2020



Elena Trout

Appointed to February 2019





EECA's Leadership Group

Left to right – Top to base

Andrew Caseley, Chief Executive

Contact details: (04) 4702201; [REDACTED]

Ian Horne, Group Manager, Corporate Services

Contact details: (04) 4958258; [REDACTED]

Jenny Lackey, Group Manager, Strategy and Performance

Contact details: (04) 4702414; [REDACTED]

Greg Visser, Group Manager, Market Engagement

Contact details: (09) 3743802; [REDACTED]

Information withheld under section 9(2)(a)

How EECA is funded

EECA's total budget for 2017/18 is \$44.7 million. This is funded from the Crown through general taxation and through levies. The Crown collects levies on electricity, natural gas, and engine fuels (petrol, diesel, ethanol and biodiesel) to part-fund EECA's programmes.

A portion of levy funding is provided to EECA through the Energy Efficiency and Conservation appropriation for energy efficiency and renewable energy improvements (\$13 million in 2017/18). The remainder (\$31.7m) is from general taxation to cover EECA's baseline and the Warm Up New Zealand insulation programme.

EECA works across markets – business, residential, transport and the public sector – to provide information, resources and advice on energy efficiency and renewable energy.

EECA's strategic context

Why does energy efficiency and energy productivity matter?

New Zealand is participating in a global transition in the way we produce and use energy. This is driven by the global response to climate change and underpinned by advances in new technologies.

The use of renewable energy, efficient technologies and practices can improve economic growth, enhance energy security and reduce greenhouse gas emissions.

The efficient use of energy leads to improved productivity, creating more competitive businesses. Energy savings can then be invested in innovation, research and development, and growth, leading to stronger businesses and job creation for New Zealanders.

It is important that energy is accessible and affordable for consumers, and delivered cost-effectively to households and businesses.

The most direct benefit to consumers from energy efficiency are cost savings. EECA estimates there is potential for New Zealand businesses and households to save up to \$2.3 billion a year by 2030 by implementing energy efficiency measures.

2030 Economic energy savings potential

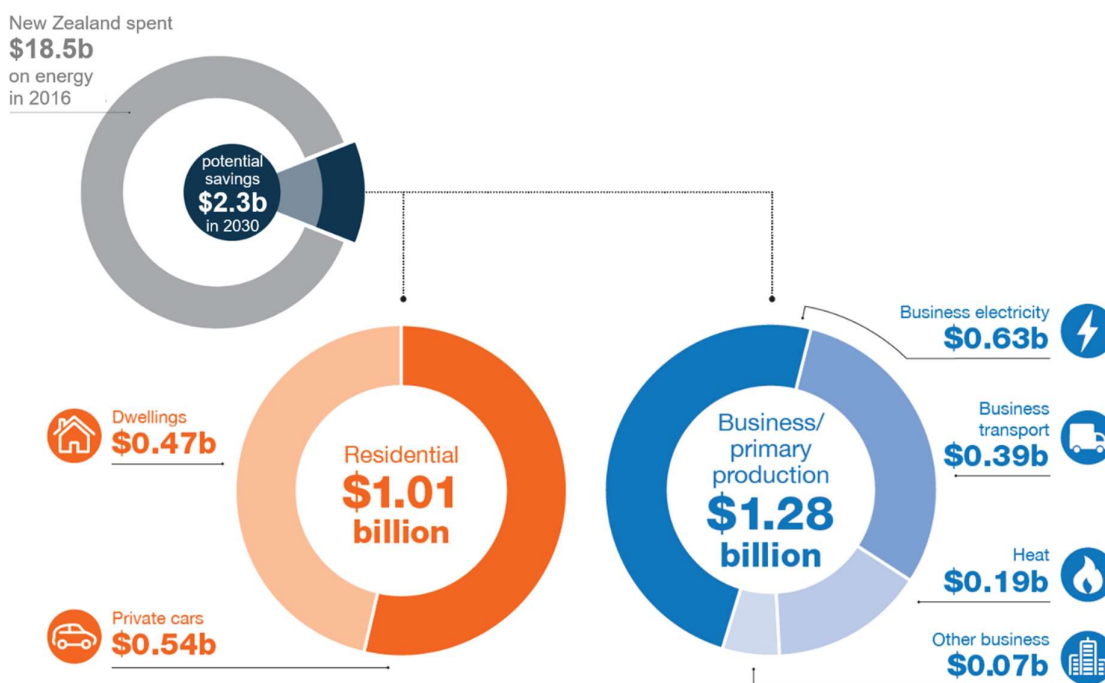


Figure 1: 2030 Economic energy savings potential.

