

# NEW ZEALAND

## 1. GOALS FOR EFFICIENCY IMPROVEMENT

### 1.1. Overall Energy Efficiency Improvement Goals

The New Zealand Government's economy-wide energy efficiency target is for New Zealand to continue to achieve a rate of energy intensity improvement of 1.3 percent per annum<sup>1</sup>.

### 1.2. Sectoral Energy Efficiency Improvement Goals

A number of sector-specific goals are in place to help achieve the overall energy efficiency improvement goals set out in the NZEECS:

- **Transport** - By 2016: The efficiency of light vehicles entering the fleet has further improved from 2010 levels
- **Business**
  - By 2016: An improvement in the commercial and industrial sector energy intensity level
  - By 2025: To utilise up to 9.5 PJ per year of energy from woody biomass or direct use geothermal additional to that used in 2005
- **Residential**
  - By 2013: Insulate 188,500 homes under the Warm Up New Zealand: Heat Smart programme (already exceeded: 230,000 expected by end-2013).
  - By 2016: Insulate a further 46,000 homes with high health risk occupants under the new Warm Up New Zealand: Healthy Homes programme.
- **Products** - By 2016: Extend minimum energy performance standards, labelling and EnergyStar product coverage to remain in line with major trading partners.
- **Electricity System** - By 2025: 90 percent of electricity will be generated from renewable sources, providing supply security is maintained.
- **Public Sector** - By 2016: Improve energy use per full-time staff equivalent compared with a 2010 baseline.

### 1.3. Action Plans for Promoting Energy Efficiency

The New Zealand Energy Efficiency and Conservation Strategy (NZEECS) 2011-2016 is the main programme of work for promoting energy efficiency in New Zealand.

#### a) Objectives

The use of energy efficient technology and practices, energy conservation, and renewable sources of energy can:

1. Enhance economic growth through increased productivity.
2. Improve energy security by reducing energy demand, including for imported sources of energy.
3. Assist with energy affordability by reducing consumer energy costs.
4. Defer the need for more expensive energy supply by making better use of existing energy.
5. Reduce greenhouse gas emissions from energy.

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<sup>1</sup>[\*The New Zealand Energy Efficiency and Conservation Strategy 2011-2016.\*](#)

6. Improve people's health, well-being and productivity through warmer and more energy efficient homes.

As such, the New Zealand Energy Efficiency and Conservation Strategy (NZECS) contributes to the delivery of the Government's energy priorities set out in the New Zealand Energy Strategy.

#### **b) Applicable sectors**

Transport, business, residential, products, electricity, and government.

#### **c) Outline**

The NZECS was completed as a requirement of the Energy Efficiency and Conservation Act 2000 and released in August 2011. The NZECS replaced the second Energy Efficiency and Conservation Strategy released in 2007. The Strategy is written as a companion document to the New Zealand Energy Strategy (NZES) and sets out the government's policies and actions on energy efficiency, energy conservation and renewable energy. It gives effect to the energy efficiency, energy conservation and renewable energy objectives set out in the NZES.

The NZECS promotes the careful use of a mix of Government measures, which can be grouped as:

- Information to targeting consumer and business needs.
- Incentives to funding or financial products to help build capability and leverage investment.
- Codes and standards to underpin confidence in energy efficient products and practices.
- Research and development to support innovative capability.

These measures may often be delivered in partnership with industry associations, not-for-profit energy trusts, and other parties. The exact mix of measures adopted by relevant Government agencies to deliver the NZECS will vary according to the scale of the opportunities and the specific needs of stakeholders.

#### **d) Financial resources and budget allocation**

Actions in the NZECS are funded by a range of sources, including the government, private sector, voluntary sector and individuals. In FY2012/13 \$116 million was allocated for the Energy Efficiency and Conservation Authority's work in promoting energy efficiency. This figure is revised annually.

#### **e) Method for monitoring and measuring effects of action plans**

The Minister of Energy and Resources is accountable for the overall performance of the strategy. The Ministry of Business, Innovation, and Employment (MBIE to formerly the Ministry of Economic Development) reports progress on the implementation of the strategy to the Minister. All agencies involved in the implementation of the strategy are accountable for monitoring and report to MBIE on the impacts of their programmes and the contribution to overall strategy objectives.

#### **f) Expected results**

To achieve the goals outlined in sections 1.1 and 1.2

#### **g) Future tasks**

The strategy is amplified in EECA's Statements of Intent, Output Agreements and Annual Reports.

