NEW ZEALAND

1. GOALS FOR EFFICIENCY IMPROVEMENT

1.1. Overall Energy Efficiency Improvement Goals

The programs contained in the New Zealand Energy Efficiency and Conservation Strategy (NZEECS) are expected to support the attainment of the following goals[1]:

- Savings of 30 petajoules (PJ) in non-transport energy by 2025
- 9.5 PJ of additional direct use renewable energy a year by 2025
- Savings of 20 PJ in the transport sector by 2015
- 90% of total electricity generation from renewable sources by 2025.

In addition, the Government has agreed in principle under the NZEECS to halve the 2007 per-capita greenhouse gas emissions in the transport sector.

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.

Table 1. Sector goals

	Goals					
Sector	PJ	CO_2	Energy savings (NZD)	Other	Goal year	Base year
Households	3.45	0.67 Mt	2012: 47m year 2025: 110m a year	NZD 97 million health benefits	2025	
Products/ Equipment	14.5	2.81 Mt	230m a year		2025	
Industry (including renewable energy promotion)	2012: 2.4 2025: 10.5	2009: 0.0014 Mt 2012: 0.272 Mt 2025: 0.6 Mt			2025	
Commercial buildings	1.0	0.194 Mt a year			2025	
Transport	175.1 – represented by 4.826 million litres of fuel	2025: 11.8 Mt 2040: reduce per capita GHG in transport by 50%	333m by 2033 from vehicle fuel economy		2025	2007
Power generation				90% renewable electricity generation	2025	
Government				Six lead core public service agencies to be carbon neutral, the other 28 major agencies on the way to carbon neutrality	mid-2012	2007

1.3. Action Plans for Promoting Energy Efficiency

The New Zealand Energy Efficiency and Conservation Strategy (NZEECS) is the main program of work for promoting energy efficiency in New Zealand. The strategy can be accessed at www.eeca.govt.nz/sites/all/files/nzeecs-07.pdf.

a) Objectives

The NZEECS provides government leadership for the energy sector to respond to the challenges of energy security and climate change. It establishes the action plan for energy efficiency and conservation actions in New Zealand to support the increased uptake of energy efficiency and renewable energy. The strategy also assigns responsibility for the delivery of

[1]New Zealand government (2007).

each action to a central or local government agency. The overarching goals of the strategy are listed in section 1.1.

b) Applicable sectors

Transport, residential, business, renewable electricity and government

c) Outline

The NZEECS was completed as a requirement of the Energy Efficiency and Conservation Act 2000 and released in October 2007. The NZEECS replaced the inaugural National Energy Efficiency and Conservation Strategy released in 2001. The Strategy is written as a companion document to the New Zealand Energy Strategy (NZES) and sets out the government's detailed 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 aims for New Zealand, set out in the NZEECS, were:

- Warm, dry, healthy homes, improved air quality and reduced energy costs through:
  - Insulation
  - Energy efficiency
  - Clean heat retrofits or upgrades
  - Minimum energy performance standards (MEPS) and ENERGY STAR™ labelling for an increased number of product categories.
- To make businesses more energy efficient and competitive by using more renewable energy and emitting less carbon dioxide through:
  - Expanding the Emprove and Energy Intensive Business programmes
  - Implementing energy efficiency training for workers
  - Expanding the woody biomass programme
  - Measuring the potential for energy efficiency improvements in the rural sector
  - Increasing the uptake of energy efficiency measures in the rural sector.
- To increase the overall energy use and greenhouse gas emissions from New Zealand's transport system by:
  - Reducing the per capita transport greenhouse gas emissions
  - To widely deploy electric vehicles
  - To cut kilometres travelled by single occupancy vehicles
  - To increase the use of biofuel capable and electric cars
  - To investigate options for improving New Zealand's North Island main trunk line.
- To improve New Zealand's efficient and renewable electricity system by:
  - Having 90 percent of electricity generated from renewable sources by 2025.
- For Government to lead the way through:
  - Public sector carbon neutrality
  - Reducing fleet emissions
  - Reducing energy use per employee in core public sector buildings
  - Cutting workplace travel by core public service departments
  - Providing support to local government in delivering NZES and NZEECS programs.

