

**Document
purpose:**

This document is the result of the programme reviews EECA and MBIE conducted across EECA's programme portfolio in 2016. The reviews were in response to a requirement to reprioritise the EECA's portfolio in the context of the new NZEECS, the new EV programme, and expanded levy. The framework for the review is available [here](#).

The reviews were based on existing documentation and workshops with MBIE, PwC and EECA staff.

About ENERGYWISE

New Zealand households are not taking action to improve the energy efficiency and thermal performance of their homes despite there being financial, health and quality of life benefits in them doing so. Lack of information is a key barrier that has caused this.

ENERGYWISE is EECA's residential master brand to support existing programmes and deliver on EECA's mandate under the Energy Efficiency and Conservation Act 2000. The Act states that the function of EECA is "to encourage, promote, and support energy efficiency, energy conservation, and the use of renewable sources of energy".

The key components of ENERGYWISE are the ENERGYWISE website, TV advertisements (The Energy Spot), social media, digital and online search advertising, call centre, press-releases, billboards, editorials, brochures, fact sheets and how-to videos.

Conclusions

Market research indicates that ENERGYWISE has been successful at raising public awareness, knowledge, and understanding of energy efficiency. It has also had some success in translating this awareness into action.

There is a role for government to address the market barriers which prevent households from using energy more efficiently. ENERGYWISE is an effective way to do this and fulfils EECA's statutory obligation to promote public awareness of energy efficiency.

ENERGYWISE is a flexible, responsive and durable brand which maintains continuity as programmes come and go.

Information provision is the Government's preferred approach to improving energy efficiency in households in the absence of regulation.

Recommendations

EECA should clarify the objectives of ENERGYWISE and its intervention logic. Although the objective of ENERGYWISE is to provide trusted, independent information to households, the potential public and private benefits identified (see section 3.3) suggest multiple objectives. This presents an opportunity for EECA to better link information provision to specific benefits (e.g. reduced greenhouse gas emissions, improved health). As part of this work, it should also use market research

to better define and document the target market and be explicit about how this research is used to choose messages and delivery mechanisms.

ENERGYWISE and the programmes it supports have potential benefits which are relevant to other government departments. EECA should seek greater alignment with these organisations, and continue to coordinate its messages with them, in order to realise potential benefits.

EECA should evaluate the effectiveness of the programme's engagement model, specifically as it relates to The Energy Spot. EECA could consider whether the means of engagement (e.g. television) are appropriate for the targeted groups, and other options to influence people's behaviour (e.g. targeting at point of sale).

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1 The problem

1.1 Problem description

New Zealand households are not taking action to improve the energy efficiency and thermal performance of their homes despite there being financial, health and quality of life benefits in them doing so. Examples of actions include reducing dampness, insulating their home, draught-stopping, using the most appropriate heating, and installing more energy efficient appliances and lighting¹. Not only does inaction result in inefficient use of energy but it can result in cold, damp homes. These behaviours are not occurring because:

- Consumers don't know they could be saving more energy
- Consumers don't know how to be more energy efficient
- Consumers don't value or prioritise energy efficiency
- There are perceptions that it's too hard and that they have to give something up to be energy efficient
- There are myths and misconceptions among consumers about how to be energy efficient
- There is a lack of motivation given that spending on energy is less than 5% of household expenditure².

1.2 Why is it a problem?

Residential energy use is about 62.7 PJ annually³ which accounts for 2,300 kt CO₂e. This energy use is widely dispersed and spread over 1.7 million households,⁴ so small changes at a household level, over multiple households can add up.

Inefficient use of energy in the residential sector results in higher greenhouse gas emissions. It also results in higher energy costs, colder and damper homes, and worse health outcomes. Across the residential market EECA estimates a cost to New Zealand of around \$300 million per annum in inefficient energy use⁵.

1.3 The programme

Under EECA's endorsed brand architecture, the ENERGYWISE brand encompasses all of EECA's consumer-facing information on household and residential transport energy use. This includes the [ENERGYWISE website](#), social media, TV (The Energy Spot), digital and online search advertising, press-releases, brochures, fact sheets, and how-to videos. This information supports the delivery of all of EECA's residential programmes (e.g. Vehicle Fuel Economy Labelling and Warm Up New Zealand) but sometimes the information is not connected to a specific delivery programme.

¹ More examples can be found in Appendix One or on the [ENERGYWISE website](#).

² Statistics New Zealand, 2013, Household Economic Survey 2013.

³ Based on 2014 data from EECA's '[Potentials Analysis](#)' using MBIE's Energy in New Zealand and EECA's Energy End Use Database.

⁴ Statistics New Zealand, 2016. 'Dwelling and household estimates: June 2016 quarter.'

⁵ EECA Statement of Intent 2014- 2016

The Energy Spot is a series of one-minute TV advertisements, demonstrating easy energy efficiency tips for households in prime time, using ENERGYWISE information. Essentially it is the way that ENERGYWISE information is communicated to a TV audience. As such, hereafter where ENERGYWISE is described it also includes Energy Spot.

1.3.1 Origins

ENERGYWISE was not developed as a programme but as an integrated residential master brand to support existing programmes and deliver on EECA's mandate under the *Energy Efficiency and Conservation Act 2000*. The Act states that the function of EECA is "to encourage, promote, and support energy efficiency, energy conservation, and the use of renewable sources of energy" in part by

- c) promoting public awareness in New Zealand of the importance of energy efficiency and conservation, and the use of renewable sources of energy:
- d) promoting practices and technologies to further energy efficiency, energy conservation, and the use of renewable sources of energy

Prior to 2009, the marketing budget was focused on promoting specific programmes, each with its own promotional activity/advertising and often its own website (there were seven individual websites relating to programmes). These were not integrated with each other, and research consistently showed that there was a need for a more sustained presence in the promotional space to ensure ongoing consumer awareness of key messages. In November 2009, a report based on EECA's TV commercial activities prior to Energy Spot stated that "Residual value of past TVCs [Television commercials] is steadily eroding... EECA needs to maintain a constant presence in the market"⁶.