New Zealand's international obligations and renewable advantage

Under the Paris climate agreement, New Zealand has committed to reducing its greenhouse gas emissions by 30 per cent below 2005 levels by 2030. Some of the easiest and most cost-effective opportunities to reduce emissions are in the energy and transport sectors.

New Zealand already has a renewable energy advantage. We have a strong geothermal sector, world-class wind resources, well-established hydro, and forestry resources which can present an untapped source for bioenergy. Our renewable advantage will continue to play a key role in New Zealand's transition to a low emission future.

New Zealand's greenhouse gas emissions in 2015

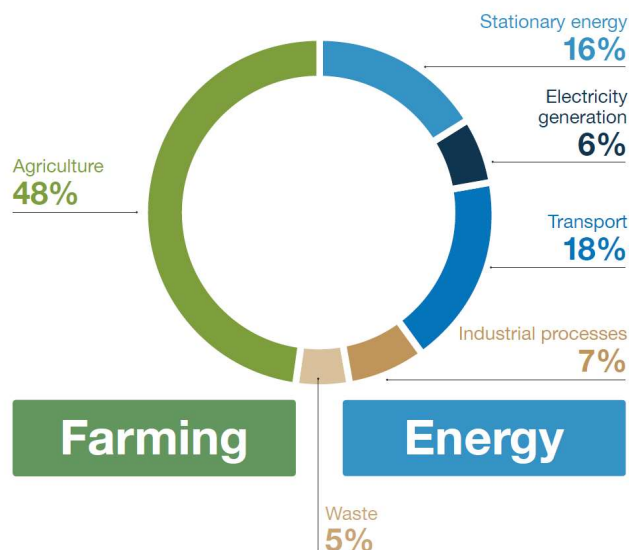


Figure 2: New Zealand's 2015 Greenhouse Gas emissions profile.¹

In 2016, 85 per cent of our electricity was generated from renewable sources, but only 40 per cent of Total Primary Energy Supply (TPES) was renewably sourced. There is significant scope for New Zealand to improve its productivity and further leverage our renewable advantage. Figure 3 (below) shows the compelling case for focusing on non-renewables in the transport and process heat sectors.

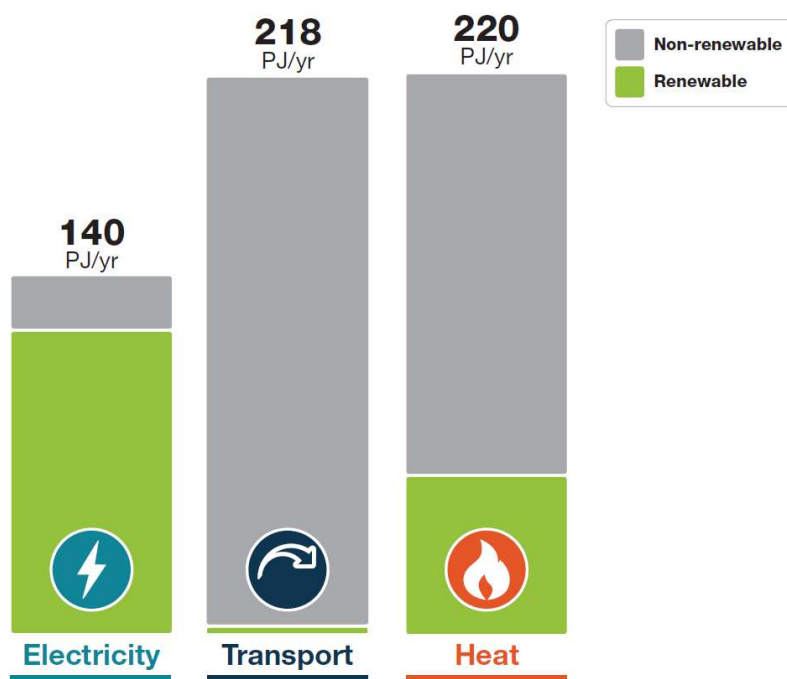


Figure 3: Energy use in New Zealand – non-renewable and renewable.²

¹ New Zealand's Greenhouse Gas Inventory 1990-2015, Ministry for the Environment (2017).

² A petajoule (PJ) is equivalent to 1 million gigajoules (GJ) or 278 gigawatt hours (GWh). Source: *Energy in New Zealand: 2016 calendar year edition*, MBIE (2017).