The NZES and NZEECS are now being updated. The Minister of Energy and Resources announced his intention to update these strategies in February 2009 and August 2009,

respectively. A draft of the updated New Zealand Energy Strategy and the New Zealand Energy Efficiency and Conservation Strategy will be released for public consultation in 2010.

d) Financial resources and budget allocation

Actions in the NZEECS are funded by a range of sources, including the government, private sector, voluntary sector and individuals. In 2007, an initial outlay of NZD 184 million over five years was devoted to the strategy. This figure is revised annually and includes the operating costs of the Energy Efficiency and Conservation Authority (EECA).

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 Economic Development (MED) reports progress on the implementation of the strategy to the Minister as published annual progress reports. All agencies involved in the implementation of the strategy are accountable for monitoring and report to MED on the impacts of their programs 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 Statement of Intent and Annual Reports.

1.4. Institutional Structure

a) Name of organisation

Energy Efficiency and Conservation Authority (ECAA)

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 seven Board members who report to the Minister of Energy and Resources. EECA acts as a policy maker, regulator, program funder and implementer.

c) Roles and responsibilities

EECA is the main agency responsible for helping deliver the government's energy efficiency agenda. Its function is to encourage, promote and support energy efficiency, energy conservation and the use of renewable energy sources in New Zealand.

d) Covered sectors

Industry, commercial buildings, agriculture, transport (fuels), households, products and equipment, research and promotion, monitoring and reporting of energy efficiency/renewable energy data

e) Established date

2000 as part of the Energy Efficiency and Conservation Act 2000

f) Number of staff members

As at 1 July 2009, EECA had 110 full time equivalents (FTEs).

EECA works closely with government operational and policy agencies to help them design; implement; and monitor policies related to energy efficiency.

The Ministry of Economic Development (MED) has primary responsibility for providing energy policy advice to the Minister of Energy and Resources. It is also responsible for monitoring EECA and ensuring integration between EECA and the Electricity Commission in delivering energy efficiency programs.

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

Statistics New Zealand is responsible for the compilation of energy statistics. The Energy Domain Plan is a joint initiative between Statistics New Zealand, MED and EECA to assess the state of energy data and identify initiatives to help fill in information gaps.

The Electricity Commission's role is to oversee and regulate New Zealand's electricity industry and markets. It promotes and facilitates electricity efficiency and conversion in the areas of lighting, industry (electric motors and compressed air) and commercial buildings. The Electricity Commission has a Memorandum of Understanding with EECA to demarcate responsibilities and minimise duplication. In 2009, the Minister of Energy and Resources indicated that the electricity efficiency functions of the Electricity Commission would transfer to the EECA in 2010.

Other agencies that share responsibility for energy efficiency include the Ministry of Agriculture and Forestry (renewable fuels, industry); Department of Building and Housing (Building Code); Ministry for the Environment (clean heat grants to improve air quality); Ministry of Health (ENERGYWISE™ homes); Housing New Zealand Corporation (state housing improvement programs); 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 12 regional government authorities (called regional councils) 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. Four regional councils have chosen to produce separate energy action plans in addition to their policy statements. Regional councils are granted low interest loans for energy efficiency improvements under the Crown Loan Scheme. EECA also collaborates with regional authorities on many regional energy efficiency projects. Government actions are coordinated through the Senior Energy Official Group and Energy Data Analysis and Coordination Group.

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:
  - An 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.