From 2009 onward, EECA has conducted its marketing activity on the basis of a clearly defined brand strategy that provides for segmentation between different audiences, but integration of messaging to each of those audiences. This endorsed brand strategy enables the component brands to target specific markets or purposes, while benefiting from the investment previously made in the master brand (EECA).

This means that while specific programmes and market interventions come and go over time, there is retained value from their marketing held in the ENERGYWISE brand, which then benefits the subsequent programmes.

The Energy Spot was introduced in 2009 to deliver EECA's entire brand and programme information in an integrated way. It is a series of television advertisements which support the brand strategy by being able to anchor key marketing activity and increase or decrease visibility and focus on individual programmes as required. For example, new residential programmes and topics can be added to the schedule and finished residential programmes can be removed.

⁶ [25123 EECA Consumer Monitor Report \(Jul-Sep 09\) – 5 Nov09.pptx from Synovate Ltd.](#)

1.3.2 Purpose

The aim of ENERGYWISE is to inform and motivate residential consumers about the benefits of energy efficiency, and the steps they can take to make better use of their energy.

ENERGYWISE aims to:

- provide people with trusted, independent information
- explain the benefits of energy efficiency, energy conservation and renewable energy in the home and on the road
- give people the right information so they can make the most informed decision – and best decision for their lifestyle, their household or their family
- inspire and motivate people to take action
- show people how to take action easily.

The Energy Spot encourages households to make small to medium changes to improve their energy efficiency, and provides information on where to go for more information to take further action.

It was designed to:

- get people thinking and introduce them to the concept of energy efficiency
- pose problems and provide solutions and tips that are easy, achievable and affordable
- communicate the benefits to both the individual and society
- provide a platform to generate mass awareness and engagement.

1.3.3 Key components

The key components of ENERGYWISE are:

- [ENERGYWISE website](#)
- Social media (Facebook and Twitter)
- Digital and online search advertising
- Call centre
- Press releases
- Billboards
- Editorials
- Brochures
- Fact sheets
- How-to videos
- TV (The Energy Spot)

The Energy Spot advertisements follow a formulaic approach whereby four key components are addressed:

- A problem is demonstrated (often a problem people didn't know they had; e.g. inadequate insulation)
- A solution is provided showing the benefits (what to do, what to consider, why it's important)

- A low- or no-cost tip is also demonstrated (even if they can't afford to invest in the appropriate solution identified, there are still changes to their household behaviour they can do to improve their home; e.g. thermal performance via closing curtains before dusk)
- The benefits are scaled up to the national level (to show the value to New Zealand as a whole if everyone did it).

1.4 Market characteristics

1.4.1 Households

Market research conducted by EECA in 2009 found the following characteristics of household energy users.⁷

There are four key motivations for residential consumers to use energy wisely – environmental good, financial benefit, health benefits, and wanting a warm, dry and comfortable home.

The market can be segmented further by level of commitment to 'using energy wisely'. The research found that about 14% tend to be committed to using energy wisely, 23% are open to it, 31% are ambivalent, 27% believe they have done as much as they can and 5% reject the notion that it is important in any way. There were found to be a few significant demographic differences between these profiles when it came to segmentation opportunities or media consumption habits. The committed segment were somewhat older and less likely to be working full-time. Those open to using energy more wisely are less likely to be young and less likely to come from high-income households. There were no significant differences found in terms of estimates of expenditure on energy in general, or on different types of energy.

In 2013 the University of Otago published its Energy Cultures research into the drivers of energy-using behaviour in the residential sector. They concluded that energy-using behaviours arise out of interactions between three components: norms (individual and shared expectations about what is 'normal behaviour'), material culture (physical aspects of a home including the form of the building and energy-related technologies) and energy practices (energy-related actions). They also categorised households into four different types from an energy use perspective:

- Energy Extravagant – these households are the highest energy users and are generally wealthier than the other household types. Their lack of energy efficient practices and relative wealth presents a policy opportunity for energy efficiency gains.
- Energy Economic – these household use the least energy; policy interventions for this household type should focus on improving the material culture, as this group lives in poor quality housing and uses inefficient heating technology.
- Energy Efficient – these households are motivated and have adopted energy efficient practices and an energy efficient material culture. They are the second-lowest energy users. Sharing their experiences could motivate other household types to adopt similar practices and cultures.
- Energy Easy – these households have the second-highest spend on energy and would benefit from more energy efficient practices and a more efficient material culture.

⁷ X:\Marketing & Communications (MC)\08 Market Research\13 Values Research\EECA (Consumer) Turning involvement into action - Full Report 5Sep09.pptx

1.4.2 Service providers

There are existing service providers of onsite home assessments and energy efficiency advice. The majority are commercial providers who are motivated to prioritise actions where they can sell product that maximises their profit.

A few do not have the commercial imperative and are independent. They are generally council-run and are few and far between. The coverage of quality, independent advice provided by onsite assessors continues to be constrained by a limited number of qualified home assessors available throughout New Zealand.

2 Strategic fit

Table 1: Alignment with strategic objectives across government

NZEECS 2011-2016	Alignment
Objective: "Warm, dry and energy efficient homes with improved air quality to avoid ill-health and lost productivity." Target: "By 2013: Insulate 188,500 homes."	ENERGYWISE and The Energy Spot encourage people to insulate their own homes, and direct people towards more information about EECA's other programmes, such as Warm Up New Zealand, that provide support to do so.
Business Growth Agenda	Alignment
Focus area: "Improve energy efficiency and use of renewable energy to raise productivity, reduce carbon emissions and promote consumer choice"	ENERGYWISE and The Energy Spot encourage people to improve their own energy efficiency and, through information provision, promote consumer choice.
EECA Strategy	Alignment
"Consumers make good choices about the thermal envelope of their homes, focusing initially on insulation, heating and ventilation"	ENERGYWISE and The Energy Spot encourage people to make the right decisions to improve the warmth and thermal envelope of their home.
"Influencing consumer behaviour in vehicle choice, efficient driving and using alternative fuels"	ENERGYWISE and The Energy Spot encourage people to improve the efficiency of their fuel use.