## 1.4. Institutional Structure

### a) Name of organisation

Energy Efficiency and Conservation Authority (EECA) is the principal energy efficiency programme delivery agency.

### b) Status of organisation

EECA is a Crown entity, established under the Energy Efficiency and Conservation Act 2000 and subject to the Crown Entities Act 2004. EECA is governed by a Chairman and Board members (up to a maximum of eight) who report to the Minister of Energy and Resources. EECA acts as a policy maker, regulator, programme funder, and implementer.

### c) Roles and responsibilities

EECA's function is to encourage, promote, and support energy efficiency, energy conservation and the use of renewable energy sources in New Zealand. EECA works closely with government operational and policy agencies to help them design; implement; and monitor policies related to energy efficiency.

MBIE has responsibility for providing high-level energy efficiency policy advice to the Minister of Energy and Resources and monitoring progress towards NZEECS objectives.

The Ministry of Transport and the New Zealand Transport Agency are responsible for most transport-related energy efficiency initiatives with the exception of vehicle fuel consumption labels (see 2.2.3 below). EECA has a Letter of Understanding with the New Zealand Transport Agency regarding the management of fuel consumption information.

Other agencies that share responsibility for energy efficiency include the Ministry of Agriculture and Forestry (renewable fuels, industry); Housing New Zealand Corporation (state housing improvement programmes); Standards New Zealand (for energy efficiency in products/equipment); and the Ministry of Foreign Affairs and Trade (WTO, mutual recognition arrangements, APEC forums, etc.). The New Zealand government also works closely with the Australian Government on product and appliance standards and labelling.

There are 17 regional government authorities (called regional councils and unitary authorities) in New Zealand. Each regional council is required to produce a regional policy statement that covers all natural resources, including energy. The NZEECS must be taken into consideration in the preparation of the regional policy statements. Land transportation strategies must also be consistent with the NZEECS.

### d) Covered sectors

Industry; business; commercial buildings; transport (fuels); residential households; products and equipment.

### e) Established date

2000 as part of the Energy Efficiency and Conservation Act 2000.

### f) Number of staff members

As at 31 May 2013, EECA had 101 permanent staff.

## 1.5. Information Dissemination, Awareness-raising and Capacity-building

### a) Information collection and dissemination

The New Zealand Government conducts monthly surveys to monitor the public's awareness, willingness and commitment to energy efficiency. Brand association and energy use behaviour change is also monitored. Survey results are published on a monthly and quarterly basis. The business sector also publishes case studies to promote energy technologies and behaviour change in industry.

### b) Awareness-raising

Information about energy efficiency is provided to New Zealanders through a number of channels. The main mechanisms include:

- An integrated strategy of marketing and communications which has three distinct actions:
  - Integrated brand architecture and the formation of a clear brand management strategy.
  - An integrated marketing and communications budget.
  - The consolidation of EECA's websites from seven to three integrated websites focusing on EECA's three distinct audiences of people at home, businesses and our corporate stakeholders. These are:
    - EECA (corporate website) [www.eeca.govt.nz](http://www.eeca.govt.nz)
    - ENERGYWISE (consumer-focussed website) [www.energywise.govt.nz](http://www.energywise.govt.nz)
    - EECA Business (all businesses) [www.eecabusiness.govt.nz](http://www.eecabusiness.govt.nz)
- The *Energy Spot* television programmes that cover topics such as hot water wastage; energy efficient renovation; saving fuel in business; and choosing efficient lighting. There are currently over thirty programmes available to be viewed at: <http://www.energywise.govt.nz/resource-centre/videos/>.
- Sponsorship of a popular New Zealand reality television series *Mitre 10 Dream Home*. Mitre 10 Dream Home is one of the most widely watched reality TV shows in New Zealand. It features two families renovating (in the 2013 series, building) their dream home. The series attracts over two million viewers. EECA is a key sponsor for the 2013 series (as it was in 2009) which ensures that energy efficiency is a key component of the series. There are 20 core messages around energy efficiency that have been built into the series, and the weekly judging of each team will also include a score on energy efficiency. Energy efficiency will also be discussed by the show's host and teams, on-screen graphics will include energy efficiency, and there will be a strong ENERGYWISE brand presence, as well as links to the ENERGYWISE website.
- The Right Light website ([www.rightlight.govt.nz](http://www.rightlight.govt.nz)) provides facts about energy efficient lighting including information about available technologies and choice, electricity savings, safety and design, and application. The site covers residential, business and trade sectors and also includes a specific and detailed section on street lighting for use by territorial authorities across New Zealand. Interactive tools allow consumers to evaluate the cost and potential electricity savings of energy efficient lighting in homes and businesses.
- Product and appliance labelling programmes including vehicle fuel economy labelling and Energy Star.
- The EECA Awards that celebrate and promote energy efficiency practices in communities, businesses and industry: [www.eeca.govt.nz/node/16279](http://www.eeca.govt.nz/node/16279)
- A number of e-zine electronic newsletters designed for different audiences.
- A range of marketing and advertising campaigns for print, radio and television.