- The 'Energy Spot', a series of one minute televisions programs giving New Zealanders practical, useful tips to make the most of the energy used in homes, businesses and vehicles
- The Right Light website (www.rightlight.govt.nz) provides facts about energy efficient lighting including information about available technologies and choice, electricity savings, safety and design and application. 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 biennial AA ENERGYWISE™ rally, aimed at raising awareness of energy efficiency practices in driving and transportation—www.aaenergywiserally.org.nz/
- EECA Awards that celebrate and promote energy efficiency practices in communities, businesses and industry—www.eeca.govt.nz/node/1243
- The EECA News Magazine that is distributed to stakeholders—www.eeca.govt.nz/about-eeca/news-and-events/news
- A range of marketing and advertising campaigns for print, radio and television.

c) Capacity-building

EECA has worked with the Solar Industries Association (SIA) to assist with training and accreditation of solar installers. Training is now carried out through New Zealand polytechnics and the SIA is a stand-alone organisation.

EECA has contracted the Association of Building Sustainability Assessors (ABSA) to provide assessor training and accreditation services for the voluntary home energy rating scheme.

Under the Warm Up New Zealand: Heat Smart programme (WUNZ:HS), service providers are required to provide proof that they have the internal capacity and capability to deliver the program to the standard required. Applicants were assessed on that criterion by an independent assessment panel.

EECA supports the Insulation Association of New Zealand (IAONZ) which is developing a training module for members' installers.

The Energy Management Association New Zealand (EMANZ) is an industry association of energy management experts including energy auditors, energy managers and suppliers of energy efficiency products and services. EECA supports EMANZ in appointing an Executive Officer and developing a self-sustaining business model over three years. The Electricity Commission also supports EMANZ to administer its Compressed Air Systems auditor scheme.

The Tertiary Education Commission is delivering a three-year program to develop a comprehensive set of energy management qualifications or competency standards at a trade, technical or tertiary level in New Zealand. The Sustainable Energy in the Domestic and Commercial Environment (SEDCE) programme focuses on training and qualification development in the wider commercial sector. The SEDCE will identify skills and develop qualifications through the use of Industry Training Organisations.

1.6. Research and Development in Energy Efficiency and Conservation

New Zealand uses international research on energy efficiency and conservation while carrying out its own research to establish potential solutions for its distinctive mix of energy resources, infrastructure and cost structure. The government's policy on research and development is set out in chapter 11 of the New Zealand Energy Strategy—Sustainable energy technologies and innovation.

There are a number of EECA programs that provide funding for energy efficiency research and development that are aimed at energy intensive businesses. The programs promote energy efficient and renewable energy technologies to business and disseminate knowledge on the cost effectiveness of different technologies and industrial processes. Businesses that use and sell wood energy are also eligible for funding to undertake feasibility studies and supply and demand initiatives. EECA is also looking to develop knowledge and widen access to woody biomass information resources by increasing the potential availability of woody biomass and the development of the Bio energy Knowledge Centre (www.bkc.co.nz/).

In terms of renewable energy, EECA administers the contestable Marine Energy Deployment Fund (MEDF) which was set up to bring forward the development of marine energy in New Zealand waters. The MEDF was established as part of the NZ Energy Strategy to accelerate innovation and assist with the costs associated with concept testing and device deployment.

In addition, EECA administers the Distributed Generation (DG) Feasibility Fund. The fund partially funds DG feasibility studies. The objectives of the fund were to: address the resource and opportunity information barrier faced by developers; help test the DG market to identify potential cost effective niches; build up a body of real world evidence and knowledge about barriers to uptake; and to support projects that are close to being viable but which have failed to attract investment as a result of barriers to uptake.

For renewable transport fuels, EECA administers the Biodiesel Grants Scheme. The purpose of is to encourage the adoption of environmentally responsible fuels that reduce greenhouse gas emissions in the transport sector, diversify the fuel market and level the playing field between the two principal biofuels – bioethanol and biodiesel.

Research

The New Zealand government carries out research and development activities through two agencies. The Ministry of Research, Science and Technology (MORST) undertakes research to help in the development of science-related policy. The Foundation for Research, Science and Technology (FRST) distributes public sector investments to public- and private-sector institutions, such as universities. Other institutions involved directly and indirectly in research and development activities include the Inland Revenue Department; Ministry of Economic Development; Ministry of Research, Science and Technology; and Ministry of Transport.