3 Role for government

3.1 Market failures

The role for government is based on the presence of market failures and barriers. The barriers to households being more efficient fall into primarily four categories:

1. Lack of information or understanding
2. Affordability barriers, both real and perceived
3. Lack of industry capability
4. Inconvenience, perceived or real

These barriers prevent the market from operating most efficiently, and from taking up opportunities to use energy more effectively. ENERGYWISE and The Energy Spot address the lack of information or understanding, and partially address the affordability barrier.

3.1.1 Lack of information/understanding

Market theory assumes all participants have perfect information, but this is rarely the case. Where participants lack information and understanding, there is a role for government in ensuring that they have the information they need to make informed decisions, and to assist them more directly when they lack capacity to deal with that information.

The success of government action in providing information is demonstrated by people altering their decision-making and acting differently when provided with information. Since people have limited capacity to seek out information, in particular where they don't know they have information gaps (the "unknown unknowns"), government action is warranted to ensure people's choices are well-informed.

The information gap in this case can be of different types:

- Actual lack of knowledge – not knowing energy efficiency represents an opportunity or where to find the most appropriate information to aid them in their decision making.
- Actual lack of understanding – not knowing how to achieve energy efficiency. Households do not fully appreciate the benefits that retrofit action can bring to their quality of life and they do not prioritise home improvement investments over other expenditure.
- Misinformation – not believing energy efficiency works due to bad or conflicting information. Households experience conflicting, fragmented advice and do not feel they understand the most beneficial and cost-effective improvements for their particular house/circumstances.

3.2 Barriers

3.2.1 Affordability barriers

Affordability barriers can be present when people would like to invest in a long-term saving but cannot afford the upfront cost. Here there can be a role for government in ensuring equitable access to measures which produce long-term savings and facilitating the use of finance to overcome these barriers. Large businesses will usually have the capacity to borrow to fund energy investments, but households and smaller businesses will often not be able to do this. The ENERGYWISE and The Energy Spot do not address this barrier directly, although other EECA measures do.

Much of households' concerns with affordability are about perception of risk and payback, and prioritisation. They:

- lack confidence that when energy efficiency improvements are undertaken they will deliver the promised benefits and return on investment;
- do not feel confident that they will see a return on such investments when their house is rented or sold.

Some people who say they cannot afford to be energy efficient will change their mind with sufficient information on the relative costs and benefits. In these cases, the affordability barrier is perceived rather than real, and given sufficient certainty that the investment in energy efficiency was worthwhile, households would make the investment. Here, the government is helping households make more rational choices and overcome their inherent biases by providing information. The role of ENERGYWISE is therefore to encourage the market to attach value to being energy efficient – to see the value that good thermal performance brings to a home, rather than just seeing the cost associated with doing it.

3.2.2 Lack of capability

There is a lack of capability in the industry to provide whole-of-house solutions that produce the greatest benefits. While there are a range of private providers who provide advice to the residential sector on energy efficiency services and products, the provision of information is intermixed with the market for products and services. A ventilation specialist may audit the efficiency of a house, but they will use it to promote their ventilation product. ENERGYWISE addresses this by disseminating information about technical standards and best practice to the industry.

3.2.3 Preferences

Many people see energy efficiency as an inconvenience or hassle⁸. As with the affordability barrier, it is about encouraging people to see the value in being energy efficient in order to overcome this barrier (i.e. making it 'worth the hassle'). The more something is valued, the less concern people will have around the hassle of realising that value.

3.3 Potential benefits

Table 2: Types of benefits expected from solving the problem

Public	Private
<ul style="list-style-type: none"> • Improved health and lower healthcare costs • Avoided greenhouse gas emissions 	<ul style="list-style-type: none"> • Warmer, more comfortable homes • Improved health • Reduced energy costs • Reductions in peak electricity demand

⁸ \\ntsrv20\DATA3\Marketing & Communications (MC)\08 Market Research\01 Consumer Monitoring\03 Reports\Finals\20120301 EECA Consumer Monitor (Oct-Dec11) Report 1 - FINAL.pptx (Slide 12)

3.3.1 Public benefits

Improved health – People living in warmer, drier homes are less likely to become sick with seasonal illnesses or damp-related respiratory infections. This leads to improvements in productivity and also reduces the burden on the public health system, producing additional public benefits.

Avoided greenhouse gas emissions – Improvements to household energy efficiency will reduce electricity demand. A portion of electricity in New Zealand is produced by burning fossil fuels, and reductions in electricity use will also reduce New Zealand’s greenhouse gas emissions.

3.3.2 Private benefits

Warmer, more comfortable homes – After insulation, homes are much easier to heat, and will be warmer, drier and more comfortable as a consequence.

Improved health – People living in warmer, drier homes are less likely to become sick with seasonal illnesses or damp-related respiratory infections.

Reduced energy costs – Home insulation and other energy efficiency measures promoted by ENERGYWISE can also lower energy costs faced by the households themselves. However this benefit is often traded-off for warmer, more comfortable homes and thus better health.

Reductions in peak electricity demand – Reducing peak electricity demand will delay the need for further investment in new electricity generation capacity.

3.4 Potential costs

Since most of the provision of information is by commercial providers, there is no other agency offering information without a commercial agenda. ENERGYWISE supports commercial providers with information about technical standards and industry best practice.

There is no market for the provision of information on behaviour change that people can achieve at low or no cost to save energy, since there is no commercial product or service to be sold.