### c) Capacity-building

Building the capacity of the energy services sector to help businesses identify and implement cost effective efficiency measures is seen as key to achieving the Government's energy saving targets.

Capacity building interventions in the business sector have traditionally been delivered by Universities and Technical Institutes, mostly as part of wider engineering courses. More recently, focus has increased on developing specific energy management training in the following areas of high economic potential:

- **Commercial buildings:** Courses are in place to improve electricity management and efficiency in the commercial building services industry – targeting energy specialists, facilities managers and commercial property valuers. Courses are delivered by the Energy Management Association New Zealand (EMANZ) which is an industry association of energy management experts including energy auditors, energy managers and suppliers of energy efficiency products and services.
- **Industrial sector:** The University of Waikato delivers training and accreditation programmes in pumps, fans and compressed air system efficiency.
- **Lighting Sector:** Massey University delivers specialist training in the science and engineering of lighting with a focus on electricity efficiency.
- **Transport:** EECA's Heavy Vehicle Fuel Efficiency Programme is designed (amongst other things) to improve the fuel efficiency of heavy vehicle fleets through expert advice and driver training. EECA trains independent and in-company fuel advisors and trainers. (In 2013/14, EECA will look to extend the programme into smaller fleets of heavy vehicles and to promote fuel efficiency in light commercial fleets.)

EECA has provided financial support and advice for an industry-led residential rating tool, HomeStar, which rates the performance of a property based on its energy efficiency, health and comfort, water consumption, waste minimisation, home management and site location. The online tool allows the homeowner to conduct a self assessment of their property. The assessment gives an indication of the home's performance and suggestions of ways to make improvements. Should the homeowner decide to sell the property, and want to advertise the rating of the property, then an audit by a qualified auditor will provide the property with an independent certification of a rating, which may be used in the sales process.

Under the Warm Up New Zealand: Heat Smart programme (WUNZ:HS), service providers have been required by EECA to provide proof that they have the internal capacity and capability to deliver the programme to the standard required. Applicants have been assessed on that criterion by an independent evaluation panel and reviewed annually to ensure they have ongoing capacity to deliver the programme to standards.

EECA financially supports the Insulation Association of New Zealand (IAONZ) which has developed a four-stage training module for insulation installers.

### **Research and Development in Energy Efficiency and Conservation**

The lead agency for government's policy on research and development is the Science and Innovation Division of MBIE (the functions of the former Ministry of Science and Innovation, together with some other agencies, were integrated into the new Ministry of Business, Innovation, and Employment which came into existence on 1 July 2012). It has the mandate to transform New Zealand by driving science and innovation to increase our economic, environmental and innovation sector.

In New Zealand 70% of energy is consumed by businesses. EECA Business works with companies and the public sector to improve energy efficiency, energy management and uptake of renewable energy. A key driver is to maximise cost-effective energy savings and the co-benefits for New Zealand businesses, and to stimulate the uptake of both large and

small-scale renewable energy. Its objectives and targets are set out in the NZEECS and are to enhance business growth and competitiveness from energy intensity improvements.

EECA Business has four areas of priority:

1. Commercial buildings ó targeting lighting, HVAC and refrigeration;
2. Industrial ó targeting motorised systems and processed heat;
3. Business transport ó targeting more efficient fuel use; and
4. Lighting ó targeting more efficient lighting technology in businesses and on New Zealand's road

The programmes are designed to overcome market barriers and broadly fit into three groups:

- Capability initiatives ó training and accreditation programmes for service providers, and training programmes for end users and key influencers;
- Information initiatives ó business information programmes, rating / labelling programmes; and
- Funding initiatives ó audit and works funding programmes, product-based subsidy programmes (lighting), and alternative funding programmes (such as Crown Loans).

EECA also administers an internal research programme. This programme focuses on providing research in the following areas:

- Better information ó energy efficient technology research
- Research energy end use in industrial, commercial and residential buildings
- Primary production and manufacturing sector energy end use research
- Macro-economic modelling of energy efficiency potentials
- Behaviour change research and understanding end user service needs.