The New Zealand Energy Efficiency and Conservation Strategy

The *New Zealand Energy Efficiency and Conservation Strategy 2017 – 2022* (NZE ECS) is the principle guiding document for EECA's strategic direction. Its goal is for New Zealand to have an energy productive and low emissions economy.

The NZE ECS identifies three objectives for businesses, individuals and the public sector – one for each key group of energy users. It also sets out cross-cutting actions, recognising that responsibility for delivering actions on energy efficiency and renewable energy is often shared across businesses, individuals and the public sector.

Our work programme and long-term strategy is framed by the NZE ECS, and focuses on three priority areas:

- Renewable and efficient use of process heat;
- Efficient and low-emissions transport; and
- Innovative and efficient use of electricity.

This reflects that businesses, individuals, and the public sector all have a role to play in improving our energy productivity and the uptake of renewable energy. The NZE ECS is focused on removing barriers and providing appropriate incentives to support all New Zealanders to take action and make the best choices about the energy they use, and how they use it.

The NZE ECS also works in parallel with the Government's priority to build a more competitive and productive economy by improving energy efficiency and use of renewable energy to raise productivity, reduce emissions and promote consumer choice. The full NZE ECS document is attached in Annex 1.

EECA's role in the transition to a low emissions economy

The NZE ECS is a pivotal part of New Zealand's strategy to help achieve climate change goals and improve economic growth and productivity. EECA is at the forefront of identifying opportunities for energy efficiency and the role technology can play in helping deliver emissions reductions.

One of EECA's core competencies is understanding demand-side behaviours in the market and designing effective programmes to facilitate more energy efficient behaviours. In practice, this involves identifying the sectors with the greatest potential, using our experience of market behaviour to determine where these opportunities can be cost-effectively realised, and then designing programmes to effect that change.

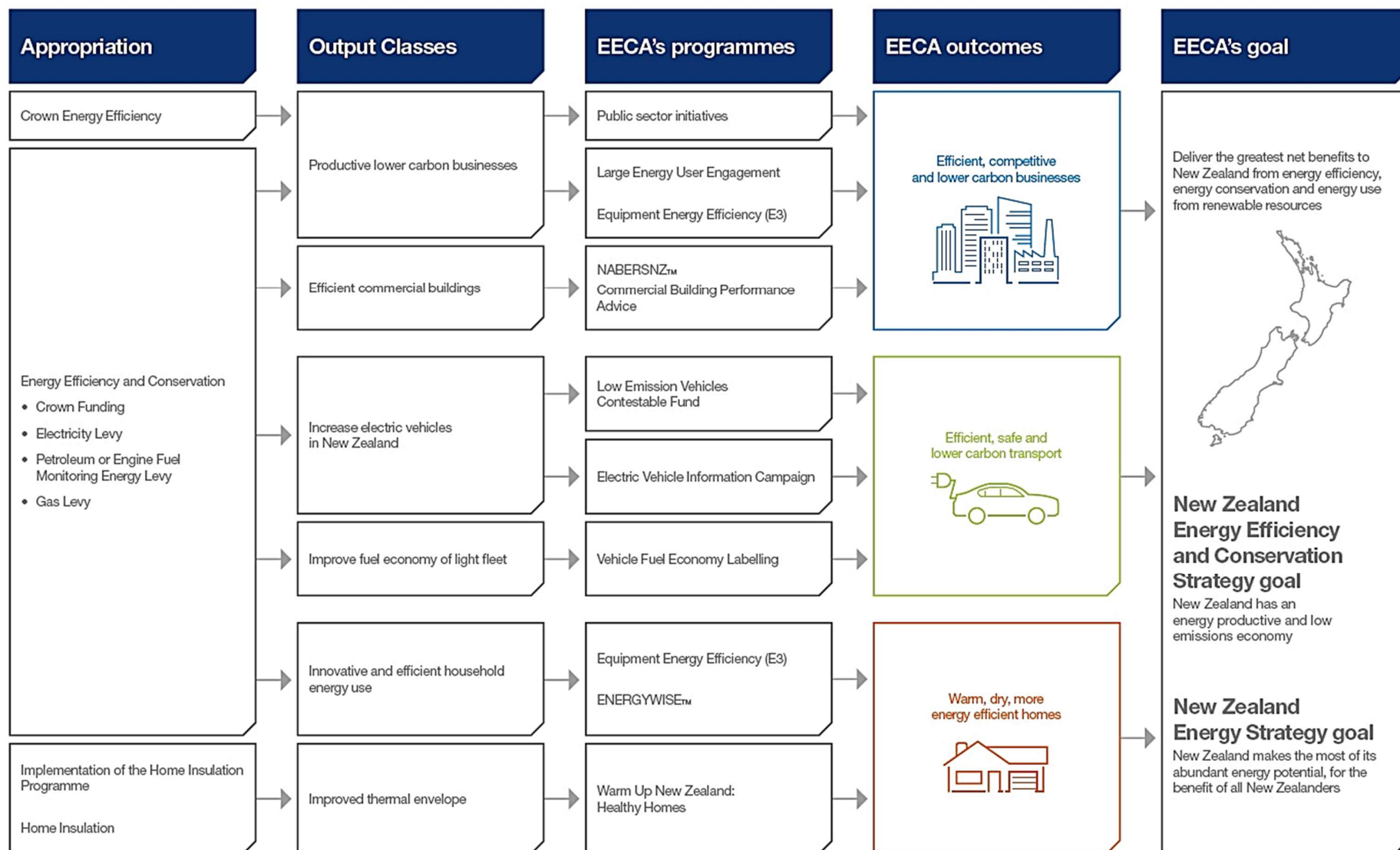
EECA plays a key role alongside its strategic partners (Ministry for the Environment, Ministry of Transport and MBIE) to develop and deliver low emissions policies. We look forward to discussing with you how we can influence, collaborate and demonstrate greater leadership and good results in the transition to a low emissions economy.

