



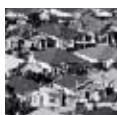
**THE ENERGY  
EFFICIENCY AND  
CONSERVATION  
AUTHORITY**

**ANNUAL  
REPORT  
2007/2008**

# HIGHLIGHTS

## 2007/2008 – A YEAR OF ACTION

The highlights of our 2007/2008 activity were:



Total energy savings of over 3 PJs (the amount of energy used by about 83,000 homes in a year)



New Zealand Energy Efficiency and Conservation Strategy (NZECS) published, setting out a five-year action plan



Businesses saving \$26m a year through energy efficiency actions



Insulation and other energy efficiency improvements installed in over 11,000 homes, delivering energy savings of \$1.5m and health savings of \$2.3m a year



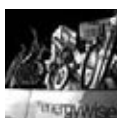
Projects with the potential to generate 22 PJs of renewable energy supported through the planning process



ENERGY STAR® labelling for personal computers, and fridges and freezers to help consumers choose the most energy efficient products



Increase in the minimum energy performance standards for fridges and freezers



Energy efficiency messages delivered to over two million television viewers through the Ultimate Mitre 10 Dream Home series



First ENERGY STAR retail partner, Noel Leeming Group, signs up to supporting energy efficiency



First conviction for breaching Minimum Energy Performance Standards



First grant from Marine Energy Deployment Fund of \$1.85m



World-leading Fuel Economy Labelling programme rolled out, predicted to save 6.2 million litres per year by 2013



Pilot project helps 31 schools upgrade their old boilers to modern, efficient, renewable wood fuel



3,455 old fridges decommissioned in a successful pilot project



Efficient water heating systems equivalent to 700 residential sized solar water heating units installed or committed



ENERGYWISE™ Awards draw a record 156 entries for a celebration of innovation and achievement



Building Energy End Use Project begins researching how technology and behaviours in commercial buildings influence energy use and productivity

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# PART A:

## OVERVIEW

## FROM THE CHAIRMAN

**With the publication of the New Zealand Energy Efficiency and Conservation Strategy (NZECS) this year, we now have a plan for real, tangible action with long-term benefits for New Zealand.**



This five year strategy sets ambitious goals for increasing energy efficiency and conservation, and for more generation from renewable energy sources. The Board is confident that EECA will continue to deliver on the actions it has responsibility for.

We are playing our part in helping New Zealand respond to the global challenges of climate change and the end of cheap oil – challenges that will keep growing in the future. We are also helping New Zealand families and businesses respond to economic pressures by showing them how to reduce their energy bills without impacting on their lifestyle.

Many partners work with EECA to achieve these objectives, whether they are providing funding, delivering services, or contributing practical advice and input. The Board and I recognise that our partners share our genuine desire to help New Zealand better manage its energy use and I want to take the opportunity to thank all those we work with.

Our partners include those who contribute to the ENERGYWISE™ homes programme, without whom fewer families would benefit. We welcome the retail chain Noel Leeming Group as our first ENERGY STAR® retail partner. We have developed new working partnerships with the motor vehicle industry and internet traders as we rolled out the fuel economy labelling programme. In the business sector, we have formal partnerships with several industry associations interested in helping their members better manage their energy use. We continue to work closely with many businesses, community groups, professional organisations and of course with other Government agencies.

It is timely to acknowledge the support of the Ministry for the Environment (MfE), which has, up to 30 June 2008, monitored EECA's performance under the Crown Entities Act. That role has now passed to the Ministry of Economic Development. The MfE staff we have worked with have made many helpful and supportive contributions to our work.

As we look back on a year of progress, I want to acknowledge the outstanding contribution of Geraldine Baumann, who retired from the Board in September 2007. Geraldine had served on the Board since 2000 and played a valuable role as chair of the Risk and Audit Committee.

I also want to welcome four new Board members – Penny Hulse, Toni Owen, Andy Pearce and Greg Sise. They joined the Board in October 2007 and all have quickly shown the value of their broad experience.

My thanks, and the Board's thanks, to Mike Underhill and his team at EECA for their great work this year.

A handwritten signature in black ink, appearing to read 'R Sutton'.

**ROGER SUTTON – CHAIRMAN**

## FROM THE CHIEF EXECUTIVE

**This year, we at EECA have made good, measurable progress towards better energy efficiency and greater use of renewable energy in New Zealand.**



There are many ways of measuring the results of EECA's activities. Some are immediately obvious, such as the three PJs of energy saved, the 11,000 homes insulated, or the more energy efficient appliances purchased carrying ENERGY STAR® and Energy Rating Labels.

Some of our activity will take time to have an impact, such as our ongoing work to promote and support generation from renewable sources. We are contributing to planning and resource consents now for projects that will generate electricity for our children and grandchildren, and help realise the goal of a 90 per cent renewable electricity system by 2025. Our monitoring and research work is another area where we take a long-term view, as this work establishes the potential for future initiatives.

There are also many other benefits that we cannot easily measure, as New Zealanders take advantage of our information and advice to improve their homes, save money on their energy bills and enjoy healthier lifestyles as a result.

At the ENERGYWISE™ Awards it was good to see big companies such as Fonterra, Toll Rail and Sealord measuring and celebrating their own energy saving achievements, alongside city and regional councils and innovative smaller businesses.

We have achieved much, as is set out in this report, but there are some areas where it is harder to make progress. We have not quite reached our target for insulating homes, because we can't convince enough landlords of the benefits, and we've found it takes longer than we thought to work with partners to get new programmes underway.

The uptake of solar water heating continues to be slow, but we're taking steps to help consumers

have confidence in solar water heating, and we have increased the financial assistance available, so we look forward to better results.

We will keep tackling these harder issues, at the same time as we build on our successes across the board. I am proud of the work of EECA's staff and I thank them for their enthusiastic commitment to delivering for New Zealanders.

There is still much to do. Climate change and energy supply are at the forefront of global issues, and this will mean greater demand for programmes promoting and supporting energy efficiency, conservation and renewable energy.

If we in New Zealand can meet our targets, then we will be strongly placed and our products will have a strong brand in an increasingly demanding global environment.

A handwritten signature in dark ink, appearing to read 'M. Underhill'.

**MIKE UNDERHILL – CHIEF EXECUTIVE**

## THE BOARD



**ROGER SUTTON**

### **CHAIRMAN**

Appointed May 2007

Remuneration committee chair

Roger has extensive experience managing operational and strategic development projects in the New Zealand energy industry. He has operated at a senior level in both the electricity and gas industries, in a customer service/sales role as well as in management of infrastructure. He has been Director of a range of listed and unlisted companies.

Roger is Chief Executive of Orion New Zealand Limited. He is a director of 4RF Communications Ltd and Electricity Networks Association and Chairman of Connetics Ltd.



**ALASTAIR PATRICK**

### **DEPUTY CHAIRMAN**

Appointed June 2005

Alastair was appointed Deputy Chair of the Board in October 2007. Between 1991 and 2003 he worked for the Ministry of Transport, for the last three years as Manager of Infrastructure and Services. He now provides consultancy services for Beacon Consulting predominantly for government agencies across a range of areas, including transport, education and biosecurity. Alastair is also a member of the Board of Low Carbon Vehicle Partnership New Zealand.



**PENNY HULSE**

Appointed October 2007

Penny has been a Waitakere City Councillor for the last 12 years and is now Deputy Mayor. Her work there has a special focus on sustainable housing. She has served on the Waitemata District Health Board for the last six years and is trustee of several community trusts including the Earthsong Eco-Neighbourhood Trust, a trust that is designing and building environmentally and socially sustainable homes; and the Waitakere Anti-Violence Essential Services Trust (WAVES), a network of governmental and non-governmental agencies working to prevent family violence and assist the victims of family violence.



**RUSSELL LONGUET**

Appointed April 2003

Russell has a background in electrical engineering, merchant banking and consulting. He is currently Managing Director of his own energy consulting business Exergi Consulting and a director of Energy Intellect Ltd. He is a long standing member of the MEUG (Major Electricity Users Group) executive and is a member of the Hedge Market Development Steering Group for the Electricity Commission and the Transmission Advisory Group to the Electricity Commission.



**TONI OWEN**

**RISK & AUDIT COMMITTEE CHAIR**  
Appointed October 2007

Toni is a director of Focus Chartered Accountants Ltd in Whakatane, where she specialises in business and financial planning. She has spent over 10 years working with communities on energy and energy efficiency. She was trustee of the Eastern Bay Energy Trust from 1995 until 2006, for the last eight years as Chair. Toni has played an important role in many organisations in the Eastern Bay of Plenty area including the Child Injury Prevention Trust, the Life Education Trust and the Chamber of Commerce.



**DENNIS PARKER**

Appointed March 2003

Dennis is the Business Manager UC Opportunity, University of Canterbury. He previously worked for 16 years with Macpac, initially as Finance Manager and latterly as General Manager. Working in a key role for an iconic New Zealand company gave him valuable experience in the issues facing manufacturing, design and marketing for domestic and export markets. Dennis is the Chair of the Sustainable Business Network – Southern Region Advisory Board, and a director of the organisation nationally.