## 2. MEASURES FOR ENERGY EFFICIENCY IMPROVEMENTS

### 2.1. Government Laws, Decrees, Acts

#### a) Name

*Energy Efficiency and Conservation Act 2000*

#### b) Purpose

The Act is the legislative basis for promoting energy efficiency, energy conservation, and renewable energy in New Zealand. The Act can be found at:

[www.legislation.govt.nz/act/public/2000/0014/latest/whole.html#d1m54948](http://www.legislation.govt.nz/act/public/2000/0014/latest/whole.html#d1m54948)

#### c) Applicable sectors

Undefined

#### d) Outline

The Act established the Energy Efficiency and Conservation Authority (EECA) as a stand-alone Crown entity with an enduring role to promote energy efficiency, energy conservation, and renewable energy across all sectors of the economy. It empowers the preparation of regulations implementing product energy efficiency standards and labelling, as well as disclosure of information to compile statistics on energy efficiency, energy conservation, and renewable energy. The Act provides the enabling legislation for the NZEECS.

#### e) Financial resources and budget allocation

The funds allocated vary each budget year. EECA's budgeted figures are confirmed by its Statement of Intent published annually. Funding comes from several sources including the government, private sector, voluntary sector and individuals. These funds cover all costs

including administration, grants and financial assistance. In 2006/07, the figure was NZD 22,697,000; 2007/08 NZD 36,361,000; 2008/09 NZD 52,124,000; 2009/10 NZD 83,173,000; 2010/11 was NZD 150,960,000; in 2011/12 was NZD 155,761,000; and in 2012/13 was \$116,040,000.

#### **f) Expected results**

To promote energy efficiency, energy conservation and the use of renewable energy sources in New Zealand.

## **2.2. Regulatory Measures**

### **2.2.1. Minimum Energy Performance Standards (MEPS) and Labelling**

#### **a) Name**

*Energy Efficiency (Energy Using Products) Regulations 2002*

#### **b) Purpose**

To reduce energy demand; to enhance economic growth through improved productivity; and to provide savings to the end-user by improving the energy efficiency of a product class. This will be achieved through setting MEPS that result in improvements to the most energy intensive models available for sale in a product class and category; and requirements to display energy performance labels. The programme stimulates the production and purchase of more energy efficient products whilst ensuring a range of products is available to meet consumer needs. It is a joint Australia-New Zealand programme that offers industries in both economies improved economies of scale and reduced business compliance costs.

#### **c) Applicable sectors**

All energy using products but particularly appliances, lighting, and equipment in the residential, commercial and industrial sectors.

#### **d) Outline**

Energy Efficiency (Energy Using Products) Regulations were first published in 2002. The New Zealand Government entered into the Equipment Energy Efficiency Programme (E3) with Australia in 2004-05. MEPS and labelling are the main mechanisms the E3 uses to improve product efficiency where requirements are set out in energy performance standards. The standards set out the testing method to establish a product's energy performance and consumption. All covered products must meet or exceed this standard before they can be sold to consumers. The E3 jointly funds:

- The profiling of products and technologies on the market and assessments of their energy efficiency potential
- Cost benefit analysis of options for intervention
- Consultation documents and regulatory impact statements
- Development and publication of joint Australia/New Zealand standards
- Compliance testing of products
- Marketing and Communications.

Labelling is mandatory for the following electrical products offered for sale in New Zealand:

- Refrigerators and freezers
- Clothes washers
- Clothes dryers
- Dishwashers
- Air conditioners