EECA's strategic direction

EECA's outcomes framework (on the next page) shows how we invest our funding in programmes, which target three key outcomes for New Zealand:

- efficient, competitive, and lower carbon businesses;
- efficient, safe and lower carbon transport; and
- warm, dry, more energy efficient homes.

These outcomes enable all New Zealanders to benefit from an energy productive and low emissions economy. The following pages discuss the programmes we are currently delivering. In addition, we are preparing a new *Statement of Intent* for 2018 – 2022, which we will discuss with you over the next months.



EECA's programmes

EECA customises its programmes to deliver the best value for New Zealand. To do this, it works across the residential, business, transport and public sectors.

Residential



- More than 300,000 homes insulated through EECA's involvement since 2009 through its Warm Up New Zealand programme.
- The ENERGYWISE website receives over 1.2 million visits per year.

EECA's focus is on providing authoritative, independent information to help consumers make their homes warmer, drier and more energy efficient.

Around 34 per cent of New Zealand's total electricity is used in our homes, and some of the greatest benefits from improving energy efficiency in the residential sector lie in improved health outcomes from warmer, drier homes.

Opportunities for making our homes more energy efficient can be broadly split into three areas:

- improving the thermal performance of the house (for example, double-glazing or insulation in walls, floors or ceilings);
- use of energy efficient appliances (such as LED lightbulbs); and
- energy-saving behaviours (such as turning heaters when not in use).

Households often want to make improvements to their energy use, but lack credible information or access to capital. EECA provides funding through the Warm Up New Zealand insulation programme and information to residential households to overcome these barriers.

Each year, EECA's call centre fields thousands of public calls. Our brands, including ENERGYWISE, Warm up New Zealand, the Energy Rating Label and EECA Business, are well known and trusted.³ EECA's residential knowledge and expertise spans heating, ventilation, insulation, appliances, building and renovation materials.

The ENERGYWISE brand provides households with respected information through a range of channels, including television, radio and digital advertising and social media.

EECA's current residential campaign – *3 Essentials for a healthy home: warm it up, dry it out, air it out* – provides practical information, advice and tools to help make homes warmer, drier and healthier.

Warm Up New Zealand insulation programme

New Zealand has poorly insulated housing. A recent BRANZ House Condition Survey estimated that 830,000 of New Zealand's 1.56 million houses (excluding apartments) are not properly insulated.⁴ Houses with inadequate insulation are often cold and damp – an exacerbating factor behind a range

³ ENERGYWISE was ranked 11th most influential brand in New Zealand (out of 100) by independent research company Ipsos.

⁴ *Warm, dry, healthy homes? Insights from the 2015/2016 BRANZ House condition survey.*

of health conditions, including respiratory diseases like asthma and rheumatic fever. This problem is acute amongst properties occupied by low income households.

EECA's insulation programmes have been designed to partially address the quality of New Zealand's housing stock.