**ANDY PEARCE**

Appointed October 2007

Andy is a professional director with specialist governance expertise. He was CEO of Landcare New Zealand from 1992 until 2005, where he led its formation as an Independent Crown Research Institute and developed it into a profitable company. He is now Chairman of Wool Equities Ltd, Keratec Ltd, Terranova Trust and Canterbury Strategic Water Study, Stage 3. He is a director of Christchurch City Holdings Ltd and the Bank of New Zealand, and is a director and shareholder of MigCo Pharmaceuticals Ltd and Anark Ltd.



**GREG SISE**

Appointed October 2007

Greg is Director of Ellsoft Ltd and EnergyLink Ltd in Dunedin, two energy modelling and analysis companies that he founded in 1996. He is also a director of Sise Consulting Ltd and Sise Holdings Ltd. Greg has had years of experience working in the energy industry. He has served on various working groups in the electricity and gas sectors including the New Zealand Electricity Market's Pricing Working Group and Rules Committee.



# ROLE AND GOVERNANCE

## **THE ENERGY EFFICIENCY AND CONSERVATION AUTHORITY (EECA) ENCOURAGES, SUPPORTS AND PROMOTES ENERGY EFFICIENCY, ENERGY CONSERVATION AND THE USE OF RENEWABLE SOURCES OF ENERGY AT HOME, AT WORK AND ON THE ROAD.**

EECA is a Crown entity, established under the Energy Efficiency and Conservation Act 2000 and subject to the Crown Entities Act 2004.

It is governed by a Board of eight members with experience in energy, the environment, community services, commerce, the public sector and science and technology. The Board reports to the Minister of Energy, and EECA also works closely with the Government Spokesperson on Energy Efficiency and Conservation.

At 30 June 2008, EECA had 103 staff, in offices in Auckland, Wellington and Christchurch.

### **STRATEGY**

EECA's role under the Act includes assisting the Minister to prepare and administer a strategy. In October 2007, the New Zealand Energy Efficiency and Conservation Strategy (NZECS) was published. This strategy sets out the action plan for energy efficiency and conservation actions and assigns responsibility for the delivery of each action. EECA's work programme for the past year (2007/2008) has been aligned to the NZECS as far as possible and in future years the NZECS will drive our planning and programmes.

### **GOVERNANCE**

The members of the Authority (the Board) are appointed by the Minister of Energy. Members hold office for a term of three years and may be reappointed.

In October 2007, four new Board members were appointed. They are Penny Hulse, Toni Owen, Andy Pearce and Greg Sise.

In September 2007, Geraldine Baumann resigned from the Board.

The Board normally meets on a monthly basis, and on other occasions when necessary. It has established two committees, Risk and Audit, and Remuneration. Further details on committees, fees and other relevant information is contained in Part B of this report.

The Board is guided by a Charter that documents its intentions and general approach to the fulfilment of its governance responsibilities.

In the Charter, the Board has committed itself to governing with an emphasis on:

- outward vision rather than inward concern
- pro-activity rather than reactivity
- future rather than present focus
- strategic leadership rather than administrative detail.

The Board encourages a diversity of opinions and views and seeks to inculcate a sense of group participation and collective responsibility. It pays close attention to achieving a high level of governance excellence.

### **ACCOUNTING POLICIES AND PRACTICES**

This year the Annual Report contains a more complete picture of government funding for energy efficiency and conservation. Changes to our accounting policies and practices and the adoption of International Financial Reporting Standards (IFRS) are explained in more detail in the notes to the Financial Statements.

# THE YEAR IN REVIEW

**NEW ZEALAND HAS SAVED OVER 3 PJS<sup>1</sup> OF ENERGY AS A RESULT OF EECA'S ACTIVITIES. OUR PROGRAMMES AT WORK, AT HOME, ON THE ROAD AND IN SUPPORT OF RENEWABLE ENERGY CONTINUE TO DELIVER EFFICIENCY AND CONSERVATION GAINS, AND GREATER USE OF ENERGY FROM RENEWABLE SOURCES.**

The following section of this report sets out the results of our programmes in more detail.

Alongside the achievements from our programmes, an important development this year has been the publication of the New Zealand Energy Efficiency and Conservation Strategy (the NZEECS).

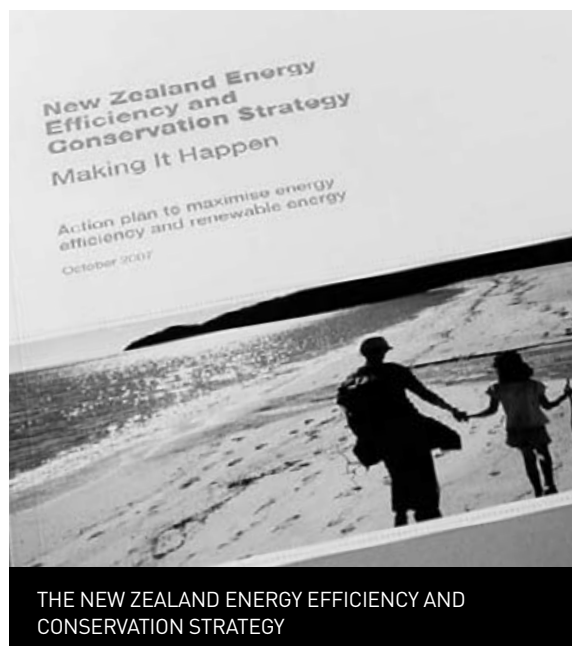
## PUBLICATION OF THE NZEECS

The New Zealand Energy Strategy (the NZES) and the NZEECS, both published in October 2007, set the horizons for EECA's operating environment for the next decade and beyond.

The NZES provides a strategic framework for energy policy, while the NZEECS sets out a five-year action plan detailing tangible activities to maximise energy efficiency and renewable energy in New Zealand. This action plan sees the continuation of programmes with a proven record of achievement and the addition of new challenges for EECA.

The programmes outlined in the NZEECS are expected to deliver:

- 30 PJs of savings in non-transport energy per year by 2025
- 9.5 PJs of additional direct use renewable energy per year by 2025
- 20 PJs of energy savings in the transport sector by 2015.



This will help to achieve the target for 90 per cent of electricity to be generated from renewable sources by 2025, by keeping the rate of growth in electricity demand in check.

These goals and the action plan supporting them have been communicated widely since the NZEECS was published, with 15 briefings held around the country for business and general public audiences.

<sup>1</sup> Petajoule (PJ) is the unit most often used to measure energy production and use on a national scale. A PJ is 10<sup>15</sup> joules and is equivalent to the annual energy use of 28,000 households.

# ACTION AT WORK

## 1.3 PJS SAVED

## 0.6 PJ INCREASE IN RENEWABLE ENERGY (WOOD FUEL)

### **More than 346,000 businesses in New Zealand use 43 per cent of our non-transport energy.**

This year, demand for the advice and support supplied through EECA's Business programmes has increased significantly, as more businesses identify the need to better manage their energy use, to save money and reduce emissions. This heightened awareness has seen most of EECA's targets exceeded in this area.

EECA's Emprove programme offers energy audits, staff training and other tools to businesses which are major energy consumers, and the Energy Intensive Businesses programme provides financial assistance for energy efficiency projects.

### **EMPROVE AND ENERGY INTENSIVE BUSINESSES**

This year, we worked with 210 large energy users through our Emprove programme, more than double the number planned for. Of these, 70 have implemented best practice energy efficiency actions with advice and support from EECA, reporting energy savings valued at over \$26m a year. The Emprove programme cost \$2.2m.

For example, Viscount Plastics New Zealand has used the whole range of EECA's business services, starting with an Energy Achiever session, where it worked with an EECA account manager to scope current energy usage, and where it could improve. It then had energy audits done at both its factories, partly funded by EECA, which identified a number of simple improvements. The audits also showed the potential for big savings from upgrading the cooling water systems, which was then undertaken with technical assistance and a grant from EECA.

The company expects to save almost \$60,000 on its annual energy bill as a result of this process and says

EECA's support has helped in its first important steps towards becoming more energy efficient.

This year, EECA has provided grants to support 105 energy audits, including some of the large energy users mentioned above, to identify energy savings. So far, \$5.3m of potential energy savings have been identified through 30 completed audits. It is expected that at least half of those potential savings will be achieved.

This year, new partnerships have helped EECA reach many more people in the business sector with information on how to save energy.

Business New Zealand and the Council of Trade Unions have worked with EECA on an industry training programme to improve energy efficiency in the workplace. The first phase of the programme focuses on raising staff awareness of prudent energy use and encouraging positive action. An educational booklet with practical energy efficiency tips for organisations and their staff was printed in June 2008 for wide distribution.