4 Intervention

4.1 Intervention logic

There is currently no intervention logic for the programme, as ENERGYWISE was not developed as a formal programme, but rather as a feature of EECA’s core business that supports specific programmes and market interventions. However, the following description summarises the intervention logic.

To solve the issue of a lack of trusted information about energy efficient products and behaviours in the marketplace, EECA delivers an information programme for consumers, supported by the ENERGYWISE brand.

The information programme provides practical information aimed at everyday consumers, through relevant channels – mainly online and through the news media. By providing clear information about costs, benefits, and the pros and cons of the options available, ENERGYWISE aims to help consumers make better energy choices.

As consumers recognise the benefits of energy efficiency, they will make choices that improve the energy efficiency of their homes, their appliances and their travel. These choices will contribute to the overall improvement of New Zealand's energy efficiency.

The Energy Spot significantly extends the reach of existing ENERGYWISE information – to solve the problems of a lack of information on energy efficient behaviours, a perception of difficulty, and a lack of motivation. The Energy Spot demonstrates simple behaviours to improve energy efficiency, makes clear the economic case for them, and inspires action by linking those actions back to a national level.

Energy efficiency is intangible and widely misunderstood, so video demonstration is considered to be critical to the success of EECA's communication. Providing information through a television format reaches a mass audience, increasing the reach and effectiveness of EECA's message, and building recognition and trust in the ENERGYWISE brand.

By breaking down the key barriers to action, more consumers will recognise the benefit of energy efficiency and change their behaviour to be more energy efficient at home.

These choices will contribute to the overall improvement of New Zealand's energy efficiency.

4.2 Options

As ENERGYWISE was not developed as a formal programme (see Section 1.3.1) there is no documentation of options analysis.

4.3 Investment objectives

It is very difficult to attribute specific energy savings to information campaign-type activities, so the investment objectives are measured at output level. These centre on whether campaigns were delivered as planned rather than outcome-level impacts. Where the information campaign is linked to a delivery programme the outcome-level impacts are picked up as part of the indicators for that programme.

Recent objectives for ENERGYWISE and The Energy Spot are:

- 1.2 million visits to the ENERGYWISE website (Statement of Performance Expectations 2016/17)
- 67% awareness of The Energy Spot and 42% of those inspired to take action (Statement of Performance Expectations 2015/16)

The percentage of people inspired to take action is measured by a quarterly survey conducted online by IPSOS New Zealand (IPSOS), a third party market research company, via the quarterly EECA Consumer Monitor⁹. The target audience is New Zealand males and females aged 18 or over.

4.4 Potential impact

Analysis done in 2014 assessed the potential benefits of certain energy efficiency improvements as a result of a programme that included a mass market information campaign, an online self-assessment tool for households, and an optional onsite home assessment. While this is more than ENERGYWISE alone, it shows how a programme supported by information provision can increase uptake of residential energy efficiency improvements. Table 3 shows a scenario of uptake over five years under those programme elements. ENERGYWISE is unlikely to result in this level of benefit alone but may do as part of a wider programme.

Table 3: Benefits expected from greater uptake of home efficiency improvements

	Benefits (\$M PV)		
	Installations	Energy	Health
Shower Flow Restrictor (DIY install)	25285	\$20.8	\$0.0
Efficient Shower Head (DIY)	24836	\$20.4	\$0.0
Substitute unflued gas heaters with electric heaters	17607	\$14.4	\$0.0
CFL Bulbs	39426	\$4.2	\$0.0
Ceiling Insulation	78103	\$6.1	\$345.5
Underfloor Insulation	78949	\$0.0	\$0.0
LED Bulbs	39426	\$9.1	\$0.0
Substitute Open Fires with Wood Burners	6039	\$50.8	\$0.0
Pipe Insulation	86002	\$5.1	\$0.0
DIY Window Insulation Kits	53418	\$9.4	\$0.0
Heated Towel Rail Timer	23814	\$2.7	\$0.0
Skillion Roof Insulation	9876	\$0.0	\$21.8
Cylinder Wrap	27031	\$3.3	\$0.0
Spot Extractor Fan Bathroom	62188	\$0.0	\$0.0
Spot Extractor Fan Kitchen	62188	\$0.0	\$0.0
Ground Vapour Barrier	31094	\$0.0	\$0.0
TOTAL		\$146.3	\$367.4

⁹ X:\Marketing & Communications (MC)\08 Market Research\01 Consumer Monitoring\01 Questionnaires

4.5 Market readiness

There are plenty of commercial providers able to deliver energy efficiency-related services. Once EECA has provided independent information, a consumer is able to decide and access the appropriate expertise to assess and implement options.

In terms of the receptiveness of consumers, EECA's market research categorises people by their attitude to energy efficiency. In the latest Consumer Monitor survey¹⁰ Error! Bookmark not defined.:

- 16% were committed to energy efficiency
- 16% were open to energy efficiency
- 30% were ambivalent about energy efficiency
- 6% were against energy efficiency
- 33% said energy efficiency was unavailable to them¹¹.

4.6 Risks

Table 4: Risks to the programme

Risk	Mitigation
People don't receive EECA's information	Review awareness of the information via market research
People don't understand EECA's information	Review effectiveness of the information via market research
People receive and understand EECA's information but are not motivated to act	Information is not the only or main barrier – consider what other barriers are present
EECA's information is incorrect	Peer review technical information before it is released

4.7 Interdependencies

The Energy Spot has been designed to direct consumers towards the ENERGYWISE website for further information. In this way the Energy Spot is an element of the wider ENERGYWISE programme.