The Warm Up New Zealand (WUNZ) programme has run in three phases:

- WUNZ: Heat Smart (2009–2013) was available to all households.
- The second phase, WUNZ: Healthy Homes, (2013–2016) targeted low income households.
- The current phase, WUNZ: Healthy Homes (July 2016–July 2018) was initially open to owners of rental properties occupied by low income/high-health need tenants, but eligibility was broadened in July 2017 to include low income/high-health need home owners.

Since 2009, the Government has invested \$465 million (\$347 million under Heat Smart, \$100 million under Healthy Homes, and \$18 million under the current programme) to part-fund insulation retrofits to vulnerable households, especially those with children and elderly. The WUNZ programme has contributed to more than 300,000 insulation retrofits to date.

A major contributing factor to the success of WUNZ has been EECA's relationship management with service providers, third party funders and local government. Under WUNZ, EECA has sourced third party funding (from contributors such as community trusts, district health boards (DHB), and iwi authorities) on top of government funding to help meet the cost of insulation retrofits for New Zealand households.

Independent research shows the insulation programme has delivered significant national health benefits of \$5 for every \$1 invested, mainly by reducing ill-health from respiratory illnesses, caused by cold, damp housing.⁵

The current WUNZ programme

The current WUNZ programme (2016- 2018) will not meet its target of insulating 20,000 homes at the current rate, as uptake by qualifying landlords and low income homeowners has been low. At this stage, it is unlikely that the \$18 million appropriated for the programme will be spent.

As signalled at the start of this briefing, this is an issue we look forward to briefing you on soon.

We are also aware that the Labour Party member's Healthy Homes Guarantees Bill provides for enforced minimum standards for insulation, heating, and ventilation (amongst other things). Ensuring that homes are warm, dry, and more energy efficient is one of EECA's three main outcomes, so we look forward to discussing with you how EECA can work with key stakeholders, such as MBIE Building and Housing, and the health and social sectors, to address the Government's priorities in housing.

Product standards and regulations

EECA partners with Australia (federal and state agencies) under the Equipment Energy Efficiency (E3) products programme to set regulations for Minimum Energy Performance Standards (MEPS) and the Energy Rating Label (star ratings to indicate comparative running costs), to help end users make informed choices at the point of sale.

Since the E3 programme began in 2002, regulation and labelling have created \$435 million in savings and a reduction of 670,000 tonnes of carbon.

⁵ Cost Benefit Analysis of the WUNZ: Heat Smart Programme, Motu report, June 2012.

Some of the priority products we are working on are domestic fridges, commercial fridges and air-conditioners (heat pumps).

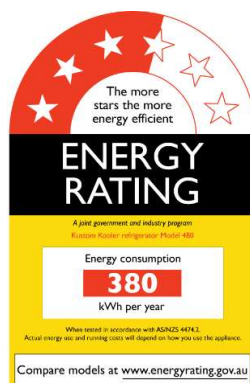


Figure 4: The Energy Rating Label – the more stars, the more energy efficient.

Business and public sector engagement



- 46,700 tonnes of carbon emissions avoided per annum through EECA Business programmes in 2016/17.
- EECA partners with businesses that represent 50 per cent of New Zealand business energy use, and 15 per cent of the total public sector energy use.

Why EECA works with businesses

EECA works with businesses and the public sector to manage energy use and reduce emissions across our economy. Energy use by businesses (excluding transport) accounts for about half of New Zealand's total energy use.

There is a role for government to address recognised market barriers that prevent businesses from prioritising energy management. The same market barriers have been identified internationally, especially in countries where energy management is not required by regulation.

EECA partners with businesses and public sector organisations across New Zealand that spend more than \$1 million a year on energy and have high emissions. They are generally large users of coal and gas, and represent the greatest potential for savings.

EECA also focuses on energy efficiency improvements in the public sector. This saves taxpayers and ratepayers money, and those savings can then be reinvested in core services in the health, education and other government sectors.

EECA's energy saving toolkit

EECA's toolkit includes grants and other financial support, advice and online tools. These tools help organisations to identify and prioritise energy efficiency opportunities, and decarbonise their energy use, leading to enhanced productivity and competitiveness.

EECA's practical support for businesses includes energy audits, feasibility studies, technology demonstration projects, and monitoring and evaluation programmes.

Most of the funding paid by EECA goes towards expert advice and information – not capital expenditure. This groundwork is important to identify and analyse the best opportunities for any business to save energy and reduce its carbon footprint.

EECA's technology demonstration programme encourages innovation and diffusion by supporting proven under-utilised technology or innovative energy processes that can benefit the wider sector through improved energy efficiency and emissions reduction.

