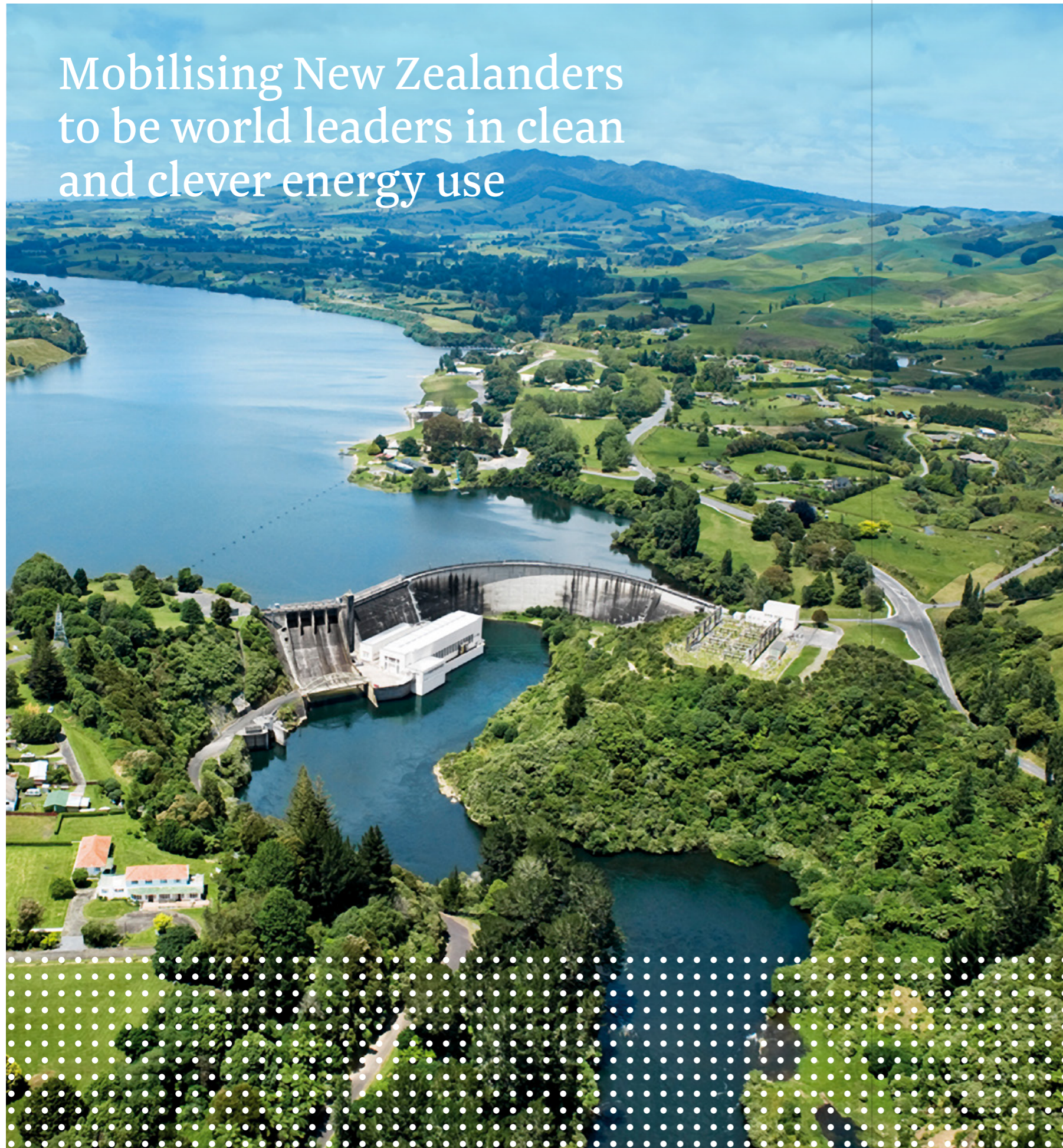


Clean and Clever Energy Progress Report

1 July 2019 – 30 June 2020



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



Clean and clever energy

Clean and clever energy is EECA's view of what energy can be. It can mitigate climate change, while serving New Zealanders in a multitude of other ways.

Clean energy is renewable and low emissions. That means using sunlight, wind, water, biomass and geothermal heat sustainably, and when they're most abundant. Clean energy protects our today, and looks out for our tomorrow.

Clever energy is efficient and innovative. It allows our system to be made cleaner sooner. Clever energy gives us more and costs us less.

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To reduce our environmental impact and emissions, this document is published in digital form only. It is available for download from our website www.eeca.govt.nz

Introduction

Tēnā koutou katoa.

It has undoubtedly been an extraordinary year.

Responding to the urgent challenge of mitigating climate change remains a global priority but we must now consider the added health, economic and social complexities brought about by the ongoing COVID-19 pandemic.

It has been two decades since EECA's founding legislation was enacted and our formal role in promoting energy efficiency, conservation and renewable energy began.

With our experience and expertise, we are ideally placed to play a pivotal part in reducing New Zealand's emissions from the energy sector. Clean and clever energy use also provides many economic benefits, such as reduced energy costs, job creation and increased business productivity. We are committed to ensuring that post-COVID recovery spending of any sort helps maximise the long-term, low carbon outcomes we are continuously striving for in the energy sector.