Central government funding in energy research and development for 2008 was NZD 18 million through FRST. In addition, NZD 8 million has been dedicated over four years for marine generation devices, NZD 12 million over three years to support low carbon energy technologies and a NZD 1.5 million grant has been allocated to funding the National Energy Research Institute.

These policies and programs have resulted in the development of an energy research roadmap; increased investment in energy research and development, international partnerships and collaborative research; business and tax credits for research and development expenditure and capacity building.

EECA carries a public responsibility for shaping, prioritising and resourcing research as outlined in the Energy Efficiency and Conservation Act 2000. This is necessary for the optimal implementation of the NZEECS, climate change commitments and sustainability policies. As such, EECA also administers a research program. This program focuses on providing research in the following areas:

- Better information – energy efficient technology research
- Research energy end use in 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.

Within these broad areas, an Energy Research Committee and StageGate™ process for evaluating EECA research is carried out for any research project proposed within the organisation. It prioritises high quality research and ensures they are aligned with the corporate direction and purpose of EECA.

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#dlm54948.

c) Applicable sectors

Undefined

d) Outline

Before the Act was passed, energy efficiency in New Zealand was addressed by the Energy Research Monitoring Agency which was attached to the Ministry of Commerce (now the Ministry of Economic Development). Legislation for the Act was introduced in 1998 and was passed in 2000.

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; in 2007/08 NZD 36 361 000; 2008/09 NZD 52 124 000; and 2009/10 NZD 83 173 000.

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 and Labelling

a) Name

Energy Efficiency (Energy Using Products) Regulations 2002

b) Purpose

To reduce energy demand, energy related greenhouse gas emissions and 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, stimulating the production and purchase of more energy efficient products. This is a joint Australia-New Zealand program 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 Program (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
- A common foundation for regulation.

A number of government agencies partake in intergovernmental and international cooperation efforts.

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.

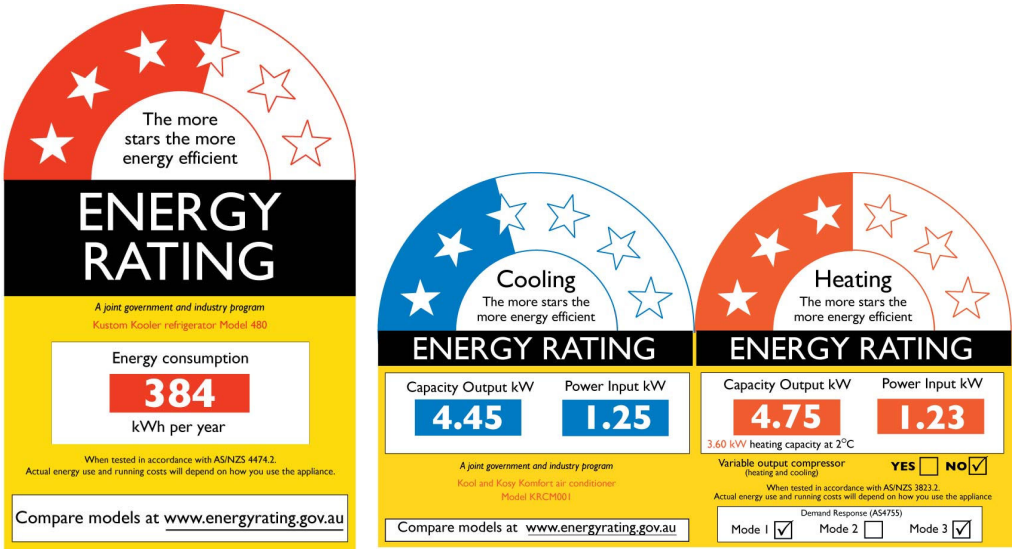
The following products are also regulated on the basis of Minimum Energy Performance Standards (MEPS) – this means that they have regulated minimum energy efficiency labels.