Demonstrating low carbon leadership

A key area of focus of the NZEECS is supporting public sector organisations to demonstrate leadership by adopting good energy management practices. As well as being able to influence others, some public sector agencies are also large fossil fuel users, such as DHBs with large heat generation, and unrealised abatement potential.

EECA works with central and local government, council-controlled organisations operating key infrastructure assets, tertiary institutes and DHBs across the country.

EECA offers help to public sector agencies through its Crown loans scheme, which provides interest-free loans for capital improvements. The loans are paid back with the savings achieved. For example, Waikato DHB identified several energy efficiency projects which it could not prioritise over clinical spending, despite good cost savings. EECA provided a Crown loan to fund the projects and saved the DHB \$80,000 a year which it could reinvest in patient care.⁶

Along with cost and productivity benefits, saving energy in the public sector can provide practical case studies and examples that can later be replicated across the public and private sectors.

Transport

- 29 projects currently funded to accelerate the uptake of electric vehicles through a contestable fund. The Government's investment of \$6 million in the contestable fund has led to a total of \$26 million invested in New Zealand's electric vehicle market.
- 118 community events supported by EECA were run during 2016/17, enabling 5,000 people to test drive or ride in an electric vehicle.
- More than 5,000 electric vehicles are now registered in New Zealand.

New Zealand's transport system runs almost entirely on imported petroleum products. Just over half of all the liquid fuels consumed go into the private vehicle fleet; 36 per cent is consumed by trucks, buses and the light commercial fleet. This dependence on imported fossil fuels means the road transport sector was responsible for 40.9 per cent of our energy-related emissions and about 18.4 per cent of the country's gross emissions in 2015.

While New Zealand's transport fleet is heavily dependent on fossil fuels, the opportunities presented by our renewable advantage means there is significant opportunity to improve energy efficiency and reduce our emissions in this sector.



⁶ Case study Waikato District Health Board, EECA case study.

EECA's role in delivering the Electric Vehicles Programme

As part of the Electric Vehicles (EV) Programme which has a target of 64,000 EVs by 2021, EECA delivers an information campaign and runs the Low Emission Vehicles Contestable Fund.

The five year information campaign aims to overcome information barriers to increase public awareness, understanding and favourability of EVs. EECA's work to date has included the launch of the Government's EV website (www.electricvehicles.govt.nz), television and online advertising, information brochures on benefits and charging, in-depth research into battery life, and a community outreach programme that has enabled over 5,000 people to test drive or ride in an EV.



Figure 5: Charging an EV at home overnight currently cost the equivalent of 30c per litre.

Low Emission Vehicles Contestable Fund

Two rounds of the contestable have been completed. The \$6 million allocated by EECA has led to a total of \$26 million invested from the private sector and organisations in the EV market. You will have the opportunity to announce the successful projects for the third round of funding in December 2017.

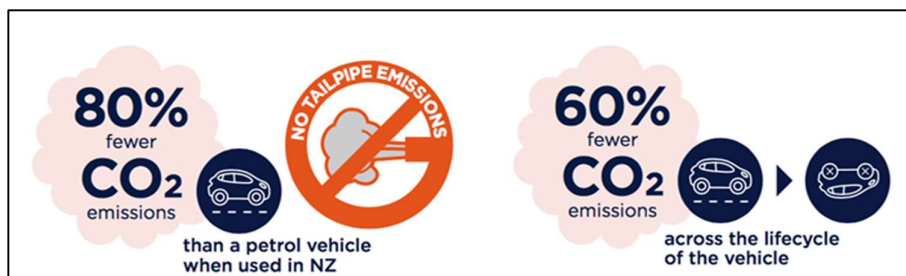


Figure 6: EVs have 80 per cent fewer carbon emissions than a petrol vehicle when used in New Zealand.

Vehicle Fuel Economy Labelling (VFEL) (for internal combustion engine vehicles)

Our VFEL programme enables consumers to easily compare the fuel economy of different vehicle models. Around 95 per cent of new and used vehicles on car yards provide fuel economy information, which means that consumers have access to comparative information when making a purchase decision.



Future transport initiatives

There is scope for further emissions reductions in New Zealand's transport sector, and this is a priority under the NZEECS. EECA is working with various government agencies, including the Ministry of Transport, MBIE and the Ministry for the Environment to identify future opportunities in the transport sector. We look forward to discussing with you opportunities for lower emission transport initiatives.

Annex 1: The New Zealand Energy Efficiency and Conservation Strategy 2017 - 2022