As we implemented our own business continuity plan during the initial COVID-19 outbreak in New Zealand, we continued to work with our business

partners to develop clear plans of action to save energy and reduce energy-related emissions within a complex and ever-changing environment. While some projects were understandably delayed, together we still delivered annual energy savings of 0.77 PJ and reduced annual emissions by over 62,000 tonnes this year.

Keeping New Zealanders warm and dry at home through our Warmer Kiwi Homes programme is an ongoing focus for us and over the past 12 months we installed 21,250 heating and insulation retrofits in low-income households. The programme was paused during Alert Level 4 but since then we've been delighted to see a dramatic rise in the uptake of grants as the Government increased its financial contribution to 90%. We would also like to acknowledge the generous contributions from third party funders that have allowed this service to be offered to many vulnerable households at no charge at all.

And we have continued to bring New Zealanders along on our journey towards a sustainable energy system by launching Gen Less - our new platform that encourages families and businesses to get more out of life by using less harmful energy.

There are parallels to be recognised between Gen Less actions and an adapted lifestyle during a pandemic, and we are working to embed some of these low-emissions behaviours, such as reduced work travel, as the 'new normal'.

This year our team of 5 million was united against the immediate health threat posed by COVID-19. The same collective action is now needed for reviving and decarbonising our economy and for us all to do our part to mitigate climate change.

I'm delighted to be a part of EECA as we continue to be bold and proactive on this journey. I would like to take this opportunity to acknowledge my predecessor Tom Campbell, former Chair of EECA, for his passionate and positive stewardship over almost seven years.

I am optimistic that we will continue to be a positive force for change in the years to come.

Ka nui taku mihi atu nei.

Elena Trout

Chair – on behalf of the Board
3 September 2020

Our story

Generating a low-emissions economy

This year marked the twentieth year since our founding legislation was enacted.

EECA was established as a Crown entity under the Energy Efficiency and Conservation Act 2000, to encourage, promote and support energy efficiency, energy conservation and the use of renewable sources of energy.

Our purpose

We have an audacious but highly relevant purpose. One that highlights our remit to include all energy-related emissions and which will shape everything we do. It is to –

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

Our desired outcome

We want New Zealand to have a sustainable energy system that supports the prosperity and wellbeing of current and future generations.

We will do this by focusing on energy efficiency and the use of renewable energy sources. Put simply, we want all of New Zealand to recognise that the energy we save now will be an asset to our collective future, in a myriad of ways.

Our approach

We encourage the use of sustainable energy across the economy, through a combination of direct interventions, such as co-investment and regulation. We also seek to motivate people by providing information, raising awareness and offering expert advice so they are better equipped to make clean and clever energy choices.

Our current work

Our work programme is underpinned by our [2018–2022 Statement of Intent \(SOI\)](#) and is guided by the [New Zealand Energy Efficiency and Conservation Strategy 2017–2022 \(NZECS\)](#).

Our Strategy

Our purpose

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

Our strategic principles



Focus on impact



Understand the customer



Define the problem



Join the dots



Display leadership

Our strategic focus areas



Productive and low-emissions business



Efficient and low-emissions transport



Energy efficient homes



Government leadership



Engage hearts and minds

Our key behaviours



Open to the new



Stand in others' shoes



Believe in 'we' not 'me'



Deliver the goods

Our desired outcome

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

Our three levers

Achieving a bigger impact

We work to create positive change across systems, using a combination of three important levers. We choose the most effective combination of the three depending on factors like existing barriers and market maturity.



Co-investing

We co-invest in energy efficient technologies and the use of renewable sources of energy

When there are financial barriers, we help to overcome these and appropriately share the financial risk to incentivise energy users to invest in technologies and renewable sources of energy that can make a real difference.



Motivating people

We motivate people to make clean and clever energy choices

We develop and communicate credible information that will help targeted audiences to make informed choices, and to take action.



Regulating

We regulate proven technologies and processes

We help prevent inefficient products and appliances from being sold in New Zealand. We support the development of energy-related policies that create the 'enabling environment' energy users need to transition to a low-emissions economy.

Our 2019/20 outcomes framework

The activities we delivered in 2019/20 brought us one step closer to achieving our overall desired outcome – that New Zealand has a sustainable energy system that supports the prosperity and wellbeing of current and future generations.



1 <https://www.labour.org.nz/ourplan>

2 In 2015, the United Nations adopted 17 global goals to end poverty, protect the planet and ensure prosperity for all. Each goal has a number of targets to be achieved by 2030. EECA's activities and programmes contribute to achieving the listed goals.

Government priorities¹

Building a productive, sustainable and inclusive economy

- Grow and share New Zealand's prosperity
- Deliver responsible governance with a broader measure of success
- Support thriving and sustainable regions
- Transition to a clean, green and carbon neutral New Zealand

Improving the wellbeing of New Zealanders and their families

- Support healthier, safe and more connected communities
- Ensure everyone has a warm, dry home
- Make New Zealand the best place in the world for children
- Ensure everyone who is able is earning, learning, caring or volunteering

Providing new leadership by Government

- Value who we are as a country
- Build closer partnerships with Māori
- Create an international reputation we can be proud of
- Deliver transparent, transformative and compassionate government

3 The Treasury's Living Standards Framework identifies 12 domains that contribute to how New Zealanders experience wellbeing. EECA's activities and programmes help to improve the listed domains.