- Televisions

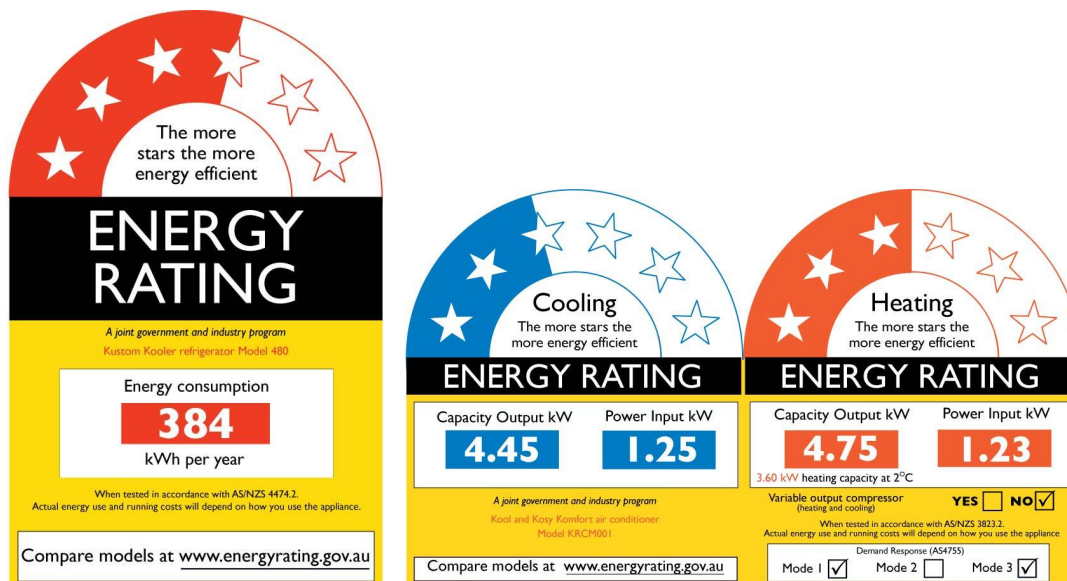
The following products are also regulated on the basis of Minimum Energy Performance Standards (MEPS).

- Refrigerators and freezers (revised 2011)
- Mains pressure electric storage water heaters (from 2002)
- Small mains pressure electric storage water heaters (<80L) and low pressure and heat exchanger types (from 1 October 2005)
- Three-phase electric motors (0.73kW to <185kW) (from 1 October 2001, revised April 2006)
- Single-phase air conditioners (from 1 October 2004, revised 1 April 2006, 2007, 2011 and 2013)
- Three-phase air conditioners up to 65kW cooling capacity (from 1 October 2001, revised 1 October 2007, 2011 and 2013)
- Distribution transformers (from 1 October 2004)
- Ballasts for linear fluorescent lamps (from 1 March 2003). In addition to MEPS, ballasts also have to be marked with an energy efficiency index (EEI)
- Linear fluorescent lamps from 550mm to 1500mm inclusive with a nominal lamp power >16W (from 1 October 2004)
- Commercial refrigeration (self contained and remote systems) (from 1 October 2004)
- Compact fluorescent lamps (from 2012)
- External power supplies (from 2011)
- Set top boxes (from 2011)
- Televisions (from 2012)
- Commercial building chillers (from 2011)
- Close-control air conditioners (from 2011)
- Gas water heaters (from 2011).

The following products have been identified through the E3 programme as potential areas for regulation in the future. This is subject to favourable cost-benefit analysis, regulatory process and approval from the relevant Ministerial level Council in Australia and the New Zealand Cabinet.

- Standby power
- Home entertainment products
- Information and communication technology products (including computers and monitors)
- Gas products (including space and water heating products)
- Industrial products
- Hot water (solar and heat pump water heating)
- Heating and cooling products (various types of air conditioning).





### e) Financial resources and budget allocation

NZD 3.5 million a year is allocated to MEPS and labelling, ENERGY STAR and Vehicle Fuel Economy Rating.

### f) Expected results

To date, measured results are 16.6 PJ and NZD \$1b from the start of the programme in 2002 till March 2012. Annual savings are currently around 4 PJ per annum, which is increasing each year.

## 2.2.2. Fuel Efficiency Standards

### • Name

Vehicle Fuel Economy Labelling

### • Purpose

To achieve reductions in fossil fuel demand and emissions, and savings to end users, through improving the average fuel efficiency of the vehicle fleet

### • Applicable sectors

Transport

### • Outline

- The Energy Efficiency (Vehicle Fuel Economy Labelling) Regulations were first published in 2007. The labels must be displayed on all new and used cars available for sale through registered motor vehicle traders and on Internet listings, provided the information is available. They are intended to allow consumers to make informed decisions about purchasing a car. The label displays a star rating out of six, where six stars indicates the most fuel efficient cars; the indicative cost of running the vehicle and the vehicle's fuel economy. A voluntary version of the label was introduced in 2011 for electric vehicles. **Financial resources and budget allocation**

See 2.2.1 e.

### • Expected results



As of writing 80% of vehicles are able to have labels printed at the trader site and the proportion of consumers influenced by VFEL (at point of purchase), as demonstrated by consumer research, is measured at 55%.