¹⁰ The ENERGYWISE Consumer Monitor is an online survey that EECA conducts each quarter. It tracks the awareness, attitudes and behaviours of New Zealanders in relation to energy efficiency, conservation and renewable energy. It asks 750 people per quarter and turns that into a 12 month rolling average of data (moving annual total). The sample size is 3,229, and the margin of error is 1.72 for estimates of 50% at the 95% confidence level. [X:\Governance & Strategic Planning \(GV\)\16 Operating Model\04 Portfolio Management\01 Programme reviews\02 Reviews\02 Programmes\05 Energywise EnergySpot\20160505 EECA Consumer Monitor \(Jan-Mar 16\) Report - FINAL.pptx](#) (slide 51)

¹¹ The majority of these (outside of some homes with physical constraints) say they are unavailable because they believe they have done everything they can already. This is unlikely to be true in many cases where people are unaware of what they can do.

ENERGYWISE is the information component for EECA's residential programmes so is integral to the success of the following EECA programmes:

- Warm Up New Zealand
- Vehicle Fuel Economy Labelling
- Mandatory Energy Performance Labelling
- ENERGY STAR
- Fuel Efficient Tyres

4.8 Resource allocation

The EECA Marketing team has 4.5 FTE devoted to ENERGYWISE marketing, and the Communications team includes 2 FTE devoted to ENERGYWISE communications.

Table 5: Costs to EECA related to Energywise

	2012/13	2013/14	2014/15	2015/16
EECA Marketing Costs \$M	6.2	5.1	6.4	5.1
Proportion that is spent on The Energy Spot (TV)	40%	33%	33%	41%

5 Performance

5.1 Effectiveness

There are three questions about the programme's performance that are important to answer:

1. Have ENERGYWISE and The Energy Spot reached people and improved their knowledge and understanding of energy efficiency?
2. Has that understanding contributed to motivating people to take action to improve their household energy efficiency?
3. Are those improvements in energy efficiency contributing to the overarching outcome (e.g. lower greenhouse gas emissions)?

5.1.1 Reach of programmes

There is good data on the first question – the reach of ENERGYWISE. An [evaluation of the value for money](#) of EECA's marketing in 2013 reported that the ENERGYWISE website was relatively successful, with approximately 30,000–60,000 visits per month during summer, and 70,000–140,000 visits per month during winter. Over the past few years the statistics have showed about 1.2 million visits per year.

The high profile Warm Up New Zealand programme and The Energy Spot have helped to raise the profile of ENERGYWISE. The ENERGYWISE brand has high awareness, trust and credibility. In EECA's quarterly Consumer Monitor, 68% of participants surveyed were aware of ENERGYWISE when

prompted and 52% regarded ENERGYWISE as an authoritative source of information¹². The brand's link to government gives it credibility, helps consumers to trust the information provided, and therefore act on it. EECA is now the third most trusted government agency according to the Public Sector Reputation Index¹³. In 2016, ENERGYWISE was also found to be New Zealand's 11th most trusted brand.¹⁴

Recall and reach of the Energy Spot is good. Of people surveyed in 2015, 75% had seen it, maintaining roughly the same levels as the previous year. The Energy Spot is seen as likeable by 76% of people surveyed, and disliked by only 3%.¹⁵

Examples of communications activities are provided in Appendix Three. They include 551 articles published or broadcast by EECA in the 2015 winter season (April to July), 25,000 people currently subscribed of the ENERGYWISE email newsletter, and 4,783 calls answered by the call centre in 2016 to date.

5.1.2 *How information translates to action*

EECA has some limited information on the second question – how that information is translating into action – through the market research done on the programme's effectiveness. EECA asks survey respondents in its Consumer Monitor research whether they have taken action as a result of seeing The Energy Spot television advertisements. The most recent results (June 2016) indicate that:

- 68% of respondents had seen The Energy Spot
- 37% of the respondents had seen The Energy Spot and indicated they had taken some action as a result.

The most common types of actions cited are shown in Figure 1¹⁶. A complete list of the types of actions and the average percentage of respondents who have reported taking them are listed in Appendix Five. While the types of action are specified, the magnitude and longevity of these actions is unknown. For example, a respondent may report installing energy efficient bulbs but that could be one bulb or an entire house. For behavioural actions it is not clear whether someone may have turned off unused lights once or regularly for the last three months.

5.1.3 *How improvements achieve the outcomes*

The third question cannot yet be evaluated as the outcome level objective of the programme is not well-defined. Success depends largely on whether the programme is targeting only public benefits, or public benefits and private benefits.

¹² Consumer Monitor Jan-Mar 2016 [X:\Governance & Strategic Planning \(GV\)\16 Operating Model\04 Portfolio Management\01 Programme reviews\02 Reviews\02 Programmes\05 Energywise EnergySpot\20160505 EECA Consumer Monitor \(Jan-Mar 16\) Report - FINAL.pptx](#)

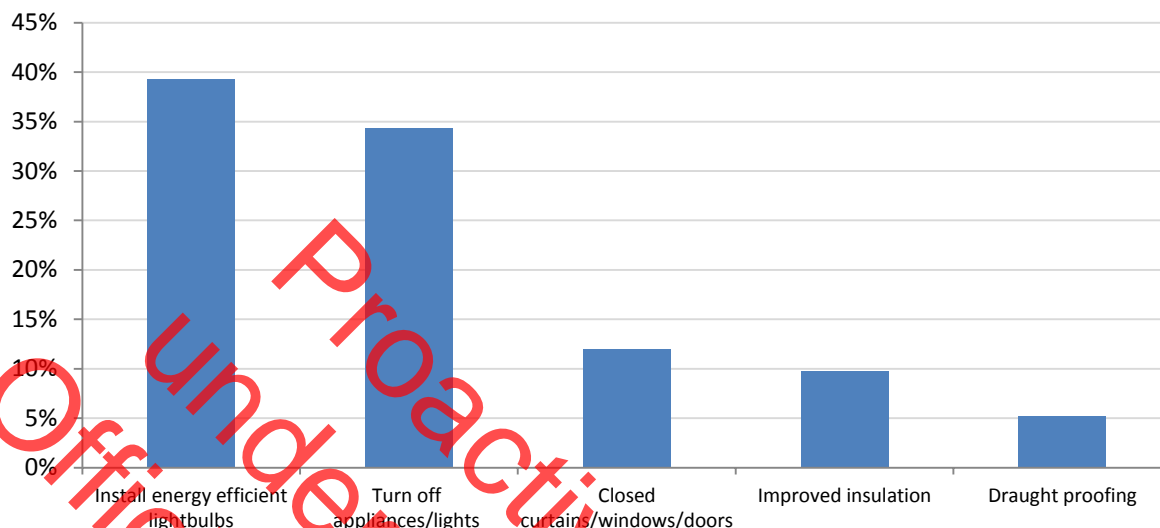
¹³ Colmar Brunton benchmarked 31 national public sector organisations against the four pillars of leadership and success, social responsibility, trust, and fairness, with each entity's reputation indexed against the others.