Solutions and success

Five areas where we're making a difference



Solution 01

Productive and low-emissions business

Mobilising decision makers and technical experts to accelerate action

Why this matters

Businesses use 48% of New Zealand's energy – excluding transport – and generate 27% of our energy-related emissions.

This means there are significant opportunities for them to increase both their energy productivity and the use of renewable energy for the benefit of the whole economy.

And there are many benefits for individual businesses, including lower energy costs and improved profitability. It's also valuable for businesses to be able to say that they are genuinely making an ongoing contribution to New Zealand's emissions reduction goals.

'Process heat use' – both efficiency and switching to renewable energy – represents the most significant stationary energy opportunity for improving energy productivity and reducing emissions in the business sector.

Our desired future state

We are working towards the following outcomes:

- EECA's client businesses demonstrate best practice, continuously improve their energy and emissions productivity and motivate other businesses to take action.
- New Zealand businesses continuously improve their energy productivity and using sustainable energy to contribute to New Zealand's emissions reduction target.

What we achieved this year

We continue to work with businesses that use nearly a quarter of the energy used in New Zealand.

This year we can really see the results of our increased focus on helping the sector to not only become more energy efficient but to also switch to cleaner forms of energy. Over the past 12 months, our business partners reported new annual savings of 0.77 PJ as a result of our involvement. This is a comparable result to 2018/19 but the associated energy-related emissions savings increased from 53,700 to 62,100 tonnes of carbon per year.

Chipping away at emissions

We continue to encourage businesses to adopt proven energy efficient technologies that are underutilised in New Zealand by providing co-investment through our technology demonstration programme. McCain Foods is a good example of a business that has reduced its use of fossil fuels by adopting innovative technology as a result of our partnership. Until recently, it was using steam from burning coal to pre-treat potatoes before slicing them into chips. However, with the installation of its new Pulsed Electric Field system, it has slashed its emissions by over 1,400 tonnes every year and reduced its energy consumption by 3.8 GWh. This is in addition to other benefits such as reduced water consumption, space saving and an improved end product. To top it all off, this technology has potential to be replicated across many industries that require pre-treatment using process heat – for example, in plants that process meat and dairy.



Accelerating the transition

We are now working with 11 large energy-using businesses that are committed to reducing their emissions through our Energy Transition Accelerator programme. We provide expert assistance to help each business onto a customised long-term pathway to decarbonisation by identifying technically- and economically-viable low carbon investments.

Our most recent project with Alliance Group Limited is through this programme. Along with Energy Advisors DETA Consulting, we have provided thought leadership and support to identify substantial energy saving and carbon reduction opportunities across all the processing facilities in Alliance with good financial paybacks. We are now collaborating with Alliance to implement these projects. Pleased with these developments, Willie Wiese, General Manager for Manufacturing at Alliance says *"I have found EECA proactive, they communicate very well and are motivated to support Alliance to succeed in the decarbonisation of our business."*

Locking in positive change

During COVID-19 Alert Level 4, we pivoted our business engagement to focus on projects that could be delivered remotely. LSG Sky Chefs produces meals for airlines and demand during lockdown unfortunately plummeted from 35,000 meals a day to about 800. They used this time to focus on business improvements and had an energy audit completed by our programme partner Energy NZ. The audit identified opportunities to reduce their energy use by nearly 9% through maintenance and operational improvements alone that, once established, will save about \$80,000 in energy costs each year and reduce annual emissions by 105 tCO₂e.

See page 32 of our 2018/19 Annual Report⁴ for more information on our achievements over the year and how we measured our progress.

Our next steps to mobilise New Zealanders

Hot opportunities to reduce emissions

About half of New Zealand's process heat demand comes from burning coal or natural gas, contributing to 8% of our emissions. At EECA, we are increasing our focus on providing co-investment for energy efficiency and renewable energy projects that will reduce process heat emissions across the economy.

⁴ Visit www.eeca.govt.nz/assets/EECA-Resources/Corporate-documents/EECA-Annual-Report-2019-20.pdf

Solution 02

Efficient and low-emissions transport

Switching the fleet to low-emissions technology while ensuring that any remaining fossil-fuelled vehicles are as efficient as possible

Why this matters

The transport sector provides the single largest opportunity to improve New Zealand's energy productivity and reduce energy-related emissions.

Transport is responsible for about 21% of New Zealand's total emissions each year and 48% of energy-related emissions.

There are significant improvements to be made using sustainable and efficient technologies, particularly low-emission vehicles. Our scenario modelling estimates carbon emissions could reduce by 1.6 to 4.3 million tonnes by 2035 as a result of an increased uptake of petrol hybrid and electric vehicles⁵.

If all light vehicles in New Zealand were electric (which is a long way off), our current total electricity demand would increase by around 20%. We can accommodate this within our current electricity generation output – if most of us charged off-peak.

Meeting our transport needs with sustainable energy will reduce emissions and our dependence on imported fuel – while saving people money as they get around.