### 2.3. Voluntary Measures

#### a) Name

*ENERGY STAR*

#### b) Purpose

To achieve reductions in energy demand and energy-related GHG emissions and savings to the end user through stimulating the uptake of, demand for, and marketability of high efficiency products.

#### c) Applicable sectors

Residential and commercial.

#### d) Outline

The ENERGY STAR™ concept was developed by the US Environmental Protection Agency in 1992 as a voluntary labelling programme designed to promote energy efficient products to reduce GHG emissions. It provides an independent endorsement mark for high-efficiency products that can be used by industry/retail partners in product labelling, promotional material and advertising.

New Zealand became a licensed partner for ENERGY STAR™ in 2005 and has both adopted United States specifications and developed New Zealand specifications for certain product classes. Products covered include whiteware, home electronics, office equipment, air conditioners, solar water heating, and some types of lighting.

ENERGY STAR™ rated heat pumps (air conditioners) are the only products specified for use under the Warm Up New Zealand: Heat Smart insulation and clean heating programme.

#### e) Financial resources and budget allocation

See 2.2.1 e.

#### f) Expected results

The proportion of consumers aware of the ENERGY STAR brand is 79% and consumer understanding of the ENERGY STAR brand is 55%.

#### a) Name

*NABERS NEW ZEALAND*

#### b) Purpose

Improve energy performance in Commercial Buildings

#### c) Applicable sectors

Commercial buildings.

#### d) Outline

NABERSNZĪ is a tool to help property owners and tenants assess and improve building energy performance. The scheme rates commercial building energy use on a scale of one to six, with certified ratings being issued on the level of energy performance.

## 2.4. Financial Measures Taken by the Government

### 2.4.1. Tax Scheme

New Zealand does not have a tax scheme for stimulating energy efficiency improvements.

### 2.4.2. Low-Interest Loans

**a) Name**

*Crown Energy Efficiency Loan Scheme*

**b) Purpose**

To improve central government energy efficiency and ensure greater value for money from the public sector

**c) Applicable sectors**

Government (central)

**d) Outline**

The scheme was introduced in 1989 and provides funds to government agencies to encourage investment in energy efficiency measures in their building, facilities and vehicle fleets. The loans are repaid by the recipient department/agency over a calculated payback period. The enduring energy savings accrue to the recipient for the remaining life of the project or measure.

**e) Financial resources and budget allocation**

EECA provides \$2million per year baseline funding for Crown loans for Government organisations (public sector including health and local govt) for energy efficiency, technology or renewable energy initiatives.

**f) Expected results**

Expected results are improved government energy improvements (savings) of around \$4 million per year.

### 2.4.3. Subsidies and Budgetary Measures

**a) Name**

*Warm Up New Zealand: Heat Smart Programme*

**b) Purpose**

To improve energy efficiency in the residential sector; improve the health of people living in cold, damp houses; stimulate the market for energy efficiency services, including employment in the insulation manufacturing the installation industries; and reduce economy-wide energy demand.

**c) Applicable sectors**

Residential

**d) Outline**

The New Zealand Insulation Fund was announced by the New Zealand government on 28 May 2009 and came into effect on 1 July 2009 as Warm Up New Zealand: Heat Smart. It has been the centrepiece energy programme in the residential sector (but is soon to be replaced by a new insulation programme ó Warm Up New Zealand: Healthy Homes - please see below). Funding under this programme has been provided to fit homes with insulation and clean heating devices such as heat pumps and approved wood burners, and to remove or decommission non-compliant (dirty) fires and burners.

The programme met 33% of the cost (up to NZD 1300 including tax) of installing ceiling and under-floor insulation to all households living in houses built before 2000. Households with sufficient ceiling and under-floor insulation were also eligible for clean heating device funding of up to NZD 500. Lower-income households (i.e. Community Services Card holders) were eligible for more funding – 60% of the total cost of insulation and NZD 1200 toward a clean heating appliance (provided the home was insulated). Landlords with Community Services Card holding tenants could also get the 60% subsidy and up to NZD 500 for the clean heating device if the home was insulated.

The programme also worked on a co-funding basis with a range of partners: local government; Iwi (Maori); service providers; local public health providers; charitable trusts, and energy retailers. Working with these partners, EECA will have retrofitted over 230,000 houses over the four years of the programme by the time it ceases around September 2013. Between \$15 and \$20 million per annum in private sector third party funding raised under the programme has assisted low income households.

Generally, third party funding has applied to low income households to cover the 40% of the costs of insulation not provided by the programme. Different funders provided different mechanisms and eligibility criteria for their funding. For example, some territorial local authorities provided funding via a targeted rate on a rateable property for all households, not just low income households. Other funders provided direct contributions via Service Providers for low income households with health referrals from local doctor's offices, for example.