¹⁴ [IPSOS interviews with 1000 adults about 100 different brands.](#)

¹⁵ The Energy Spot Annual Evaluation 2015 [\\ntsrv20\DATA3\Marketing & Communications \(MC\)\08 Market Research\04 Energy Spot\Yearly research\2015-16\160115 Energy Spot Evaluation 2015 FINAL.pptx](#)

¹⁶ Important biases to note are response bias where respondents are likely to say what they think is more desirable, and sampling bias as the survey only reaches those that are online, and have the time and willingness to complete the survey.

Figure 1: Percentage of respondents who stated taking the most common actions as a result of seeing The Energy Spot.¹⁷



5.2 Achieved benefits

As described above, the extent to which energy-saving actions contribute to the overarching outcome is unclear as it is not clear whether the objective is healthier homes, lower greenhouse gas emissions, reductions in peak electricity load, cost savings, and/or promotion of EECA programmes. Further, it is difficult to obtain data attributing benefits to ENERGYWISE interventions.

5.3 Value-for-money

This section summarises the cost-benefit analysis for ENERGYWISE (including The Energy Spot). A full description of assumptions is available in Appendix Four.

As no information is available definitively linking expenditure on Energy Spot and ENERGYWISE with changes in residential energy consumption it is not possible to execute a conventional cost-benefit analysis. A payback calculation has been carried out instead to test what level of reduction in consumption would be required to justify expenditure.

To break even on net present value (i.e. obtain a benefit/cost ratio of 1), national household energy consumption would need to reduce by 0.24% in response to ENERGYWISE (and private transport just 0.03%) without taking into account any potential health benefits from people choosing to insulate their homes as a result of ENERGYWISE information. The necessary level of energy reduction halves if it is assumed that 300 houses per year are insulated as a result of ENERGYWISE information. This corresponds to about 0.06% of uninsulated housing stock.

A 0.24% consumption reduction as a result of information provision is relatively small when put in the context of the following points:

¹⁷ Averaged over six years of quarterly surveys with a total sample of 4,572.

- EECA estimates the potential economic household energy-efficiency savings are in the order of 19% and over 600,000 houses remain uninsulated.
- Household energy consumption per head of population has declined by 1.2% per annum since 2010, providing an indication of improving residential energy efficiency.

Within this context it is not unreasonable to assume that ENERGYWISE expenditure could achieve the zero net present value threshold given the very low energy savings required.

5.4 Programme future

Currently the plan is to continue with ENERGYWISE information provision, guided by EECA's key residential objectives. However, EECA has started to develop a potential replacement that is likely to provide deeper and more personalised information for consumers and their situation – a logical progression from introducing the market to the concept of energy efficiency.

6 Lead organisation

EECA's mandate for this role is stated under the *Energy Efficiency and Conservation Act*:

- S21 (1)(c) - promoting public awareness in New Zealand of the importance of energy efficiency and conservation, and the use of renewable sources of energy.
- S21(1)(d) - promoting practices and technologies to further energy efficiency, energy conservation, and the use of renewable sources of energy.

Where ENERGYWISE is related to health benefits there could be a role for the Ministry of Health. However, EECA's history and technical expertise make EECA more suited to be the lead organisation.

Consumer NZ also provides information on energy efficiency. However, the organisation does not specialise in the subject and does not provide the breadth and depth of information that ENERGYWISE does. [REDACTED] s 9(2)(g)(i)

[REDACTED] Because their information is behind a paywall, it is not free to all New Zealanders and they tend to focus more on which brand to buy rather than which technology is most energy efficient.

7 Conclusions

Market research indicates that ENERGYWISE is an established and trusted brand, and has been successful at raising public awareness, knowledge, and understanding of energy efficiency. It has also had some success in translating this awareness into action, although detailed information on such actions and their impact is limited because it is difficult to obtain.

There is a role for government to address the market barriers which prevent households from using energy more efficiently. ENERGYWISE is an effective vehicle for the provision of trusted, independent information. In addition, EECA has a statutory obligation to promote public awareness of, and practices and technologies related to, energy efficiency.

ENERGYWISE supports the provision of information for other EECA programmes (e.g. Warm Up New Zealand) and is a flexible, responsive and durable brand which maintains continuity during the lifecycles of various programmes.

Expenditure on ENERGYWISE consists of more than advertising costs – other costs include those relating to market research, infrastructure (e.g. websites), social media, PR and the dissemination of technical advice (e.g. New Zealand Standards).

Information provision is the Government's preferred approach to improving energy efficiency in households and realising its benefits in the absence of regulation.

8 Recommendations

EECA should clarify the objectives of ENERGYWISE and its intervention logic. Although the objective of ENERGYWISE is to provide trusted, independent information to households, the potential public and private benefits identified (see section 3.2) suggest multiple objectives. This presents an opportunity for EECA to better link information provision to specific benefits (e.g. reduced greenhouse gas emissions, improved health). As part of this work, it should also use market research to better define and document the target market and be explicit about how this research is used to choose messages and delivery mechanisms.

Further, EECA should evaluate the effectiveness of the programme's engagement model, specifically as it relates to The Energy Spot. EECA could consider whether the means of engagement (e.g. television) are appropriate for the targeted groups, and other options to influence people's behaviour (e.g. targeting at point of sale).