Plastics NZ, the plastics industry association, has demonstrated the benefits of its working relationship with EECA, with members participating in its energy efficiency programme reporting energy savings averaging 12 per cent (or \$100,000) a year. Another four industry associations are following this example, with EECA setting up projects with the Seafood Industry Council, Tourism Industry Association, the NZ Cold Storage Association and the Electrical Contractors Association of New Zealand.

In the public sector there has also been a higher level of interest this year, with the Crown loan funding for energy efficiency projects over-subscribed. EECA has approved Crown loans for energy efficiency projects worth \$2.3m, some of which will be delivered in the next financial year.



VISCOUNTS  
PLASTICS EXPECTS  
TO SAVE \$60,000  
A YEAR ON ITS  
ENERGY BILL  
AS A RESULT OF  
CHANGES MADE  
WITH EECA'S  
TECHNICAL  
AND FINANCIAL  
ASSISTANCE.

As an example, Unitec New Zealand expects to save around \$60,000 a year on its energy bills as a result of a Crown loan from EECA. Unitec wanted to upgrade the building management system for the main complex of lecture theatres at its Mt Albert campus in Auckland, which was set to cost around \$200,000. The Crown loan provided the financial means to carry out the project.

## WOOD ENERGY

The promotion of wood fuels as a cost-effective renewable source of energy for heat and other purposes has been significantly improved this year through the establishment of a capital grants programme, to financially support both demand- and supply-side initiatives to build the market. Nine projects were funded to support the supply and use of 0.6 PJ of wood fuels. This included funding wood chippers, boiler conversions and trialling a prototype bio-oil plant.

This year, 31 schools have received funding from EECA to convert their inefficient old coal boilers to modern, efficient wood-fired boilers, in a new pilot project. Converting the 31 schools to wood will reduce carbon

dioxide emissions by an estimated 3,387 tonnes a year. It also has other benefits for schools, as wood pellet boilers require cleaning less often and the ash is organic.

It makes sense for schools to switch to this clean, cost-effective renewable energy source. It also makes sense for other businesses and this year EECA has continued to develop its wood energy programme, which evolved from the Forestry Industry Development Agenda. This includes identifying a further 0.7 PJ of potential wood energy use as a result of nine feasibility studies, undertaking research and sharing information.

## ENERGYWISE™ AWARDS RECOGNISE EPIC ACHIEVEMENTS

The achievements of businesses, public sector agencies and individuals were rewarded at the ENERGYWISE™ Awards in November 2007.

The ENERGYWISE™ Awards are the premier celebration of achievement and innovation in New Zealand's energy efficiency and renewable energy sectors. The Awards showcase the best energy management practices, highlight smart businesses and innovative thinkers and encourage and promote the wise and sustainable use of energy.

A record 156 entries were received and 27 finalists were selected for the 10 major categories, including some of New Zealand's biggest energy using businesses. A crowd of 400 people enjoyed a lively and entertaining Awards ceremony.

In this year's Awards, the winners and finalists between them had saved 387,000 tonnes of carbon dioxide, the equivalent of taking more than 26,000 cars off the road.

PROFESSOR  
PHILIPPA HOWDEN-  
CHAPMAN  
ACCEPTING THE  
OUTSTANDING  
CONTRIBUTION  
TO SUSTAINABLE  
ENERGY AWARD.  
SHE LEADS THE  
HOUSING AND  
HEALTH RESEARCH  
PROGRAMME AT  
WELLINGTON'S  
SCHOOL OF  
MEDICINE AND  
HAS SPENT  
OVER A DECADE  
INVESTIGATING  
THE HEALTH  
BENEFITS OF WELL  
INSULATED HOMES.



## THE WINNERS WERE

### EECA Supreme Award:

#### Fumes NZ Ltd

Producers of the Wa\$ted! TV series screened on TV3

### Outstanding Contribution Award:

#### Professor Philippa Howden-Chapman

Research and advocacy on home insulation and health

### Renewable Energy Award:

#### Contact Energy

Geothermal energy project for Tenon Wood Plant

### Transport Award:

#### Toll Rail

Fuel savings on the South Island coal route

### Residential Award:

#### Fumes NZ Ltd

Wa\$ted! TV series

### Project Innovation Award:

#### Fonterra Co-operative Group

Whareroa heat recovery loop project

### Commercial Award:

#### MWH NZ Ltd

Dunedin airport groundwater heat pump

### Industrial Award:

#### Sealord Group

Deep sea trawler fuel monitoring

### Energy Management Award:

#### Fonterra Co-operative Group

Company-wide energy efficiency project

### Public Sector Award:

#### Waitakere City Council

Energy efficiency and sustainability work

### Product Innovation Award (Joint winners):

#### Windflow Technology

Design and manufacture of wind turbines

#### EcolInnovation

Design and sale of domestic hydro turbines

# ACTION AT HOME

## 1.8 PJS SAVED FROM BETTER PRODUCTS

## \$1.5M ENERGY SAVINGS AND \$2.3M HEALTH SAVINGS FROM INSULATING 11,000 HOMES

**About 13 per cent of total energy, or a third of electricity, is used at home. EECA delivers many practical measures to help New Zealand families reduce their costs and improve their comfort and health, by improving the energy efficiency of their homes and the products they use, and saving energy.**

Many of these measures are delivered through partnerships with other organisations such as community and energy trusts, energy companies and others.

### ENERGYWISE™ HOMES

This year, over 11,000 New Zealand households have been able to improve their health and comfort, and save money, with grants for insulating their homes delivered through the ENERGYWISE™ programme.

This will deliver energy savings of \$1.5m per year and health savings of \$2.3m per year. This programme cost \$7.3m in 2007/2008.

Insulation makes it more affordable to keep houses at the temperatures required for good health. Research shows that retrofitting insulation reduced admissions to hospital by 43 per cent and doctors' visits by 19 per cent.<sup>2</sup>

The 11,000 low-income homes insulated falls slightly short of the 12,500 target for the year. This is due to a

low uptake of the subsidy by landlords to insulate rental properties with low-income tenants. There were 405 grants provided, compared to the targeted 3,500. This low uptake is partly because of the changing economic climate and partly because landlords have a split incentive, in that they pay for the insulation, but it is the tenants who benefit. The programme is being reviewed and refined to address the barriers to uptake.

This year, EECA introduced a new programme of financial support to middle-income<sup>3</sup> New Zealanders, paying interest subsidies for insulation, clean heat<sup>4</sup> and other energy efficiency measures. The scheme is delivered by partner organisations who supply a loan to the householder to pay the up front capital costs. The subsidy is also available as a one-off grant.

The first contracts with partners were signed in February 2008, and 15 partners are now delivering this programme. Up to 30 June 2008, 47 homes had received financial assistance for insulation and/or energy efficiency measures through this programme, with a further 1,100 in the pipeline. This programme is expected to gain momentum as partners get fully underway.

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<sup>2</sup> Wellington School of Medicine.

<sup>3</sup> The financial assistance is available to homeowners earning less than \$100,000 a year (one or two earners) or \$140,000 a year (three or more earners), with homes built before 1 April 1978.

<sup>4</sup> Clean heat refers to heating systems that produce very little or no air pollution so that they comply with National Environmental Standards, and are highly efficient to run.





NEW ZEALANDERS WATCHING THE ULTIMATE MITRE 10 DREAM HOME SERIES THIS YEAR LEARNT ABOUT ENERGY EFFICIENCY IN MANY WAYS. ABOVE, HOST JAYNE KIELY TALKS TO ENERGY ASSESSOR BEN BELL, AND KATIE MATHISON PRESENTS A PRIZE PACKAGE TO THE COUPLE WHO HAD ACHIEVED THE HIGHEST ENERGY EFFICIENCY – DAVE CROY AND NIKKI BURNSIDE.

## CLEAN HEAT

This year, 571 homes had clean heat appliances installed, generally replacing open fires or old solid fuel burners, with funding through the Ministry for the Environment which has responsibility for air quality.

The programme is available in areas where the National Environmental Standards (NES) for air quality have been exceeded at least five times in the last year. Funding is matched by local councils and other organisations. To maximise the benefits to the household, the insulation is checked and, where necessary, upgraded at the same time as the clean heating is installed.

The target of 800 installations was not completely met because it is a new programme and it took longer than expected to design, and for the service providers to get started.

## ENERGYWISE™ INFORMATION CAMPAIGN

New Zealanders now have more information available, giving them the power to make good choices about their energy use, as a result of the ENERGYWISE™ information campaign.

EECA has provided independent, authoritative information on its websites, in printed material and through its call centre. We ran a high-profile campaign from February-June 2008 to make New Zealanders aware of their choices and to encourage them to take action.

This included EECA's sponsorship of TVNZ's Ultimate Mitre 10 Dream Home series. This is a reality television show that tracks two couples completing a major home renovation. The winner of the renovation competition wins the home and this year for the first time the most energy efficient home was also recognised, based on an assessment completed by an EECA representative.

This high profile 10-part television series gave EECA the opportunity to reach every day New Zealanders to raise awareness of energy efficiency, and to help people understand why energy efficiency is important and that taking action is easy. We also aimed to encourage people to take action on energy efficiency in their own homes.