The programme included a two-year independent evaluation programme that measured the effectiveness and efficiency of delivery and achievement of energy, health and economic outcomes. The longer-term goals for the Fund were: energy savings, health benefits, and stimulating the supply and demand side for energy efficiency upgrades.

#### **e) Financial resources and budget allocation**

The government allocated NZD 323 million over four years in the 2009 Budget. In November 2009, the government announced that the programme would be enhanced by an additional NZD 24 million targeted exclusively at low-income families.

#### **f) Expected results**

230,000 homes insulated when the programme ends towards the end of 2013; 40,000 homes with clean heating devices. An independent evaluation of the Warm Up New Zealand: Heat Smart programme by *Motu*<sup>1</sup> showed the greatest benefits from insulation are for people on low-incomes and facing a higher risk of health issues. The major assessed benefit from the programme is in improved health resulting largely from warmer, drier conditions after insulation is installed. Reduced mortality comprises around 74% of the assessed health benefit along with a drop in hospitalisation rates and costs, particularly in relation to asthma, respiratory and circulatory illnesses. Other benefits include avoided pharmaceutical costs, reduced absenteeism from school and work, and fewer medical visits.

The evaluation of the programme found that 85% of the insulation uptake has been additional to the background market rate and is therefore directly attributable to the programme. That equates to an additional 6.6 million m<sup>2</sup> of insulation and an additional \$35-53 million in producer surplus annually, worth \$192 million (NPV 4% discount rate) over the four years of the programme.

#### **a) Name**

*Warm Up New Zealand: Healthy Homes*

#### **b) Purpose**

To improve energy efficiency in the residential sector; improve the health of people living in cold, damp houses by targeting low-income households for home insulation, particularly those families with children and high health needs.

**c) Applicable sectors**

Residential

**d) Outline**

Warm Up New Zealand: Healthy Homes is a new three-year government insulation programme delivering about 46,000 warmer, drier and healthier homes. The programme will be targeted at households (including renters) that have a Community Services Card and are at high health risk. High health risk includes children, the elderly and people at risk of cold-related illness. EECA will team up with project partners to target communities known to be at high risk from illnesses linked to cold, damp housing. The programme will provide grants for up to 60% of the cost of insulation. Project partners, such as trusts, primary health organisations, and iwi, will top up the government grants. Projects will be based on local priorities.

EECA will roll out projects progressively from August 2013, after a request for proposals, evaluation of projects and contract negotiations in May/June/July 2013.

**e) Financial resources and budget allocation**

The Government is investing \$100 million over three years and more than \$50 million funding is expected to come from project partners, such as trusts, iwi, and other community organisations.

**f) Expected results**

About 46,000 homes will be insulated under the programme.

**a) Name**

*Commercial Buildings Audit and Works Programmes*

**b) Purpose**

To encourage commercial building owners to undertake efficiency measures that would otherwise not have occurred due to capital constraints.

**c) Applicable sectors**

Commercial.

**d) Outline**

Part-funding (up to 40%) is provided for energy efficiency projects in commercial buildings where there is a genuine financial barrier preventing the project occurring. Projects are delivered through contracted service providers, sourced by way of a RFP process. Electricity savings are guaranteed (90%) with repayment mechanisms in place for any shortfalls. Although most providers focus on multiple project types & technologies, some focus exclusively on one type (e.g. lighting, continuous commissioning, monitoring & targeting).

**e) Financial resources and budget allocation**

NZD 4.0 million in grant funding for fiscal year 2012/13.

**f) Expected results**

The commercial programme is currently delivering annual savings of around 0.5 PJ a year; at a cost to Government of around 25% of the cost of building new supply assets.

#### 2.4.4. Other Incentives

##### a) Name

*Efficient Lighting*

##### b) Purpose

To encourage uptake of efficient lighting technologies.

##### c) Applicable sectors

Residential, Commercial

##### d) Outline

EECA provides a range of subsidies aimed at increasing the uptake of efficient lighting across the residential and business sectors. The programme supports the RightLight information and capability building programme. The Rightlight Programme is a subset of the efficient lighting programme.

##### e) Financial resources and budget allocation

\$2.281 million in fiscal year 2013/14

##### f) Expected results

1.6 PJ energy savings pa by 2012 and 25% increase on that in 2013.

##### a) Name

*Compressed Air Scheme*

##### b) Purpose

To increase the efficiency of compressed air systems in the New Zealand industry.