ENERGYWISE and the programmes it supports have potential benefits which are relevant to other government departments – for example, the Ministry of Health, the Ministry of Transport and the Ministry for the Environment. EECA should seek greater alignment with these departments, and continue to coordinate its messages with them, in order to realise potential benefits.

9 Appendices

9.1 Appendix One - Potential home improvement actions

- Ceiling and underfloor insulation;
- Substituting unflued gas heaters with electric heaters;
- Substituting open fires with efficient wood burners;
- Spot extractor fans for bathrooms and kitchens;
- Efficient shower heads;
- Shower flow restrictors;
- CFL and LED bulbs;
- Pipe lagging;
- DIY window insulation kits;
- Cylinder wrap;
- Skillion roof insulation;
- Heated towel rail timers;
- Draught proofing;
- Ground vapour barriers.

the Official Information Act 1982

Under Proactively released

9.2 Appendix Two - Household Energy Cultures or Clusters

	Energy Economic	Energy Extravagant	Energy Efficient	Energy Easy
% of population	24%	19%	20%	31%
Demographics	Younger, poorer and smaller households. Students and unemployed.	Families – dependent children aged under 50. Highest income.	Older – often empty nesters, part time work. Owner occupied Mostly in small centres/rural.	Middle-aged older Europeans. Few children. Second highest income, but many retired, in Auckland and Wellington.
Norms	Environmentally aware. Confident in energy decisions	Few distinctive features but appear less confident in energy decisions, value enjoyment and pleasure in life.	Value practicality.	Least concerned about environmental issues.
Material Culture	Often rented flats or apartments. Poor insulation. Fewest household appliances. Low sunshine hours Portable electric and gas heaters.	Largest houses but not best insulated or improved. Energy efficient heating systems. High appliance ownership levels.	Separate freezers but lower ownership of many appliances, or own but not use. Well insulated houses and efficient heating systems.	Owner occupied – often debt free. High users of driers and often less efficient heaters. Insulation restricted.
Energy Practices	Lots of energy saving practices, e.g. drying laundry outside, switching off lights.	Less energy saving practices.	Lots of energy saving practices.	Heat throughout house and less energy saving practices.
Energy Usage	Smallest expenditure on energy.	Significantly higher energy spend than all other groups.	Medium level of household spend but lower than 'Energy Easy' on per capita basis.	Second highest consumption on a per capita basis.

9.3 Appendix Three – ENERGYWISE communications outputs

Winter campaign

What:

- Media releases, op eds.
- Responding to a high volume of media interest – there can be several media calls a day over the winter period asking for material about heating, ventilation and the thermal envelope.

Audience: Mainly households with less disposable income

Goals: Promote low or no-cost actions households can take to improve the thermal envelope, and heat and ventilate their homes more effectively.

Measurement: 551 articles published or broadcast April to end of July 2015. 473 articles published or broadcast April to the end of July 2016. This decrease was due to lack of staff time – due to the change in the WUNZ programme.

Facebook

What: Posts and low-cost video twice weekly

Audience: Households with less disposable income

Goals:

- Engagement
- Testing response to new messaging

Measurement: Page has 12,066 followers as at 12 September 2016. Engagement has been running at about 8% (0.61% is the industry standard on Facebook) but a recent change in the way Facebook measures analytics has increased this to about 60%. EECA is investigating the benchmark for the new industry standard.

ENERGYWISE Electronic Direct Mail

Audience: 25,000 on subscription list

Goals:

- Supporting behaviour change in the home – heating, ventilation, insulation etc.
- Testing the relevance of different messages through A/B testing (i.e. segmenting the list and sending emails with varying messages to test which messages get the highest response rate).

Timing: Nine mail outs a year

Measured by open rates: 30-40% (industry standard about 22%)

General ENERGYWISE

What:

- Op eds, media inquiries, media releases
- Building relationships with other government agencies (e.g. Electricity Authority, Ministry of Health) and running campaigns to get EECA's messages into the campaigns of these other agencies at no cost. This includes using material from other campaigns (e.g. What's My Number) in EECA's campaigns.

Audiences:

- Home owners with more disposable income
- Households with little or no disposable income

Goals: Encouraging households, home buyers, and renovators to consider the long-term running costs of their homes and products, as well as cosmetic appearance.

Measurement: Media articles reflect key messages. EECA messaging included in other government agency campaigns, e.g. What's My Number, rheumatic fever and Housing NZ campaigns.

Contact Centre

What: Answers a high volume of calls from public about insulation, ENERGYWISE tips etc. More complex queries are passed on to EECA.

Goal: Answer public queries – Quality Measure - 90% of calls answered within 20 seconds

Measurement: 4783 calls from the public answered so far in 2016 to 12 September (Note: 24 of these calls in 2016 were about electric vehicles and a further 24 about EECA BUSINESS – i.e. not home-related).

9.4 Appendix Four – Cost-benefit analysis description

Approach

As no information is available definitively linking expenditure on ENERGYWISE with changes in residential energy consumption, it is not possible to execute a conventional cost-benefit analysis. Alternatively, a payback calculation has been carried out to test whether a significant reduction in consumption is required to justify expenditure on these programmes (referred to as a 'breakeven analysis').

Cost Data

The analysis includes all EECA's marketing costs directed at residential energy consumption and private transport listed under the following cost centres for the four years 2012/13 to 2015/16:

- WUNZ:HS
- WUNZ:HH
- Residential Retrofit
- Residential Marketing
- Rightlights
- Corporate Promotion (two thirds estimated for residential markets)
- The Energy Spot
- Solar Water Heating
- Fuel Marketing
- Fuel Efficient Tyres
- Vehicle Fuel Economy Labelling
- Electric Vehicles information campaign
- Voluntary Targeted Rates

Costs of purchasing more energy-efficient residential appliances and insulating houses are taken from the detailed analysis undertaken for the Residential Retrofit programme and, where necessary, from efficient products Regulatory Impact Statements. These are private costs.