Our desired future state

We are working towards the following outcomes:

- More New Zealanders choose a low-emissions vehicle over a fossil-fuelled vehicle and have a good experience using it.
- People who do not buy a low-emissions vehicle choose a more efficient fossil-fuelled vehicle.

What we achieved this year

There were 21,098 electric vehicles registered in New Zealand as of 30 June 2020 amongst a total light fleet of nearly 4 million vehicles. And the rate of uptake is slowing dramatically given barriers, such as high purchase prices and battery concerns, are still in place.

Dispelling myths

Through our Gen Less platform, we help people to better understand the benefits of low-emission vehicles over fossil-fuelled cars. Our independent and authoritative information can alleviate concerns that might be preventing people from improving their transport choices. For example, we share information on battery life, advice on how to charge an electric vehicle, and demonstrate that electric vehicles produce fewer emissions across their entire lifecycle than fossil-fuelled cars.

⁵ The lower limit applies to the Tui scenario where climate change is competing with other priorities, while the upper limit applies to the Kea scenario where it is seen as the most pressing issue in New Zealand. These are preliminary results from TIMES-NZ model developed by EECA, the Business Energy Council and the Paul Scherrer Institute.



Charging ahead

We continue to co-invest in projects that will accelerate the uptake of low-emission vehicles. Since 2018, our Low Emission Vehicles Contestable Fund has contributed to New Zealand's charging infrastructure by supporting the installation of nearly 700 electric vehicle chargers. This has included the first two 300 kW hyperchargers installed in New Zealand that are able to charge four vehicles simultaneously, providing each vehicle with a driving range of up to 400 km in only 15 minutes.

Breathing easy

This year we also helped Asthma NZ to purchase eight second-hand electric vehicles for the mobile nurses in the community in Auckland, Wellington and Rotorua. This sends a message that is congruent with asthma education and prompts other NGOs and health organisations to consider electric vehicles as a feasible solution.

Heavy loads, light footprint

With our support, Alsco has proven the viability of using a heavy electric freighter on its 284 km route between Rotorua, Tauranga and Taupo. With a range of 200 km, its new e-truck

is charged at three depots en route during loading and unloading times. Given this successful trial, Alsco is now wanting to purchase further e-trucks to add to its fleet and EECA will also use the data created to encourage other fleet operators to reduce their fleet emissions.

See page 38 of our 2019/20 Annual Report⁶ for more information on our achievements over the year and how we measured our progress.

Our next steps to mobilise New Zealanders

As a result of the COVID-19 pandemic, we expect to see a substantially more cautious approach by many purchasers as they take conservative measures around preserving their financial liquidity. This will likely see electric vehicle purchase decisions deferred, particularly for new cars.

Paving the way

We will continue to provide research and expert advice to inform cross-government regulatory and incentive measures for vehicle emissions performance that will be essential for transitioning the light fleet at the speed and scale required to meet New Zealand's climate change targets.

⁶ Visit www.eeca.govt.nz/assets/EECA-Resources/Corporate-documents/EECA-Annual-Report-2019-20.pdf



Solution 03

Energy efficient homes

Optimising New Zealanders' use of renewable energy through energy efficient homes, technologies and behaviours

Why this matters

Encouraging New Zealanders to improve the energy efficiency of their homes will help them to become warmer and healthier. It also means they can enjoy the benefits of using smarter household technologies without increasing their energy costs.

The residential sector has a large number of small consumers and the dominant energy source is our highly renewable electricity system.

Households have a significant impact on our peak electricity use when electricity generation tends to be at its least renewable, and most expensive to produce (for example, winter evenings).

Energy efficiency in the residential sector is critical as we seek to engage all citizens in the collective objective of reducing New Zealand's energy-related emissions.

Our desired future state

We are working towards the following outcomes:

- Households consume electricity more efficiently to reduce peak loading on infrastructure.
- More New Zealanders live in energy efficient homes and make informed choices on energy efficient technologies and behaviours.

What we achieved this year

Adding heat

This year we expanded our Warmer Kiwi Homes programme to provide grants for heating measures, as well as insulation, to low-income homeowners. With our support, 21,250 heat pumps, wood burners and insulation retrofits were installed against a target of 16,000, despite a short pause in delivery during COVID-19 Alert Level 4.

Efficient choices

We continued to develop Minimum Energy Performance Standards (MEPS) for products and appliances that are sold in New Zealand. By not allowing inefficient appliances onto our shop floors, and adding energy performance labels to those that are, we help consumers make choices that will reduce their ongoing electricity bills. Over the past two decades, our regulations have saved New Zealanders just over \$1.23 billion and generated energy savings of 50.37 PJ.

See [page 41](#) of our 2019/20 Annual Report⁷ for more information on our achievements over the year and how we measured our progress.

Our next steps to mobilise New Zealanders

Warmer, drier and healthier

The Government has increased funding for our Warmer Kiwi Homes programme through its COVID-19 response and recovery package. Since the programme resumed post-lockdown at the end of April 2020, the Government increased its funding contribution from 67% to 90% so that, with the support of third party funders, these improvements are free for many low-income households. This means more eligible homeowners are able to make their houses more energy efficient and ensure better health outcomes for themselves and their families. This has increased demand, which will help to keep our delivery partners and their installation teams busy in 2020/21.