- Refrigerators and freezers (revised MEPS and labelling from mid-2010)
- 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 and 2007, further revision proposed for 2010)
- Three-phase air conditioners up to 65kW cooling capacity (from 1 October 2001, revised 1 October 2007, another revision proposed for 2010)
- Distribution transformers (from 1 October 2004, revisions from mid-2010)

- 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)
- Incandescent lamps (from November 2009)
- Compact fluorescent lamps (from mid-2010)
- External power supplies (from mid-2010)
- Set top boxes (from mid-2010)
- Televisions (from mid-2010)
- Commercial building chillers (from mid-2010)
- Close-control air conditioners (from mid-2010).

The following products have been identified through the E3 program as potential areas for regulation in the future. This is subject to favourable cost-benefit analysis, regulatory process and approval from the Ministerial Council on Energy in Australia and 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 2.4 million a year is allocated to MEPS and labelling, ENERGY STAR and Vehicle Fuel Economy Rating.

f) Expected results

It is expected that MEPS and labelling will result in 12 petajoules, 2.33 Mt CO_2-e and NZD 179 million in energy savings a year in 2025.

2.2.2. Building Energy Codes

a) Name

Compliance Document for New Zealand Building Code Clause H1: Energy Efficiency—Third Edition

b) Purpose

To facilitate the efficient use of energy

c) Applicable sectors

Residential and commercial

d) Outline

Mandatory provisions for building work are contained in the New Zealand Building Code (NZBC). Energy efficiency is covered in NZBC Clause H1.

In 2007 and 2008, new insulation and double glazing requirements were introduced for new houses, major extensions to existing houses, mew multi-unit residential apartments and new small buildings with a floor area of up to 300 square metres. These changes are estimated to provide a 30% improvement in thermal performance over previous requirements. Hot water heating requirements, implemented in late-2000 remain unchanged.

In 2008, improved lighting requirements were introduced for new buildings with a floor area greater than 300 square metres. Thermal efficiency requirements for large buildings remain unchanged from 2000 levels, as are the energy efficiency requirements for domestic type hot water systems. Hot water systems over 700 litres are exempt from the Building Code.

In 2009, the Building Code introduced guidance for the energy performance of heating, ventilation and air conditioning systems.

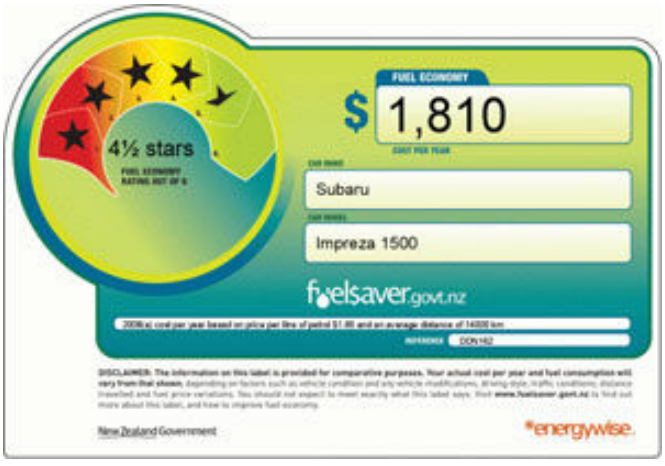
e) Financial resources and budget allocation

No information available

f) Expected results

Improved energy performance of residential and small commercial buildings

2.2.3. Fuel Efficiency Standards



a) Name

Vehicle Fuel Economy Labelling

b) 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

c) Applicable sectors

Transport

d) Outline

The Energy Efficiency (Vehicle Fuel Economy Labelling) Regulations were first published in 2007. The labels must be displayed on all new and late-model 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, knowing the effect it will have on the environment and its fuel costs. This should stimulate the supply and purchase of more fuel efficient vehicles.