Benefits

- Residential energy cost savings (private benefits): energy savings are determined for the major applications within the household (hot water, space heating, refrigeration, lighting, cooking) and split between savings due to behavioural changes and the purchase of more energy efficient appliances. Behavioural related savings are assumed to persist for only one year whereas savings from the latter will continue for the life of the appliance but with an additional appliance cost.
- Private transport fuel cost savings (private benefits): energy savings are attributed to behavioural changes only as insignificant savings have accrued from the Fuel Efficient Tyres programme to date. The necessary level of private transport energy savings to reach breakeven has been prorated down relative to that of household energy in proportion to the

aggregate household marketing expenditure (11% of household savings, excluding expenditure on fuel efficient tyres).

- Home insulation (private and public benefits): Insulation results in warmer houses and improved health of the occupants. Health benefits have been determined using data from the Motu report¹⁸ and distributed between public benefits (reduced hospitalisations and pharmaceutical costs) and private benefits (reduced mortality). Associated energy savings in this context are insignificant and have been ignored.
- Carbon dioxide reduction (public benefits): Emission reductions associated with the energy savings have been valued at the average value of an NZU in each year of the programme and at \$25 per tonne thereafter.

Breakeven Analysis

The necessary reduction in household and private transport energy consumption has been determined to meet the primary metrics used in EECA's cost-benefit analysis:

- To meet zero net present value (benefit/cost ratio=1): Breakeven is met if household energy consumption is reduced by 0.24% in response to the ENERGYWISE marketing programme (and private transport just 0.03%) without taking into account any benefits from household insulation. The necessary level of energy reduction halves if about 300 insulated houses per year are included in the calculation, which corresponds to about 0.06% of uninsulated housing stock.
- To meet public benefit/public cost ratio=1: This is a more stringent target to meet and requires a reduction in household energy consumption of 2.7% excluding house insulations. This saving is highly sensitive to the assumed number of houses insulated as a result of the programme, reducing to less than 1% if about 1,400 house insulations per year are included or 0.1% for 2,000 houses (about 0.2% and 0.3% of uninsulated houses, respectively).

NPV = 0		Public Benefit/Public Cost = 1	
Houses Insulated per year	Reduction in Household Energy Consumption*	Houses Insulated per year	Reduction in Household Energy Consumption*
0	0.24%	0	2.66%
		1410	0.78%
328	0.11%	1920	0.11%

*Transport fuel 11% of these values

Energy Reductions in Perspective

The required energy savings to meet the primary breakeven analyses are small when placed in the context of:

- Potential economic household energy-efficiency savings are in the order of 19% and over 600,000 houses remain uninsulated (EECA estimates).
- Not all the necessary energy savings are cumulative as behavioural benefits are assumed to last for one year only.

¹⁸ Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme, Motu et al, 2012

- 25% of the householders surveyed in March 2016 indicated they would take some action (with respect to energy savings measures) as a result of seeing The Energy Spot on television¹⁹. People are about twice as likely to take action if they have seen it compared to those that have not.
- Household energy consumption per head of population has declined by 1.2% per annum since 2010, providing an indication of improving residential energy efficiency.

Within this context it is not unreasonable to assume that ENERGYWISE marketing expenditure could achieve the zero net present value threshold given the very low energy savings required. Reaching a breakeven point for the public benefit/public cost ratio is more problematic but is highly sensitive to assumptions regarding houses insulated as a result of the programme.

¹⁹ ECA Consumer Monitor, Quarterly Report: Q3 Jan-Mar 2016, IPSOS

9.5 Appendix Five – Reported actions undertaken

As part of EECA's quarterly Consumer Monitor, survey respondents who say they have seen The Energy Spot and state they have taken action are asked to fill in a text box in response to the following question: "What things have you done as a result of seeing "The Energy Spot"?"

Type of action	Average % of respondents who reported doing it
Energy efficient light bulbs	39.30%
Turn off appliances/lights when not in use	34.30%
Closed curtains/windows/doors	12.00%
Installed better insulation, roof/wall/floor/ceiling insulation unspecified	9.80%
Draught proofing	5.20%
Improved heating	4.10%
Other	4.00%
Changed how appliances are used	3.70%
Refreshed/reminded/increased awareness of	3.40%
More efficient driving	3.20%
Buying/using energy rated/saving appliances	3.20%
Taken extra things out of car	3.00%
Saving power	2.90%
Thicker/better curtains/blinds	2.60%
Opening doors/windows for ventilation	2.50%
DON'T KNOW / NO RESPONSE	2.30%
Turn down/off	2.20%
Looking at/planning/considering	2.20%
Checked existing system	2.00%
Wrapped hot water cylinder and pipes	1.90%
Considered insulation	1.90%
Check fridge seal/door shut	1.70%
Shorter showers	1.60%
Conserve hot water	1.30%

Type of action	Average % of respondents who reported doing it
Tyre pressure checked/added air	1.30%
Check energy ratings	1.20%
Double glazing	1.10%
Decrease moisture/installed dehumidifier/HRV	1.10%
Followed/completed the tips	1.00%
Save water/turn taps off	0.90%
Other vehicles	0.90%
NOTHING	0.90%
Checking/fix taps	0.80%
Other insulation	0.70%
Installed/used timers/thermostats	0.70%
Other hot water	0.60%
Car maintenance	0.60%
Cold washes/use cold water more	0.50%
Fuel efficient tyres	0.50%
Efficient hot water system	0.40%
Use car less	0.40%
Installed/use a heat pump	0.30%
Bought/using efficient vehicle	0.20%
Visited website	0.20%
Changed power supplier	0.20%
Checked energy provider/power bill	0.20%
Awareness/tips for choosing vehicle	0.10%
Use air conditioning less	0.10%