Lighting the way

If every New Zealand household installed LED lighting, we'd avoid 82,000 tonnes of greenhouse gas emissions every year – the emissions of almost 34,000 petrol cars. This is largely because it would reduce electricity use during peak hours, such as on winter evenings, when generation tends to be at its least renewable. This year we gave out over 14,500 LED bulbs, for free, to people living in low-income areas. We'll continue to trial distribution methods in 2020/21 to determine the most cost effective and scalable approach. We have six projects currently planned that, combined, will give out a further 150,000 LEDs to people who will benefit the most from lower electricity bills.

⁷ Visit www.eeca.govt.nz/assets/EECA-Resources/Corporate-documents/EECA-Annual-Report-2019-20.pdf

Solution 04

Government leadership

Equipping the public sector to innovate and lead the transition to clean and clever energy use



Why this matters

Through effective policies and modelling of clean and clever energy use, the public sector can demonstrate wise management of public resources, support sustainable development objectives and influence a wide range of New Zealanders to follow suit.

The Government has signalled a desire to demonstrate leadership in energy productivity and the use of sustainable energy.

Government agencies own over 16,000 vehicles, which in the future will supply the second-hand market. This means the adoption of low-emissions vehicles in the public sector light fleet will contribute to a reduction in national transport emissions over time. In 2019, the Government set the objective that the percentage of electric vehicles entering its fleet increases every year so that by 2025/26 the light vehicle fleet will be, as much as practical, emissions free.

State sector agencies, including public hospitals, universities and schools, are also still using fossil-fuels for heating. Removing coal and gas boilers from public buildings is important in the transition to a low-emissions economy.

Our desired future state

We are working towards the following outcomes:

- The public sector is an exemplar in improving its energy productivity and reducing its energy-related emissions.
- State services implement energy policy and programmes to accelerate the transition to clean and clever energy use in New Zealand.

What we achieved this year

Decarbonising the public service

In December 2019, the Government announced a Clean-powered Public Service Fund that provides \$200 million of new investment for energy efficiency and renewable energy projects. We're using our expertise and existing relationships with energy users in the public sector to identify high impact clean and clever energy projects that can be delivered as soon as possible. As of 30 June 2020, \$22.7 million had been committed to projects that, once implemented, are expected to reduce emissions by 17,880 tonnes each year.

On the energy management journey

Using long-term account planning, we have supported the University of Canterbury to develop and implement its Low Carbon Energy Road-Map Strategy. Since 2010, the university has assessed and verified its carbon footprint with the combined key objective of carbon reduction to commensurately align with New Zealand's international emissions reduction targets. More recently, the university has committed to a long-term decarbonisation aim of being net zero carbon by 2030. A range of resulting projects will make a significant difference to the university's carbon footprint. Rob Oudshoorn, Director of Facilities Management is grateful for the support we provided in the financially challenging post-quake period and says that *"it's clear that without EECA we would not be where we are today in our carbon reduction journey"*.

See page 44 of our 2019/20 Annual Report⁸ for more information on our achievements over the year and how we measured our progress.

Our next steps to mobilise New Zealanders

Our focus has been increasingly on contributing to the advice put to Ministers, as they create the required policy settings to support all New Zealanders to transition to a low carbon future. We will continue to support the development of the Government's Emissions Reduction Plan, which will form the response to carbon budgets released by the Climate Change Commission in May 2021. We will continue to encourage the development of regulatory and incentive measures for electric vehicle uptake that, in our view, are required to decarbonise our light fleet at the speed and scale necessary to meet New Zealand's 2030 climate change targets.

⁸ Visit www.eeca.govt.nz/assets/EECA-Resources/Corporate-documents/EECA-Annual-Report-2019-20.pdf



Solution 05

Engage hearts and minds

Fostering a society in which sustainable energy is expected and demanded

Why this matters

Every day, we make decisions about how we use energy. It's in everything we do, use, make or buy. That's why tapping into the multiple benefits that the more efficient use of renewable energy can deliver requires collective action.

If 5 million New Zealanders make even small improvements to how they use energy, if businesses invest in energy efficiency and if effective policies are adopted, we'll see a significant decrease in our nation's energy-related emissions.

This isn't just achievable – it's necessary.

Our desired future state

We are working towards the following outcomes:

- New Zealanders feel that the way they use energy positively contributes to achieving New Zealand's climate change commitments.
- New Zealanders expect and demand energy-related products and services based on their energy efficiency and sustainability.

What we achieved this year

Gen Less inspires change that reduces our energy-related greenhouse gas emissions. Using this platform, we are aiming to unite New Zealand individuals, organisations, businesses and the Government to live and work in more climate-friendly ways by getting more from less energy.

It was launched on 21 September 2019 with a 60-second inspiring audio-visual advertising piece that is estimated to have reached nearly 1.3 million New Zealanders, with 44% of the population recalling the campaign. Since then, we have run support campaigns promoting the benefits of LED lighting and electric vehicles.