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[2].

e) Financial resources and budget allocation

NZD 2.4 million a year is allocated to MEPS and labelling, ENERGY STAR and Vehicle Fuel Economy Rating

f) Expected results

No information available

2.3. Voluntary Measures

a) Name

Home Energy Rating Scheme (HERS)

b) Purpose

To reduce energy use for space and water heating, with the associated benefits of lower home operating costs, peak load reductions and reduced GHG emissions. Improved indoor climate conditions, particularly higher indoor temperatures in winter, will result in health, mental health and social benefits including reduced hospital admissions, GP visits and days off work or school.

c) Applicable sectors

Residential

d) Outline

The voluntary HERS has been operating since December 2007. In line with international experience, uptake is low. The government is considering complementing the scheme with a simpler energy audit scheme.

The assessment includes the efficiency of the building materials, orientation and design in maintaining a comfortable indoor temperature; and the energy performance of the space heating system and the water heating system—the largest energy users in the home. A home will be given a rating of 0 to 10 stars, with 10 stars being the most energy efficient.

Further development of the HERS was discontinued in April 2009 due to marginal cost benefit analysis results. EECA provides technical support to the Department of Building and Housing in the development of a market-based solution through an industry joint venture. The HERS methodology is being used to underpin the energy efficiency component. The tool is expected to be fully operational in 2010. Until such time, the voluntary HERS remains available.

e) Financial resources and budget allocation

NZD 0.1 million in 2009/10

f) Expected results

The rating tool is expected to deliver two levels of functionality. These include: a free or low cost online assessment for the homeowner looking to improve the performance of their homes; and a comprehensive recognised third party audit for the home owner looking for a star rating for their home that will potentially add value at the point of sale.

a) Name

ENERGY STAR

[2]EECA (2010a).

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

d) Outline

The ENERGY STAR™ concept was developed by the US Environmental Protection Agency in 1992 as a voluntary labelling program 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 (air conditioning, fridge/freezers, clothes washing machines, dishwashers and compact fluorescent lamps).

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

e) Financial resources and budget allocation

NZD 2.4 million a year is allocated to MEPS and labelling, ENERGY STAR and Vehicle Fuel Economy Rating.

f) Expected results

No information available

2.4. Financial Measures Taken by the Government

2.4.1. Tax Scheme

New Zealand does not have a tax scheme for stimulating conservation 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

The government plans to lend at least NZD 1.8 million in crown loans to support energy management. It is an ongoing program, with NZD 2 million a year allocated in the 2008-09 budget.

f) Expected results

Improved central government energy efficiency equivalent to energy savings of around NZD 1.8 million a year by 2012-13

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; reduce the numbers of people with health problems due to living in cold, damp houses; crowd in the market for energy services; 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 is now the centrepiece energy program in the residential sector alongside the Ministry for the Environment funded Clean Heat Grant program. Funding is provided to fit homes with insulation and clean heating devices such as heat pumps and approved wood burners.

The scheme offers to meet 33% of the cost (up to NZD 1300 including tax) of installation of ceiling and under-floor insulation to all households. Households with sufficient ceiling and under-floor insulation may also be eligible for clean heating device funding of up to NZD 500. Lower-income households (i.e. Community Services Card holders) are eligible for more funding—60% of the total cost of installation and NZD 1200 toward a clean heating appliance (provided the home is insulated). Landlords with Community Services Card holding tenants can also get the 60% subsidy and up to NZD 500 for the clean heating device if the home is insulated.

The program also works on a co-funding basis with four proposed sets of partners: local government; Iwi (Maori); existing and new service providers; and energy retailers. Working with these partners, EECA will retrofit over 180 000 homes over the next four years.

In November 2009, the government announced that the program would be enhanced by an additional NZD 24 million targeted exclusively at low income families. This will allow an additional 8000 homes to benefit from the program. Over time, the goal of the Fund is that the private funders will take over without the Crown subsidy by claiming the full costs back via rates or energy bills.

The program includes a two-year independent evaluation program that measures the effectiveness and efficiency of delivery and achievement of energy, health and economic outcomes. The longer-term goals for the Fund are: energy savings, health benefits, and stimulating the supply and demand side for energy efficiency upgrades.[3]

[3] EECA (2010b).