The show gave a high profile to ENERGYWISE™ and key energy efficiency messages in every episode. The audience was able to see energy efficient decisions being made and hear about the benefits throughout the series.

The total number of people who tuned into the series over 10 weeks was over 2.3 million. The show achieved very high audience share and ranking against other television programmes on air at the time.

The campaign was highly successful, with a 60 per cent increase in visits to the ENERGYWISE™ website and increased calls to the call centre as people sought more detailed information on how to take action. Awareness of ENERGYWISE™ increased from 10 per cent to over 30 per cent. This campaign also drove increased awareness of specific EECA programmes, for example ENERGY STAR® and Fuel Economy Labelling.

## BETTER PRODUCTS

### **More of the appliances for sale in New Zealand now carry energy rating labels and the ENERGY STAR® mark, to help people choose the most efficient and cost-effective product.**

The blue ENERGY STAR mark is the independent, international benchmark for energy efficiency, awarded to the most energy efficient products in each category. This year, personal computers and refrigerators and freezers were added to the list of products covered by ENERGY STAR.

New Zealanders' ability to select the most efficient product for their purposes was also improved through a new partnership with major appliance and electronics retail chain Noel Leeming. As the first ENERGY STAR retail partner, Noel Leeming committed to making the label clearly visible and training staff to answer customer questions about the benefits of purchasing an ENERGY STAR product, and has also begun addressing the company's own energy use.

EECA also administers the Minimum Energy Performance Standards (MEPS) that keep the most inefficient products off the market and the energy rating label that gives information on how much energy a product uses so people can compare between models.

This year, the minimum standard for refrigeration appliances has been increased, meaning fridges and freezers will have to reach a higher standard of efficiency to be able to be sold in New Zealand. Standards development and consultation continues for a range of other products, including lighting.

The Efficient Lighting Strategy, developed in partnership with the Electricity Commission and the Lighting Council New Zealand, was launched in June 2008. This sets out a comprehensive strategy for improving the efficiency of both domestic and commercial lighting over the next three years.

The Strategy includes phasing out inefficient traditional incandescent light bulbs under 150 W from November 2009. There is already a range of more efficient alternatives available, including both compact fluorescent lamps (CFLs) which are 80 per cent more efficient, and new generation halogen incandescent

light bulbs, which look just the same as traditional light bulbs but are 30 per cent more efficient.

In 2007/2008 New Zealand achieved savings of approximately 1.8 PJ of energy as a result of EECA's Products programme.

## FRIDGE ROUND-UP

A total of 3,455 old, inefficient fridges have been disconnected and recycled through EECA's pilot fridge round-up programme. This saves electricity worth \$550,000 a year.

The average New Zealand household has two refrigeration appliances. Often the second fridge or freezer ends up in a garage or basement, where it is plugged in but rarely used. These old appliances are two to three times less efficient than new ones, and can cost \$200-\$300 a year to run. EECA has partnered with a number of recycling schemes and appliance retailers, to offer a cash incentive to people to get rid of their old fridges.

## HOME ENERGY RATINGS

New Zealanders can now get an independent rating of the energy use of a house they are thinking of living in or building, through the voluntary Home Energy Rating Scheme (HERS) launched by EECA in December 2007.

A home energy rating is an independent assessment of the energy performance of a home including how well the building's design, construction and orientation enables it to maintain a comfortable indoor temperature, and how efficient the space heating and water heating are. It is expressed as a star rating that will enable comparisons between one house and another. The assessment also includes expert recommendations about the most cost-effective ways to improve the home's energy efficiency and reduce energy costs.

Over 400 assessments have been completed to date. Analysis to date shows that the rating is most cost-effective at the planning stage for new homes, as it identifies improvements that can be easily incorporated into plans prior to building.



## COMPANY CONVICTED FOR BREACHING MINIMUM ENERGY PERFORMANCE STANDARDS

For the first time, a New Zealand company has been convicted for selling products that do not meet Minimum Energy Performance Standards (MEPS).

The Christchurch District Court in February 2008 found that the Crystal branded heat pumps sold by the Matipo Trading Company Limited (trading as the Cargo Shed Christchurch), did not meet the Standards and were not labelled with the mandatory energy performance labels.

This is the first conviction under the Energy Efficiency (Energy Using Products) Regulations 2002. The Cargo Shed was convicted and fined \$15,000 and costs.

EECA is responsible for maintaining and enforcing MEPS and energy performance labelling in New Zealand as part of its ongoing Products programme. A key part of ensuring the effectiveness of this programme is monitoring compliance in the marketplace and prosecuting where necessary.

EECA says consumers who purchased a non-compliant 3.5 kW heat pump, like those at the centre of this case, may end up paying at least \$3,000 more for electricity over the life of the unit, when compared to a MEPS-compliant unit.

The absence of the energy rating labels denied consumers the ability to make an informed decision about what they were buying, taking into account not just the initial capital cost, but also the whole of life cost, which includes the running costs. In this case, that could add up to 850 per cent more than the purchase price.



EVERY HEAT PUMP SOLD IN NEW ZEALAND HAS TO CARRY AN ENERGY RATING LABEL AND MEET MINIMUM ENERGY PERFORMANCE STANDARDS.



CHECK OUT THE LABEL TO SEE HOW MUCH ELECTRICITY THE HEAT PUMP WILL USE.



TALK TO THE SALESPERSON. THEY'RE TRAINED TO UNDERSTAND AND EXPLAIN THE ENERGY USE OF PRODUCTS THEY SELL.



AND FIND OUT HOW TO WORK THE REMOTE CONTROL, BECAUSE EVEN THE MOST EFFICIENT HEAT PUMPS WILL BE CHEAPER TO RUN IF YOU USE THEM SMARTLY.

# ACTION ON THE ROAD

## TWO OIL COMPANIES LAUNCH SUSTAINABLE BIOFUEL BLENDS

**In New Zealand, about 44 per cent of our total energy is used in getting around. This year, the increase in petrol and diesel prices has focused attention on ways to save. EECA has taken practical steps in two areas to help New Zealanders reduce their use of fossil fuels.**

### BIOFUELS

The use of biofuels is increasing in New Zealand, with 0.09 PJ of biofuels from sustainable sources sold in the 2007/2008 year through 30 petrol stations owned by two companies, Gull and Mobil. EECA has supported this increasing consumer awareness of, and confidence in, biofuels.

Gull has been selling a 10 per cent bioethanol blend since August 2007, and has filled well over 100,000 vehicles since then. It uses bioethanol made by Fonterra from dairy by-product.

Mobil started offering a 98 octane fuel containing up to 10 per cent ethanol, and a 91 octane fuel containing up to 3 per cent ethanol in June 2008. Mobil is using imported Brazilian bioethanol made from sugar cane which is environmentally sustainable. It does not compete with food production and the sugar cane is grown 2,000 km from the Amazon rainforest. Even when taking shipping of the ethanol into consideration, it offers almost a 75 per cent reduction in greenhouse gas emissions over ordinary petrol.

There has been ongoing debate about the sustainability of biofuels as Parliament considered the Biofuels Bill, which includes an obligation for 2.5 per cent of fuel sold by oil companies to be biofuel by 2012. EECA has contributed to the development of sustainability

requirements that will ensure that biofuels available for sale in New Zealand will be sustainably produced and deliver net reductions in greenhouse gas emissions.

EECA also organised a successful conference on biofuels and electric vehicles, which helped increase knowledge about renewable energy transport alternatives.

### FUEL ECONOMY LABELS

New Zealand car buyers can now find out more about the fuel economy of cars they're looking at, following the successful introduction of Fuel Economy Labels in April 2008.

This will help them choose cars that use less fuel, emit less carbon dioxide and are cheaper to run.

The Energy Efficiency (Vehicle Fuel Economy Labelling) Regulations require motor vehicle traders to display a Fuel Economy Label on cars for sale, where the information is available. Fuel economy information must also be shown on internet listings. Fuel economy information is generally available for new and late model cars, and the information and labels can be easily obtained over the internet, through an innovative, user-friendly web service.

This programme is a world first – while other countries, including Australia, require labels on new cars, no other country requires them on used cars. New Zealand is also leading the world in requiring fuel economy information on internet listings. EECA appreciates the co-operation of Trade Me and other leading internet companies in achieving this.

EECA's information campaign in support of this programme has resulted in 70 per cent awareness of the labels, measured in research in June 2008.

The labels and related information on fuel economy are available on the fuelsaver website, and visits to this site have increased from 10,000 per month to over 32,000 per month since the launch of the labels.

# ACTION ON RENEWABLE ENERGY SUPPLY

## 22 PJS OF RENEWABLE GENERATION SUPPORTED AT RESOURCE CONSENT HEARINGS

### **New Zealand's energy future lies in renewable generation, with the Government setting a target of 90 per cent of electricity generated from renewable sources by 2025.**

EECA has contributed advice, information and grants to support renewable generation from a diverse range of renewable sources, both large-scale and smaller, niche energy supply.