Despite COVID-19 and competing priorities at the moment, we're heartened to see a steady commitment to a climate positive future – 72% of people surveyed are prepared to change their behaviour to mitigate climate change. And given there are parallels to be recognised between Gen Less actions and an adapted lifestyle during a pandemic, we've recently run a campaign to promote ongoing adoption of some of these low-emissions behaviours as the 'new normal', such as reduced work travel and holidaying in New Zealand.

But there is a long way still to go in terms of widespread understanding and tangible action. Our research also shows that, currently, people see actions such as reducing plastic bag usage as having a greater impact on climate change mitigation than reducing air travel or using low-emission vehicles. Planning is underway for further campaign activity to continue to educate, inspire and mobilise New Zealanders and businesses to lead the way in clean and clever energy use.

See page 46 of our 2019/20 Annual Report⁹ for more information on our achievements over the year and how we measured our progress.

Our next steps to mobilise New Zealanders

We will continue to strongly advocate for individuals to live differently by inspiring them to be clean and clever energy users and to demand changes from others – and for them to know that every effort counts, no matter how big or small, as we make the transition to a low-emissions economy together.

⁹ Visit www.eeca.govt.nz/assets/EECA-Resources/Corporate-documents/EECA-Annual-Report-2019-20.pdf

Our future focus

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

Aligned with our strategy we will continue to develop and deliver high-impact interventions that accelerate decarbonisation across the economy. We will respond to changes in market conditions as they arise and in particular consumer sentiment towards energy use and climate change to ensure our programmes remain relevant and meaningful. In the post COVID environment EECA will also play its part in delivering Government energy related priority initiatives throughout the period of the economic recovery.

Accelerating industry decarbonisation through productive partnerships

We are committed to supporting productive low emissions businesses, and as part of this the continued decarbonisation of process heat in industry. This will be accelerated through the Government Investment in Decarbonising Industry which enables co funding with the private sector to decarbonise industrial process heat through efficiency and fuel switching projects including required transmission upgrades. Our Energy Transition Accelerator programme will continue to be a key foundation for this ongoing work with the business sector.

Warming up our homes to help New Zealanders and their families thrive

We will continue to improve New Zealanders' wellbeing through warmer, more energy efficient homes. Demand for heating and insulation retrofits from our Warmer Kiwi Homes programme has grown tremendously as Government funding support has increased. Consequently, thousands more New Zealanders and their families are enjoying the programme benefits of improved health and wellbeing and greater energy efficiency.

Developing a flexible efficient and low-emissions transport strategy

We will continue to evolve our efficient and low-emissions transport programmes to ensure they are aligned with changing technology and customer behaviour. This includes the continuing use of the Low Emission Vehicle Contestable fund to support the uptake of low emission transport options. This will include supporting opportunities to reduce emissions in the road freight industry, including both battery electric and Hydrogen powered vehicles.

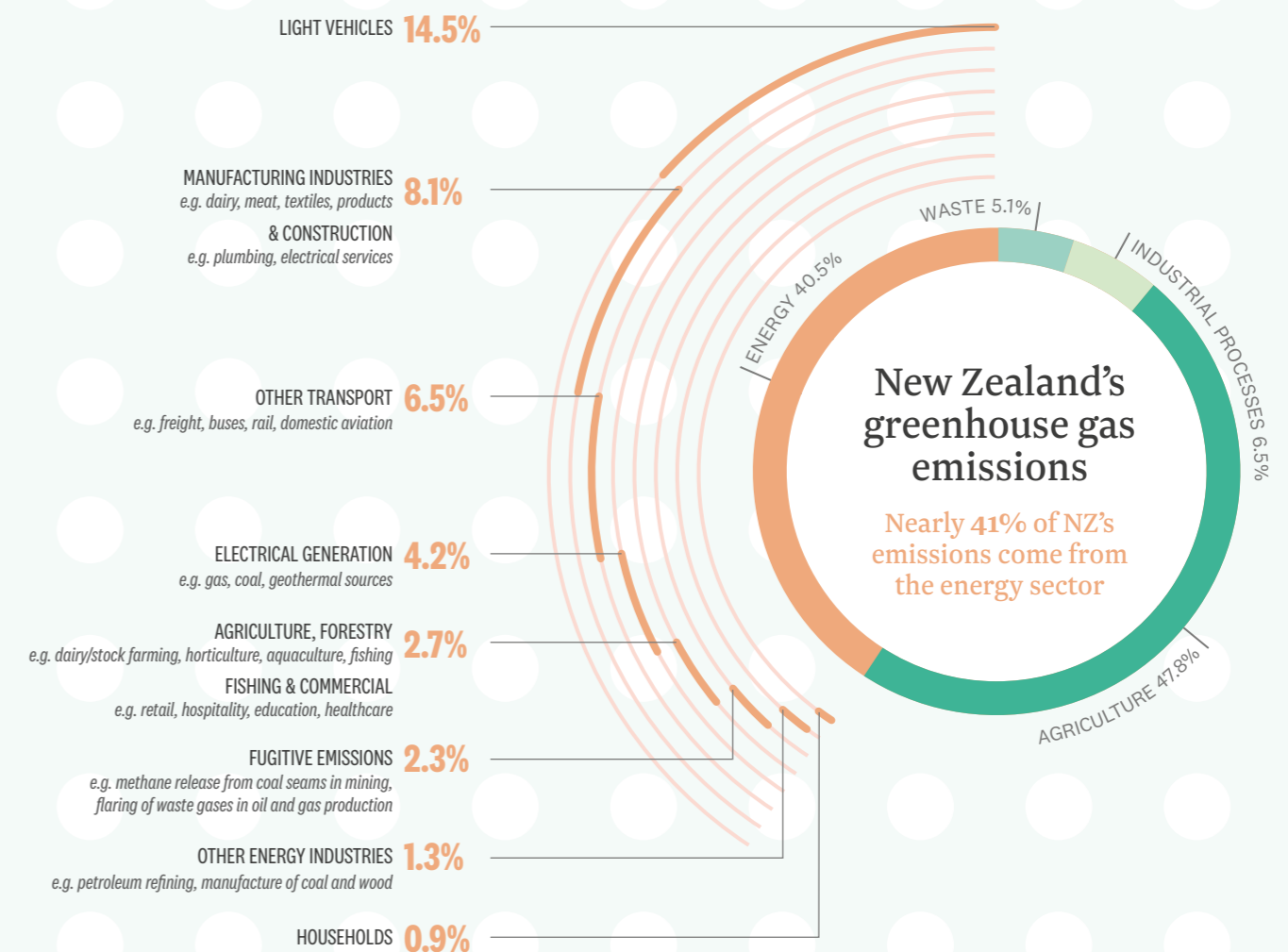
Promoting decarbonisation of the public sector through support for clean power alternatives