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 program would be enhanced by an additional NZD 24 million targeted exclusively at low-income families.

f) Expected results

188 000 homes insulated; 80 000 homes with clean heating devices; NZD 256 million in energy savings; 9.89 PJ energy demand reduction; NZD 240 million in health benefits; 1500 full-time equivalent jobs in construction and related industries.

a) Name

Solar Water Heating Programme

b) Purpose

To increase the uptake of solar water heating products

c) Applicable sectors

Residential, commercial and industry

d) Outline

The Solar Water Heating Initiative was designed to contribute to industry development by promoting and providing incentives to encourage the uptake of solar water heating systems. The overall aim of the programme is sustained future growth of the industry without government support.

e) Financial resources and budget allocation

NZD 15.5 million over 3 years starting in 2006

f) Expected results

2600 new solar hot water heater installations supported by mid-2009; 0.13 PJ of additional solar thermal energy a year; NZD 21.5 million in energy savings; 0.06 Mt of CO_2 avoided a year.

a) Name

Energy Intensive Business Grants

b) Purpose

To encourage energy intensive businesses to adopt energy efficient technologies

c) Applicable sectors

Industry

d) Outline

Energy Intensive Business Grants provide financial assistance to businesses with high energy use to fund energy efficiency projects. Funding is available for projects using technologies that have already been proven to increase energy efficiency but are not yet common place in New Zealand. In this sense, the program is designed to overcome investment risks in areas of emerging technologies.

e) Financial resources and budget allocation

NZD 1.04 million in grant funding for fiscal year 2008-09

f) Expected results

For the combined business programs Energy Intensive Business and Emprove (see 2.4.4), expect to achieve energy savings of 3 PJ a year; NZD 60 million in energy savings a year; and 350 000 tonnes of CO_2 avoided a year by 2012. It is also anticipated that increased competitiveness will create more employment opportunities.

2.4.4. Other Incentives

a) Name

Emprove

b) Purpose

To create more energy efficient and competitive businesses using more renewable energy and emitting less CO_2

c) Applicable sectors

Industry

d) Outline

Provides advice through energy audit grants on energy management best practices to large energy users and small to medium-sized enterprises in order for them to cut energy costs and reduce GHG emissions.

e) Financial resources and budget allocation

NZD 1.18 million for fiscal year 2008-09

f) Expected results

For the combined business programs, Energy Intensive Business and Emprove (see 2.4.3), expect to achieve energy savings of 3 PJ a year; NZD 60 million in energy savings a year; and 350 000 tonnes of CO_2 avoided a year by 2012. It is also anticipated that increased competitiveness will create more employment opportunities.

a) Name

Efficient Lighting

b) Purpose

To encourage uptake of efficient lighting technologies

c) Applicable sectors

Residential, Commercial

d) Outline

The Electricity Commission provides a subsidy to reduce the initial cost of purchasing efficient lighting technologies including compact fluorescent lamps and linear fluorescent lamps. This aligns with the Commission's Right Light initiative (www.rightlight.govt.nz).

e) Financial resources and budget allocation

No information available

f) Expected results

0.6 PJ energy savings; 0.12 Mt CO_2 by 2012; NZD 3 million energy savings per year by 2012

a) Name

Commercial audit and works program

b) Purpose

To provide information and incentives to enable businesses to make informed investment decisions on energy efficiency investments

c) Applicable sectors

Commercial

d) Outline

The Electricity Commission has contracted several service providers to work with large commercial businesses to conduct energy and operational audits to identify measures that will generate electricity savings and to oversee the implementation of the recommended measures.

For approved projects, the Commission funds the cost of the audit and contributes a portion of the technology and implementation costs where the value of measures planned for implementation meet the Commission's investment criteria.