### **SUPPORT FOR RENEWABLE GENERATION**

There is strong support for renewable energy in New Zealand, according to research conducted by EECA in March 2008.

Wind energy is currently the most favoured generation type, with 88 per cent of respondents saying they support it. Traditional renewable energy generation technologies like geothermal and hydro have steady support, with 77 per cent and 80 per cent of respondents respectively stating that these sources are having a positive impact on New Zealand at the moment. Marine generation is supported by 75 per cent with a higher level of 'don't knows' because it's a relatively new technology. The research surveyed 1,000 people between January and March. It has a margin of error of +/- 3.1 per cent.

EECA has continued to provide practical support and advice to the renewable energy industry, including undertaking an investigation into the potential for distributed energy<sup>5</sup> in remote communities, providing

input into amendments to the Building Code, and providing practical and financial support to the marine, sustainable energy, wind and geothermal associations.

For local authorities, EECA has begun work on a guidance document on the implications of small-scale renewable energy generation on resource and building consent approval processes. Two more regional renewable energy assessments and one more detailed assessment have been provided and a workshop has been held in Northland.

This year, EECA has made six submissions on key Resource Management Act plans and supported 11 resource consent applications for renewable energy generating facilities, with the potential to deliver 22 PJs of renewable energy a year.

### **MARINE ENERGY**

New Zealand is a step closer to commercial generation of electricity from marine (tidal and wave) energy, following the first grant from the Marine Energy Deployment Fund administered by EECA, in May 2008. The Fund supports the deployment and/or adaptation of marine energy generation devices that are likely to bring forward the development of marine energy in New Zealand.

The first grant of \$1.85m is to Crest Energy for one to three marine turbines in Kaipara Harbour, subject to resource consent being granted.

<sup>5</sup> Distributed energy is niche energy supply, for local needs. It is often small-scale electricity generation in homes or businesses. It can either be connected to the local electricity distribution lines, or as 'stand alone' systems that are not connected to the network. Distributed energy also includes local demand for heat, such as direct use of geothermal heat.

KATHERINE AND GARY WARD INSTALLED SOLAR WATER HEATING IN THEIR WELLINGTON HOME, AND NOTICED SAVINGS OF AT LEAST \$450 A YEAR ON THEIR POWER BILLS.



WITH TWO YOUNG CHILDREN, WILLIAM AND SOPHIE, THEY USE PLENTY OF HOT WATER, AND THE SOLAR SYSTEM MEETS THEIR NEEDS, EVEN PROVIDING HOT WATER FOR UNDERFLOOR HEATING.



## SOLAR WATER HEATING

Across the board, EECA has supported the installation of solar water heating in residential, commercial and government buildings equivalent to 700 residential sized solar water heating systems.

This includes over 1,450 square metres of solar water panels (equivalent to about 430 domestic solar water heating systems) and 80 heat pump water heaters installed or underway with support from EECA's Innovation Fund.

It also includes more than 200 square metres (equivalent to 65 domestic solar water heating systems) installed or underway in public buildings, including prisons, army barracks, Department of Conservation huts and research laboratories, as a result of 16 grants from EECA's Grants for Public Buildings Fund.

Uptake of solar water heating in residential settings has been slow. In 2007/2008, EECA reached agreements with 19 volume builders to deliver an expected 100 installations on new homes. In addition EECA has given financial assistance to 22 installations by individuals.

To give New Zealanders confidence that solar water heating systems are of good quality and will deliver value for money, an important part of EECA's focus this year has been on improving quality and standards of product and installation, and auditing and reporting on installations.

The components of solar water heating systems can now be tested in New Zealand to ensure they meet the product Standard AS/NZS 2712, and systems can now have energy performance modelled to the Standard

AS/NZS 4234. This has provided industry and consumers with independent information on performance and efficiency, previously unavailable. EECA has continued to work with the Solar Industries Association on improving accreditation and complaints processes.

A total of 140 people have become trained and certified in installing solar water heating systems, through courses supported by EECA in Auckland, Hamilton, Wellington and Christchurch.

Seven local authorities have waived fees for building consents for solar water heating, and others have incorporated plans to reduce compliance costs for solar into their business plans. This will further help reduce barriers to installing solar water heating.

Increased information, including energy performance information and case studies, has been published, to help consumers make informed decisions. More than 2,300 building industry professionals have attended presentations on solar water heating, covering the benefits and practical information on planning and installation.

In June 2008, EECA made changes to its residential solar water heating incentive scheme including:

- increasing the grant for homeowners to \$1,000, for the purchase of packaged systems that meet requirements for energy performance, cost-effectiveness and installation
- simplifying the cost-effectiveness measure, known as the 'threshold for finance assistance', to reflect updated electricity price forecasts.

These changes are expected to result in an increased uptake in future.

# ACTION AT EECA

**THE PUBLICATION OF THE NZEECS GIVES EECA A CLEAR PLAN OF ACTION, AND THIS YEAR OUR INTERNAL FOCUS HAS BEEN ON POSITIONING OURSELVES TO DELIVER ON OUR NZEECS RESPONSIBILITIES. THIS MEANS HAVING THE RIGHT CAPABILITY AT THE RIGHT TIME AND IN THE RIGHT PLACES.**

## PEOPLE

We have undertaken an organisational realignment, to improve our efficiency and our ability to deliver the programmes, co-ordination and leadership expected of us. We have also introduced new roles of team managers and team leaders. This is delivering more appropriate management for our increasing number of staff, as well as providing development opportunities.

The rate of staff turnover is now 13 per cent. While there is still room for improvement, this is considerably better than the previous year's figure of 34 per cent. That's partly due to steps we have taken to respond to areas identified through our workplace survey, including improving our premises, communication and development opportunities

Under EECA's Equal Employment Opportunities (EEO) policy, all staff members are treated on merit without regard to any factor not relevant to their position. We have policies to support a positive work-life balance and family-friendly work practices such as flexitime and offer subsidies for childcare and home computers.

## WORK ENVIRONMENT

We have addressed the cramped working conditions that were one of the major themes in the October 2007 staff survey.

In December 2007, we signed a lease that will see all our staff in Wellington located on two floors of the same building, Vector House, by the end of 2008. This is a significant improvement on the situation in recent years, where we had people based in two and sometimes three different buildings.

Planning has begun to improve the energy efficiency of our two new floors to both demonstrate best practice and showcase leading energy efficiency technologies. This will demonstrate how existing office space can be cost-effectively moved towards higher green star ratings.

## SUSTAINABILITY

We have committed to becoming a carbon neutral organisation and have begun the process of certification through the Landcare Research CarboNZero programme.

We continue to integrate sustainability principles into our daily practice and culture, focusing on waste minimisation, monitoring and improving our energy use and managing travel. We have reported on all these areas as part of our responsibility under the Govt<sup>3</sup> programme.

This year, we changed our supplier of office products, to one who offers a wider range of sustainably produced products at a cheaper price.

We continue to find ways to reduce our travel at every opportunity. We use video and phone conferencing where possible and this year we've moved to conducting recruitment interviews by video conference where necessary rather than bringing candidates to Wellington.

An informal survey of EECA staff in 2007/2008 found only about 14 per cent travel to work by car. Over half use public transport (bus or train) while about a third walk or cycle.

## **ACCOUNTABILITY**

EECA reports to the Minister of Energy and the Government Spokesperson for Energy Efficiency and Renewable Energy.

All requirements, including providing information for ministerial letters, material for speeches and parliamentary questions, quarterly reports and briefings were delivered on time and to the satisfaction of the Minister and the Government Spokesperson. EECA also responded to all Official Information Act requests within legally required timeframes.

## **MONITORING AND RESEARCH**

Now that the NZEECS has been published, work has begun on monitoring and evaluating the implementation of the Strategy. EECA has supported the Ministry of Economic Development (MED) in this area.

EECA has also this year been involved in the development and commissioning of research into energy use in the commercial sector. EECA has worked with Statistics New Zealand in planning and designing a survey for 2010. A six-year Building Energy End Use Study has been commissioned and is underway. Together these two projects will provide valuable information on commercial energy use for future planning.

## **EECA SAVES AS LAKE LEVELS FALL**

In June 2008, as all New Zealanders watched the levels in the South Island hydro lakes with concern, EECA recorded its lowest energy use since 2005.

EECA's energy use on Level 1 of Vector House in Wellington was 7,494 kWh in June, compared to 8,850 kWh in the same month last year.

The significant reduction was primarily due to turning the thermometer down. In response to calls from the Winter Power Group for all New Zealanders to think about ways to save, EECA decided to reduce its heating. Previously, the heating system turned itself on in time to warm the office to 22 degrees by the time work started – sometimes turning on as early as 5.30 am. From June, the heating turned on at 7.30 am and only reached 20 degrees celcius.

While this did mean that sometimes EECA staff needed an extra jersey, the size of saving demonstrated the significance of heating in office energy use.