We remain focused on ensuring government leads by example in the decarbonisation journey. The newly created State Sector Decarbonisation Fund is a key force for change in this space. The fund supports the largest emitters in the sector such as schools, hospitals and universities to make impactful moves like replacing boilers and chillers with low-emissions alternatives. The Energy Transition Accelerator programme will also be used to help accelerate this transition.

A sustainable energy system enables New Zealanders to prosper

We seek to help build a productive, sustainable and inclusive economy through the transition to clean and clever energy use. We will do this by keeping customers at the centre of the way we operate, ensuring we understand customer needs, and design our programmes accordingly.

Further information on what we will be delivering in 2020/21 is provided in our 2020/21 Statement of Performance Expectations.



Source: Greenhouse Gas Inventory 1990-2018, MfE (2020); Light vehicles and Other transport estimates are based on data from the MBIE 2018 energy balances and MBIE Energy in New Zealand (2019)

How we are funded and what we spent

In 2019/20, EECA received funding from the Crown through four appropriations within Vote Business, Science and Innovation. The amount of funding received and spent during the year is shown in Table 1.

Energy Efficiency and Conservation

This appropriation was used to achieve improvements in energy efficiency, energy conservation and renewable energy. There are four components to this appropriation: Crown funding, Electricity levy funding, Petroleum levy funding and Gas levy funding.

In 2018, we consulted stakeholder groups representing those affected by the levies on the proposed level of funding and the intended work programmes that will utilise the funds. A full report back to levy stakeholders will be provided in October 2020.

Grant Scheme for Warm, Dry Homes

This appropriation was used to achieve energy savings and health benefits for households through the Warmer Kiwi Homes scheme.

Implementation of the Grant Scheme for Warm, Dry Homes

This appropriation was used to achieve the implementation of the Warmer Kiwi Homes grants scheme.

Crown Energy Efficiency

This appropriation was used to achieve the delivery of energy efficiency savings in the public sector through interest free loans.

Table 1: Crown funding provided through the Estimates and Supplementary Estimates compared with actual expenditure in 2019/20

	Estimates \$000	Supplementary Estimates \$000	Actual \$000	Difference to Supplementary Estimates \$000
Energy Efficiency and Conservation (Multi-category appropriation)				
Energy Efficiency and Conservation	15,148	15,148	15,148	-
Electricity levy funding	5,200	5,200	5,200	-
Gas levy funding	1,100	1,100	1,100	-
Petroleum levy funding	7,500	7,500	7,500	-
Total appropriation	28,948	28,948	28,948	-
Implementation of Warm, Dry Homes 2018–2022 (Multi-year appropriation)				
Crown revenue – year ended 30 June 2019	900	900	-	-
Crown revenue – year ended 30 June 2020	2,880	2,880	2,880	-
Remaining appropriation	6,480	6,480	-	-
Total appropriation	10,260	10,260	2,880	-
Grant Scheme for Warm Dry Homes 2018–2022 (Multi-year appropriation)				
Crown revenue – year ended 30 June 2019	17,703	16,187		
Crown revenue – year ended 30 June 2020	37,120	37,120	46,768	9,648
Remaining appropriation	83,520	85,036		
Total appropriation	138,343	138,343	46,768	9,648
Crown Energy Efficiency				
Capital appropriation	2,000	2,000	1,128	872