For each approved project, the service provider guarantees a set level (and minimum period) of electricity savings. If the guaranteed savings are not achieved, the service provider is required to repay a pro-rata proportion of the Commission's financial contribution based on the extent of the shortfall in electricity savings.

e) Financial resources and budget allocation

No information available

f) Expected results

No information available

a) Name

Electric motor retirement subsidies

b) Purpose

Remove lower-efficiency three-phase motors with MEPS compliant motors

c) Applicable sectors

Industry

d) Outline

Bounty payments for the removal of lower efficiency three-phase motors that are replaced with MEPS compliant motors

e) Financial resources and budget allocation

No information available

f) Expected results

1 PJ energy savings; 0.194 Mt CO_2 per year in 2012

a) Name

Compressed air system (CAS) accreditation audits and assessments

b) Purpose

Assist the development of specialist CAS auditing skills and fund audits on larger sites in return for commitments to act on agreed cost-effective recommendations

c) Applicable sectors

Industry

d) Outline

The Electricity Commission facilitates the development of a CAS Auditor Accreditation Scheme. This involves accredited auditors having their competency subjected to an independent assessment. A prerequisite to having a competency assessment is for the auditor to have satisfactorily completed a training course.

The Electricity Commission also funds in-depth CAS audits of larger industrial sites, in return to a commitment to action from the CAS user. On a case-by-case basis, the Commission may then also contribute to funding of CAS plant investments that implement identified cost-effective energy efficiency investments.

e) Financial resources and budget allocation

No information available

f) Expected results

0.4 PJ energy savings; 0.078 Mt CO_2 per year in 2012

a) Name

Vehicle fleet auditing for businesses

b) Purpose

To improve the vehicle efficiency of the commercial vehicle fleet

c) Applicable sectors

Commercial

d) Outline

This program provides audits for businesses with fleets of more than 100 vehicles. Businesses are eligible for a government funded grant of up to 50% of the audit (up to a maximum of NZD 10 000). Monitoring and case study information is collected by EECA.

e) Financial resources and budget allocations

No information available

f) Expected results

No information available

a) Name

Biodiesel Grant Scheme

b) Purpose

The grant will assist the production and adoption of environmentally responsible fuels which reduce greenhouse gas emissions and provide a similar advantage for biodiesel to that currently available to bioethanol.

c) Applicable sectors

Biodiesel producers in New Zealand

d) Outline

Under the scheme, a grant of up to 42.5 cents per litre for biodiesel or biodiesel content of a biodiesel blend will be available to biodiesel producers. The grant will be payable monthly in arrears to producers whose product sales amount to, or are in excess of 10 000 litres, B100 content (100% biodiesel) per month.

e) Financial resources and budget allocation

NZD 9 million in 2009/10; NZD 12 million in 2010/11; NZD 15 million in 2011/12

f) Expected results

No information available

a) Name

Improve energy sustainability in local government and communities

b) Purpose

To encourage and assist regional councils to develop regional energy strategies; and deliver operational and policy advice on energy efficiency, conservation and renewable energy

c) Applicable sectors

Government

d) Outline

The program was established in fiscal year 2008-09. It provides funding and technical assistance to local government bodies to improve energy efficiency and conservation in their communities with a focus on households.

e) Financial resources and budget allocation

NZD 170 000 a year

f) Expected results

Reduced barriers to sustainable energy in households

2.5. Energy Pricing

New Zealand's energy sector is guided by free market principles. As a government agency, the Electricity Commission regulates the operation of the electricity industry and markets to ensure electricity is produced and delivered to all consumers in a fair, reliable and environmentally sustainable manner.

Since New Zealand's pricing is market-based, its effect on energy efficiency improvement programs 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

MED 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, the

Department of Building and Housing, 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 programs 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 programs. Local governments are currently focused on energy efficiency improvement efforts to lower or maintain the energy expenditures, while NGOs are focused on the alleviation of fuel poverty and improving health outcomes among lower-income families. Through EECA, NGOs/community energy groups are implementing the ENERGYWISE™ Homes Programmes 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 Environment, Water, Heritage and the Arts (DEWHA) and Australian State Regulators through the E3 committee to set joint standards and regulatory requirements for appliances and equipment
- APEC 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 WUNZ: HS programme, EECA has contractual agreements with private service providers to safely install insulation and clean heating measures into homes.

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