MANAGEMENT AND ORGANISATION

EECA HAS EIGHT DELIVERY TEAMS, SUPPORTED BY CORPORATE SERVICES, WITH PROJECTS INVOLVING STAFF FROM DIFFERENT TEAMS WORKING TOGETHER AND WITH EXTERNAL PARTNERS.



CHIEF EXECUTIVE

Mike leads EECA’s 103 staff, based in Auckland, Wellington and Christchurch, to raise awareness and uptake of energy efficiency and renewable energy issues and provide businesses and individuals with the tools to make changes.



BUSINESS MANAGER

The Business team led by Murray works to help businesses identify opportunities for efficiency gains in their operations, and to encourage investment in new technologies through financial incentives for demonstrations and information to minimise investment risk.



RESIDENTIAL MANAGER

The Residential team led by Katie is responsible for providing financial incentives to retrofit insulation, clean heating and other energy efficiency measures in existing houses, and encouraging other energy efficiency behaviours.



PRODUCTS MANAGER

The Products team led by Terry manages standards, regulation and information about motor vehicles, household appliances and commercial and industrial equipment, including labelling to help consumers make informed decisions when comparing products. The team is responsible for the ongoing development of the Home Energy Rating Scheme. This team also provides technical support and advice to programmes.



ENERGY SUPPLY MANAGER

The Energy Supply team led by Fiona works to maximise the proportion of electricity and heat to be generated from renewable energy sources, to help New Zealand move to a low-carbon energy supply system whilst improving sustainability, diversity and security.



**PAT MURRAY**

**MARKETING AND COMMUNICATIONS MANAGER**

The Marketing and Communications team led by Pat is committed to raising awareness of energy efficiency, conservation and renewable energy, highlighting the benefits of taking action, and inspiring and motivating New Zealanders to take that action. The team delivers information campaigns aligned with EECA's work programmes, and manages corporate information and a market research programme.



**WALT FRIEDEL**

**GOVERNMENT AND LOCAL GOVERNMENT MANAGER**

The Government and Local Government team led by Walt is responsible for providing advice and input into all external policy related activities both at the government departmental and local government levels. This group also provides the formal channel between EECA and the Minister of Energy, the Government Spokesperson on Energy Efficiency and Ministry of Economic Development.



**BILL BRANDER**

**STRATEGIC DEVELOPMENT MANAGER**

The Strategic Development team led by Bill is responsible for building new business opportunities together with the internal capability to capitalise on them. The Strategic Development area identifies EECA's business development needs, supports delivery teams to achieve business development goals in their markets and manages technical knowledge and its accessibility in EECA.



**ROBERT TROMOP**

**MONITORING AND RESEARCH MANAGER**

The Monitoring and Research team led by Robert is responsible for providing monitoring, analysis and research to support EECA's programmes and projects and plays a key role in monitoring energy efficiency developments both within New Zealand and internationally.



**IAN HORNE**

**CORPORATE GENERAL MANAGER**

Ian and his two teams – Finance and Information Technology, and Human Resources and Corporate Services – have an internal delivery focus to provide support, advice, expertise and resources to assist and facilitate the delivery of EECA's programmes and projects. The position of Human Resources and Corporate Services Manager was vacant at 30 June 2008.



**MARK NGAN KEE**

**FINANCE AND IT MANAGER**

The Finance and Information Technology team is responsible for providing financial and IT processes, systems and outputs for EECA. This group provides support to managers and staff within EECA to assist them to deliver their project milestones and outcomes.



# PART B:

## **STATEMENT OF SERVICE PERFORMANCE**

# STATEMENT OF RESPONSIBILITY

**In terms of the Crown Entities Act 2004, the Board is responsible for the preparation of the Energy Efficiency and Conservation Authority's financial statements and statement of service performance, and for the judgements made in them.**

The Board of the Energy Efficiency and Conservation Authority has responsibility for establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of financial reporting.

In the Board's opinion, these financial statements and statement of service performance fairly reflect the financial position and operations of the Energy Efficiency and Conservation Authority for the year ended 30 June 2008.

Signed on behalf of the Board:



**ROGER SUTTON**  
**CHAIRMAN**  
**23 SEPTEMBER 2008**



**TONI OWEN**  
**AUDIT AND RISK COMMITTEE CHAIR**  
**23 SEPTEMBER 2008**

## AUDIT REPORT

### TO THE READERS OF THE ENERGY EFFICIENCY AND CONSERVATION AUTHORITY'S FINANCIAL STATEMENTS AND STATEMENT OF SERVICE PERFORMANCE FOR THE YEAR ENDED 30 JUNE 2008

The Auditor-General is the auditor of the Energy Efficiency and Conservation Authority (the Authority). The Auditor-General has appointed me, Robert Manktelow, using the staff and resources of Audit New Zealand, to carry out the audit on his behalf. The audit covers the financial statements and statement of service performance included in the annual report of the Authority for the year ended 30 June 2008.

#### Unqualified Opinion

In our opinion:

- The financial statements of the Authority on pages 47 to 68:
  - comply with generally accepted accounting practice in New Zealand; and
  - fairly reflect:
    - the Authority's financial position as at 30 June 2008; and
    - the results of its operations and cash flows for the year ended on that date.
- The statement of service performance of the Authority on pages 33 to 46:
  - complies with generally accepted accounting practice in New Zealand; and
  - fairly reflects for each class of outputs:
    - its standards of delivery performance achieved, as compared with the forecast standards outlined in the statement of forecast service performance adopted at the start of the financial year; and
    - its actual revenue earned and output expenses incurred, as compared with the forecast revenues and output expenses outlined in the statement of forecast service performance adopted at the start of the financial year.

The audit was completed on 23 September 2008, and this is the date at which our opinion is expressed.

The basis of our opinion is explained below. In addition, we outline the responsibilities of the Board and the Auditor, and explain our independence.

### **Basis of Opinion**

We carried out the audit in accordance with the Auditor-General's Auditing Standards, which incorporate the New Zealand Auditing Standards.

We planned and performed the audit to obtain all the information and explanations we considered necessary in order to obtain reasonable assurance that the financial statements and statement of service performance did not have material misstatements, whether caused by fraud or error.

Material misstatements are differences or omissions of amounts and disclosures that would affect a reader's overall understanding of the financial statements and statement of service performance. If we had found material misstatements that were not corrected, we would have referred to them in our opinion.

The audit involved performing procedures to test the information presented in the financial statements and statement of service performance. We assessed the results of those procedures in forming our opinion.

Audit procedures generally include:

- determining whether significant financial and management controls are working and can be relied on to produce complete and accurate data;
- verifying samples of transactions and account balances;
- performing analyses to identify anomalies in the reported data;
- reviewing significant estimates and judgements made by the Board;
- confirming year-end balances;
- determining whether accounting policies are appropriate and consistently applied; and
- determining whether all financial statement and statement of service performance disclosures are adequate.

We did not examine every transaction, nor do we guarantee complete accuracy of the financial statements and statement of service performance.

We evaluated the overall adequacy of the presentation of information in the financial statements and statement of service performance. We obtained all the information and explanations we required to support our opinion above.

#### **Responsibilities of the Board and the Auditor**

The Board is responsible for preparing the financial statements and statement of service performance in accordance with generally accepted accounting practice in New Zealand. The financial statements must fairly reflect the financial position of the Authority as at 30 June 2008 and the results of its operations and cash flows for the year ended on that date. The statement of service performance must fairly reflect, for each class of outputs, the Authority's standards of delivery performance achieved and revenue earned and expenses incurred, as compared with the forecast standards, revenue and expenses adopted at the start of the financial year. The Board's responsibilities arise from the Crown Entities Act 2004 and the Energy Efficiency Act 2000.

We are responsible for expressing an independent opinion on the financial statements and statement of service performance and reporting that opinion to you. This responsibility arises from section 15 of the Public Audit Act 2001 and the Crown Entities Act 2004.

#### **Independence**

When carrying out the audit we followed the independence requirements of the Auditor-General, which incorporate the independence requirements of the Institute of Chartered Accountants of New Zealand.

Other than the audit, we have no relationship with or interests in the Authority.



Robert Manktelow  
Audit New Zealand  
On behalf of the Auditor-General  
Wellington, New Zealand

# STATEMENT OF SERVICE PERFORMANCE

## RECONCILIATION OF EXPENSES TO FORECAST INFORMATION

Total Expenses	2008 Actual \$000	SOI (Forecast) \$000	Difference \$000
Business	8,390	4,459	(3,931)
Transport	2,285	2,766	481
Products	2,805	2,284	(521)
Residential	12,983	5,985	(6,998)
Energy Supply and Renewables	6,336	5,236	(1,100)
NZEECS	–	762	762
	<b>32,799</b>	<b>21,492</b>	<b>(11,307)</b>

## SECTOR: CROSS SECTORAL – NZEECS

### NZEECS PRIORITY PROGRAMME – REPLACING THE NEECS

Objective: To ensure improved government commitment and support for sustainable energy developments including leadership in government's own operations, and alignment of central and local government policies and actions for sustainable energy.