##### c) Applicable sectors

Commercial and Industrial

##### d) Outline

Funding is provided for two levels of audits on large compressed air systems ( $\geq 75\text{KW}$ ) ó a basic walk-through audit of the plant/ system, and an in-depth audit. Auditors must be accredited Compressed Air Systems auditors (trained through a programme referred to in the capacity building section above). The walk-through audit is primarily aimed at identifying and quantifying the opportunity for savings on a site. Some specific recommendations will arise from this as well as an assessment of whether an in-depth audit is justified. Follow-ups are performed after 6 and 12 months to determine the level of savings achieved.

For the smaller, less than 75KW air compressor stock, predominantly at automotive tyre and paint repair shops, EECA has introduced a simple Air Energy Ratings Scheme (AERS) that is delivered by service companies as part of their maintenance schedules and value offer to their clients. There is no grant funding for the AERS.

##### e) Financial resources and budget allocation

NZD \$0.5 million for the fiscal year 2012/13.

##### f) Expected results

The Compressed air programme is currently delivering annual savings of around 0.1 PJ a year; at a cost to Government of around 15% of the cost of building new supply assets.

**a) Name***Heavy Vehicle Fuel Efficiency Programme***b) Purpose**

To improve the vehicle efficiency of the heavy vehicle fleet.

**c) Applicable sectors**

Commercial

**d) Outline**

This programme provides fleet reviews and funding to implement fuel saving initiatives (such as driver training and monitoring and reporting tools) for businesses with fleets consuming more than 500,000 litres per annum. Businesses are eligible for a government funded grant of up to 100% of the audit and up to 50% of any implemented fuel saving measures. Monitoring and case study information is collected by EECA.

**e) Financial resources and budget allocations**

No information available.

**f) Expected results**

0.25 PJ of energy savings in 2015.

**2.5. Energy Pricing**

New Zealand's energy sector is guided by free market principles. As an independent Crown entity, the Electricity Authority regulates the operation of the electricity market.

Since New Zealand's pricing is market-based, its effect on energy efficiency improvement programmes varies with fluctuating supply and demand for energy. Generally, when energy prices increase because of weather conditions (for example a drought decreases hydroelectricity generation, New Zealand's primary source of electricity) or global fuel prices, people are more likely to adopt more energy efficient behaviour.

**2.6. Other Efforts for Energy Efficiency Improvements****2.6.1. Cooperation with other Government Organisations**

MBIE and EECA work closely with the Ministry of Health, Ministry of Social Development, Ministry for the Environment, Ministry of Transport, Ministry of Agriculture and Forestry, Housing New Zealand and Statistics New Zealand. EECA also works closely with local government and District Health Boards.

**2.6.2. Cooperation with Non-Government Organisations**

In general, non-government organisations (NGOs) and community energy groups in New Zealand have good knowledge and awareness of energy efficiency improvement programmes implemented by the central government under the NZEECS. NGOs have established partnerships with central agencies to realise the goals of the NZEECS in certain areas. Central government agencies have been providing financial and technical support to local governments in implementing energy efficiency and renewable programmes. Local governments are currently focused on energy efficiency improvement efforts to lower or maintain their energy expenditures, while NGOs are focused on the alleviation of fuel poverty and improving health outcomes among lower-income families. Through EECA, NGOs/community and energy groups, are implementing the Warm Up New Zealand: Heat Smart Programme and are able to use local networks to assist in reaching more participants.

### 2.6.3. Cooperation through Bilateral, Regional and Multilateral Schemes

The New Zealand government cooperates with other economies and New Zealand agencies on energy efficiency, including:

- The Australian Department of Resources, Energy and Tourism (DRET) and Australian State Regulators through the E3 committee to set joint standards and regulatory requirements for appliances and equipment.
- APEC and International Energy Agency (IEA) membership and forums.
- Energy Regulators Advisory Council (Australia and New Zealand) to align regulations for energy using products such as gas/electrical safety and radio spectrum management.
- The Commonwealth Scientific and Industrial Research Organisation (CSIRO, Australia).
- Regulators Forum.
- WTO TBT notification.

### 2.6.4. Other Cooperation/Efforts for Energy Efficiency Improvements

Through the Warm Up New Zealand: Heat Smart programme and with the Warm Up New Zealand: Healthy Homes programme, EECA has, and will have, contractual agreements with private service providers to safely install insulation and clean heating measures into homes.

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