Table 2: Expenditure for 2019/20 by output class

	Productive and low- emissions business \$000	Efficient and low- emissions transport \$000	Energy efficient homes \$000	Government leadership \$000	Engage hearts and minds \$000	Actuals total \$000	Budget total \$000
Operating revenue							
Energy Efficiency and Conservation							
Crown funding	4,946	1,650	3,810	2,188	2,554	15,148	15,148
Electricity levy funding	3,274	-	1,311	615	-	5,200	5,200
Gas levy funding	996	-	104	-	-	1,100	1,100
Petroleum levy funding	-	7,500	-	-	-	7,500	7,500
	9,216	9,150	5,225	2,803	2,554	28,948	28,948
Grant Scheme for Warm, Dry Homes	-	-	46,768	-	-	46,768	37,120
Implementation of Grant Scheme for Warm, Dry Homes	-	-	2,880	-	-	2,880	2,880
	9,216	9,150	54,873	2,803	2,554	78,596	68,948
Other revenue	1,008	-	-	-	-	1,008	1,075
Total revenue	10,224	9,150	54,873	2,803	2,554	79,604	70,023
Expenditure							
Financial and industry support expenses	3,818	5,182	46,897	546	-	56,443	49,991
Other operational expenses	6,978	2,834	7,847	1,548	3,690	22,897	23,189
Total expenditure	10,796	8,016	54,744	2,094	3,690	79,340	73,180
Surplus/(deficit)	(572)	1,134	129	709	(1,136)	264	(3,157)
Net surplus/(deficit) related to financial and industry support activities	(572)	1,609	129	709	-	1,875	(1,521)
Net surplus/(deficit) related to other operating activities	-	(475)	-	-	(1,136)	(1,611)	(1,636)
	(572)	1,134	129	709	(1,136)	264	(3,157)
Non-departmental capital expenses							
Crown Energy Efficiency	-	-	-	1,128	-	1,128	2,000

Glossary of terms

Carbon equivalent (CO₂e) – a measurement unit used to indicate the global warming potential of greenhouse gases, using carbon dioxide (CO₂) as a reference gas.

Electricity levy – EECA receives an allocation of Electricity Industry Levy funding to carry out initiatives in accordance with its statutory functions under the Energy Efficiency and Conservation Act 2000.

Emissions – greenhouse gas emissions.

Emissions productivity – economic value achieved from emissions produced, calculated as gross domestic product (GDP) per unit of emissions.

Energy productivity – the value we get from the energy we consume, defined as gross domestic product (GDP) per unit of energy.

Fossil fuels – includes coal, natural gas, LPG, crude oil, fuels derived from crude oil (including petrol and diesel).

Gas levy – EECA receives an allocation of Gas Safety, Monitoring and Energy Efficiency (GMSEE) Levy funding to carry out initiatives in accordance with its statutory functions under the Energy Efficiency and Conservation Act 2000.

Gigawatt-hour (GWh) – one gigawatt-hour is equal to one million kilowatt-hours. New Zealand’s annual electricity demand is approximately 38,000 GWh.

Greenhouse gases – these include carbon dioxide (CO₂), methane and nitrous oxide. In the energy sector, the burning of fossil fuels (oil, coal, gas) for heat, transport or electricity generation creates greenhouse gas emissions.

Large energy users – businesses that spend more than \$1 million on energy each year.

Low-emissions vehicle (LEV) – low-emissions vehicles include battery electric vehicles, plug-in hybrid vehicles and hydrogen fuel cell vehicles (as long as the hydrogen is produced using New Zealand’s renewable electricity advantage).

Mandatory Energy Performance Labelling (MEPL) – EECA carries out regulation of energy efficiency labelling for products and appliances so consumers can compare the energy use of the products and appliances they buy.

Minimum Energy Performance Standards (MEPS) – EECA carries out regulation of energy efficiency standards for products and appliances to ensure the worst-performing ones are not available on the New Zealand market.

Partner – a business that has entered into a contractual agreement with EECA.

Petajoule (PJ) – the unit most often used to measure energy production and use on a national scale in New Zealand. Energy savings are valued using the marginal cost of electricity supply.

Petroleum levy – EECA receives an allocation of Petroleum or Energy Fuel Monitoring (PEFM) Levy funding to carry out initiatives in accordance with its statutory functions under the Energy Efficiency and Conservation Act 2000.

Process heat – energy used for commercial and industrial processes, manufacturing and heating. For example, meat and dairy processors use steam from boilers to sanitise equipment and process raw products, such as turning milk into powder. It generally involves the use of coal, gas, wood or electricity.

Public sector – the public sector comprises the public service, State services, State sector and local government organisations.

Renewable energy – energy produced from hydro, geothermal, biomass, wind, solar and marine sources.

Service provider – an organisation that is contracted by EECA to provide a service to either businesses or householders.

State sector – the State sector comprises the agencies included in the Financial Statements of the Government of New Zealand. This includes the State Services, tertiary education institutions, State-Owned Enterprises and Mixed Ownership Model companies, as well as a small number of agencies that operate as instruments of the Legislative Branch of Government.

Sustainable energy – energy that serves the needs of the present without compromising the ability of future generations to meet their needs. It includes renewable energy and energy efficiency.

Vehicle Fuel Economy Label – this is a label that shows how much fuel a vehicle will use to travel a certain distance, which helps people make an informed decision about the vehicles they are considering buying. All new cars, and all cars manufactured since 2000 and imported since 2005 for sale in New Zealand, must display information about the vehicle’s fuel economy, whenever that information is available.

Warmer Kiwi Homes – the Government’s four-year insulation and heating grants programme announced as part of Budget 2018.



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