The outputs delivered are:

- Institutional commitments

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Publish a final NZEECS to the Minister of Energy's satisfaction within one month of lodging of the NZES in the Cabinet process, or by 30 September 2007 – whichever is the later.	NZES and NZEECS launched on 11 October 2007 (with NZES) to the Minister of Energy's satisfaction.	<b>Achieved</b>
Support the Ministry of Economic Development (MED) to complete foundation work to establish whole-of-government implementation procedures and monitoring processes for the NZEECS by 31 December 2007.	EECA's whole-of-government implementation was completed within MED's timeframe by 30 June 2008. EECA will continue to work with MED on monitoring NZEECS actions.	<b>Partly achieved</b>
Develop and undertake a survey of end use energy in the commercial sector. (Priority 1 action in the joint MED/Statistics NZ/EECA Domain Plan for Energy Sector 2006-2016). <sup>6</sup>	A multi-year commercial building energy end use study has been commissioned. Statistics NZ has also scheduled a commercial sector energy survey for 2010 as part of a 5-year cycle of sector surveys.	<b>Partly achieved</b>

<sup>6</sup> Performance measure not included in SOI 2007-2010. Arises from additional funding provided during the year.

## COSTS

In previous year's budget costs have been allocated under the heading 'Sector: Strategic' for the development of the NZEECS and for ongoing evaluation of progress. This budget has now been spread across other work areas.

	Actual 2008 \$000	Budget 2008 \$000	Actual 2007 \$000
Revenue Crown	-	-	1,478
Other revenue	-	-	26
<i>Total revenue</i>	-	-	1,504
Total expenses	-	-	3,195
<b>Net surplus/(deficit)</b>	-	-	<b>(1,691)</b>



## SECTOR: BUSINESS

### PRIORITY PROGRAMME – EMPROVE

Objective: Emprove helps high industrial energy users and energy intensive businesses get more for their energy dollar and reduce greenhouse gas emissions through improved energy efficiency. The Energy Intensive Business programme provides financial assistance to businesses with high energy use, to fund energy efficiency projects.

Outputs include:

- Institutional commitments
- Financial assistance

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Complete energy management diagnostic sessions and provide action plans for improvement in at least 24 large energy using companies by 30 June 2008.	Energy management diagnostic sessions and action plans for improvement were completed for 30 large energy using companies.	<b>Exceeded</b>
Promote energy management to at least 100 organisations that results in energy management best practice actions being implemented in at least 50 large energy using companies to their satisfaction by 30 June 2008.	Energy management has been promoted to 210 organisations. Consequently, 70 large energy using organisations (using greater than an estimated 32 PJs) introduced best practice actions.	<b>Exceeded</b>
Improve energy efficiency by developing working relationships with at least four energy intensive industry associations so they report energy management improvements by 30 June 2008.	EECA developed working relationships with the following five energy intensive sector associations: Plastics NZ, Seafood Industry Council, Tourism Industry Association, the NZ Cold Storage Association, and Electrical Contractors Association of NZ. All have reported sector actions or commitments to improve energy management by firms.	<b>Achieved</b>
Highlight the benefits of installing energy efficient technology to reduce carbon emissions and promote them, as appropriate, to at least four energy intensive business sectors by producing at least six case studies by 30 June 2008.	Nine case studies highlighting benefits of energy efficient technologies have been published.	<b>Achieved</b>
Provide at least \$0.5m <sup>7</sup> in financial assistance to the AS/NZS Audit Standard, where appropriate, by 30 June 2008, to: <ul style="list-style-type: none"> <li>• conduct audits to identify energy savings of at least \$3m; and</li> <li>• provide assistance for energy managers to improve the management of at least \$40m of energy expenditure.</li> </ul>	EECA has allocated \$1.23m in grant funding to: <ul style="list-style-type: none"> <li>• identify energy savings over \$5.3m; and</li> <li>• provide assistance to improve the management of \$175m of energy expenditure.</li> </ul>	<b>Exceeded</b>
Fund energy efficiency projects in the public sector, by lending at least \$1.5m in Crown loan funding consistent with Cabinet criteria by 30 June 2008.	A total of \$2m of Crown loan funding was allocated, and provision was made to allocate a further \$0.3m in 2008/2009.	<b>Achieved</b>
Demonstrate carbon emission reductions through energy efficient technology by providing at least \$0.9m in Energy Intensive Business grants for at least 10 projects to criteria agreed between EECA and the Ministry for the Environment by 30 June 2008.	27 projects were awarded \$1.040m in grant funding. These projects will now save an estimated 5,700 tonnes of carbon per year.	<b>Exceeded</b>

<sup>7</sup> As additional funding was provided during the year, funding level and performance measures were increased from those stated in the SOI 2007-2010 to at least \$0.8m for financial assistance to identify energy savings of at least \$4m and improve the management of at least \$85m of energy expenditure.



## SUPPORTING PROGRAMME – IMPLEMENTING THE FOREST INDUSTRY DEVELOPMENT AGENDA (FIDA)

Objective: Implementing the FIDA programme provides information and incentives for businesses to utilise their energy more efficiently and reduce carbon emissions through increased use of renewable energy.

Outputs include:

- Institutional commitments
- Information

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Work with at least two companies to identify an additional 0.2 PJ per year of potential bioenergy use by 30 June 2008.	Nine companies were awarded grants for feasibility studies to evaluate the use of wood fuels with potential to deliver 0.7 PJ per year.	<b>Exceeded</b>
Provide financial support so that at least three projects are completed and the benefits are promoted to industry to encourage further investment by 30 June 2008.	Eight projects supported and the benefits of three completed projects were promoted.	<b>Achieved</b>
Complete at least two engineering solution-based research projects into the recovery of woody biomass that can be used directly by industry to increase the potential availability of woody biomass by 30 June 2008.	Two engineering solution-based research reports completed and made available on the Bioenergy Knowledge Centre website.	<b>Achieved</b>
Continue to develop the Bioenergy Knowledge Centre (BKC) to improve information available on the potential use of woody biomass, promote as appropriate to raise market awareness and measure satisfaction of users by 30 June 2008.	The BKC was upgraded to include non-wood processing sectors, such as schools and commercial sectors. Due to the upgrade work, the user satisfaction survey was deferred until next year.	<b>Partly achieved</b>

## COSTS

	Actual 2008 \$000	Budget 2008 \$000	Actual 2007 \$000
Revenue Crown	8,272	3,630	5,088
Other revenue	136	162	221
<i>Total revenue</i>	<i>8,408</i>	<i>3,792</i>	<i>5,309</i>
Total expenses	8,390	4,459	3,586
<b>Net surplus/(deficit)</b>	<b>18</b>	<b>(667)</b>	<b>1,723</b>

Actual results include \$1.7m of funding from the Ministry of Agriculture and Forestry and \$0.78m for Crown Grants not included in the original budget.

## SECTOR: TRANSPORT

### PRIORITY PROGRAMME – VEHICLE FUEL ECONOMY

Objective: Vehicle fuel economy labelling contributes to the reduction of vehicle emissions by raising consumer awareness of the most efficient makes and models of motor vehicles.

Outputs include:

- Information

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Introduce a mandatory, point of sale fuel consumption labelling scheme for new and used vehicles by 1 December 2007.	The scheme was developed by 1 December 2007 but not introduced until 7 April 2008 as a result of delays with enabling regulations.	<b>Achieved</b>
Promotional campaign to explain, support and promote the launch of the Vehicle Fuel Economy Labelling scheme, completed to EECA's internal quality criteria by 30 June 2008.	Vehicle fuel economy labelling was successfully launched to the industry, consumers and media.	<b>Achieved</b>

### SUPPORTING PROGRAMME – TRANSPORT BIOFUELS

Objective: The renewable transport fuels programme seeks to assist the introduction of an estimated 7.25 PJ's a year of renewable transport fuels by 2012 by providing technical, marketing and communications assistance to the Ministry of Economic Development-led implementation of the Biofuels Sales Obligation.

Outputs include:

- Information
- Technical advice

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Develop and implement a marketing and communications campaign to support the introduction of the Government's Biofuels Sales Obligation by 30 June 2008.	The delay to the start date of the Biofuels Sales Obligation deferred the development of a marketing and communications campaign. Despite the deferral, a consolidated website ( <a href="http://www.biofuels.govt.nz">www.biofuels.govt.nz</a> ) has been created as a central source of information on biofuels in anticipation of the Biofuels Sales Obligation.	<b>Partly achieved</b>
Hold one biofuels conference to the satisfaction of attendees by 30 May 2008.	The EECA Biofuels and Electric Vehicles conference was held in Wellington on 2 April 2008. The conference was rated highly by attendees, scoring 4.4 out of 5 on feedback forms.	<b>Achieved</b>
Provide ongoing technical advice to the MED-led implementation of the Biofuels Sales Obligation that meets the Ministry's timeframes and expectations during 2007/2008.	Technical advice provided to the MED as required and to the Ministry's timeframes.	<b>Achieved</b>

## COSTS

	<b>Actual 2008 \$000</b>	<b>Budget 2008 \$000</b>	<b>Actual 2007 \$000</b>
Revenue Crown	2,252	2,689	1,873
Other revenue	293	77	71
<i>Total revenue</i>	<i>2,545</i>	<i>2,766</i>	<i>1,944</i>
Total expenses	2,285	2,766	1,724
<b>Net surplus/(deficit)</b>	<b>260</b>	<b>-</b>	<b>220</b>

The underspend is due to the deferral of the start date for the Biofuel Sales Obligation.

## SECTOR: PRODUCTS

### PRIORITY PROGRAMME – ENERGY EFFICIENCY OF PRODUCTS

Objective: To improve the energy efficiency of new consumer products used in homes and businesses in New Zealand in conjunction with Australia, through the development of Minimum Energy Performance Standards (MEPS) and a mixture of mandatory and voluntary labelling.

Outputs include:

- Standards
- Information
- Institutional commitments

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Work with the Ministry for the Environment to amend the Energy Efficiency (Energy Using Products) Regulations 2002, to incorporate a major revision to the testing Standard and MEPS for domestic refrigerated appliances by 1 April 2008.	The amended Regulations were gazetted on 20 March and came into force on 1 April 2008.	<b>Achieved</b>
Complete cost benefit analysis and conduct public consultation, by 30 June 2008, for the proposals to introduce or increase MEPS for the following products: <ul style="list-style-type: none"> <li>• gas water heaters;</li> <li>• home entertainment products;</li> <li>• refrigerators and freezers;</li> <li>• extra low voltage converters for halogen lighting;</li> <li>• televisions;</li> <li>• clothes dryers – standby;</li> <li>• general service lighting bulbs;</li> <li>• ice makers and storage bins;</li> <li>• single phase room air conditioners;</li> <li>• close control air conditioners; and</li> <li>• personal computers and monitors.</li> </ul>	At 30 June 2008, work on MEPS progressed on all products listed except clothes dryers. In addition, work progressed on external power supplies and commercial chillers (total of 12 products). Cost benefit analysis and public consultation completed or in progress for eight products. Some timeframes were affected by changes in the schedule of the Trans-Tasman work programme.	<b>Partly achieved</b>
Administer the Trans-Tasman Equipment Energy Efficiency Committee (E3) check test programme, for existing regulated products, on behalf of the committee.	The check testing programme was successfully administered.	<b>Achieved</b>
Obtain Ministerial Council on Energy agreement to the continuation of the policy framework and funding agreement for New Zealand's participation in the Equipment Energy Efficiency Programme by 30 June 2008.	The Minister of Energy signed a Ministerial Council on Energy out-of-session endorsement paper for the policy agreement and funding arrangement on 3 February 2008.	<b>Achieved</b>
Increase consumer awareness of the ENERGY STAR® brand from 23 per cent to 28 per cent by 30 April 2008.	Consumer awareness of ENERGY STAR brand increased. ENERGY STAR unprompted awareness increased to 42 per cent in March 2008.	<b>Achieved</b>

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Achieve \$500,000 partner spend on advertising by 30 April 2008.	EECA's ENERGY STAR partners spent \$726,000 at 30 April 2008.	<b>Achieved</b>
Launch the new ENERGY STAR® personal computer specifications in New Zealand by 31 October 2007.	New computers and imaging equipment specifications were launched on the ENERGY STAR website on 5 October 2007.	<b>Achieved</b>
Launch the New Zealand ENERGY STAR specifications for refrigerators and freezers by 31 March 2008.	New ENERGY STAR specifications were launched in May 2008. The original launch date was not achieved due to a delay with specification sign off by US brand partners.	<b>Partly achieved</b>

## COSTS

	Actual 2008 \$000	Budget 2008 \$000	Actual 2007 \$000
Revenue Crown	2,765	2,249	2,382
Other revenue	–	35	50
<i>Total revenue</i>	<i>2,765</i>	<i>2,284</i>	<i>2,432</i>
Total expenses	2,805	2,284	2,469
<b>Net surplus/(deficit)</b>	<b>(40)</b>	<b>–</b>	<b>(37)</b>

## SECTOR: RESIDENTIAL

### PRIORITY PROGRAMME – ENERGYWISE™ HOMES

Objective: The ENERGYWISE™ Homes package provides information and tools to improve the energy efficiency of new and existing homes in New Zealand. The outputs in the ENERGYWISE™ Homes package will be planned and developed during 2007/2008.

Outputs include:

- Information
- Financial assistance
- Technical advice

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Develop, implement and report on a communications and marketing plan to support the ENERGYWISE™ Homes package by 30 June 2008.	A communications and marketing plan was implemented and monitored.	<b>Achieved</b>
Develop, implement and report on a plan to support the ENERGYWISE™ Homes package that will assess, and help householders compare, the energy efficiency of different household products by 30 June 2008.	An 'assurance database' developed for internal use by all EECA staff, to support the ENERGYWISE™ Homes package and other communications to householders.	<b>Partly achieved</b>

### SUPPORTING PROGRAMME – HOME ENERGY RATING SCHEME

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Launch a voluntary national Home Energy Rating Scheme (HERS) by 31 December 2007, as a trial to assess the case for a future mandatory scheme.	A voluntary trial HERS scheme was launched on 17 December 2007.	<b>Achieved</b>
Report to Cabinet on the feasibility of a mandatory national HERS by 30 June 2008.	No report was made to Cabinet. A decision was taken to allow additional time to conduct and evaluate potential options before a recommendation could be made. A briefing paper to the Minister of Energy will set out an amended proposal.	<b>Not achieved</b>

### SUPPORTING PROGRAMME – ENERGYWISE™ HOME GRANTS

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
At least 12,500 low-income, pre-1978 homes insulated using \$9.1m of grant funding, to EECA's internal quality criteria by 30 June 2008.	11,000 low-income pre-1978 homes insulated at a cost of \$7.3m.	<b>Partly achieved</b>
Work with third-party funders, such as community and energy trusts, and lines companies and power companies, to achieve an average funding ratio of \$1.90 to every \$1.00 invested by government for the ENERGYWISE™ Home Grants programme by 30 June 2008.	Average third-party to EECA funding was \$1.90 to \$1.00 for the year.	<b>Achieved</b>

## SUPPORTING PROGRAMME – ENERGYWISE™ INTEREST SUBSIDY

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Request for Information released August 2007 to seek feedback on the design of the interest subsidy scheme and to gauge industry interest and capacity to deliver the scheme. <sup>8</sup>	Request for Information was released in August 2007. After two subsequent Requests for Proposal, 15 partners signed on to deliver the programme.  47 homes have received insulation and/or energy efficiency heating devices through interest subsidy and/or grants. Interest subsidies/grants totalled \$0.038m.	<b>Achieved</b>

## SUPPORTING PROGRAMME – ENERGYWISE™ HOME GRANTS CLEAN HEAT PROGRAMME

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
At least 800 clean heating devices installed in low-income houses in areas of low air quality using \$1.1m of grant funding to criteria agreed with the Ministry for the Environment by 30 June 2008.	571 homes were retrofitted with clean heat devices using \$0.895m to criteria agreed with the Ministry for the Environment.	<b>Partly achieved</b>

## COSTS

	Actual 2008 \$000	Budget 2008 \$000	Actual 2007 \$000
Revenue Crown	12,799	5,611	2,939
Other revenue	11	104	62
<i>Total revenue</i>	<i>12,810</i>	<i>5,715</i>	<i>3,001</i>
Total expenses	12,983	5,985	2,426
<b>Net surplus/(deficit)</b>	<b>(173)</b>	<b>(270)</b>	<b>575</b>

The main reason for the significant increase in actual 2008 expenditure over the budget is the inclusion in the 2008 actual results of grants administered by EECA on behalf of the Crown.

## SECTOR: ENERGY SUPPLY AND RENEWABLES

### PRIORITY PROGRAMME – SOLAR WATER HEATING

Objective: The Solar Water Heating programme focuses on quality assurance, promotion and marketing of solar water heating, providing assistance to the industry and a finance assistance programme.

Outputs include:

- Information
- Financial assistance
- Technical advice

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Provide grant funding of at least \$3.06m (committed) for solar water heating finance assistance schemes, for the installation of at least 2,000 packaged solar water heating systems above business as usual, by 30 June 2008, through the Loans, Grants and Volume Build schemes.	\$1.73m committed and \$0.132m grants paid.  Grants committed and paid are for the equivalent of 700 residential sized solar water heating systems.  Changes have been made to the scheme in June 2008.	Partly achieved
Develop and implement a marketing and communications plan to support the Solar Water Heating programme objectives by 30 June 2008.	A marketing and communications plan was implemented.	Achieved
Implement a national promotional campaign and targeted marketing to at least 360 building industry professionals per quarter and 600 consumers in the new home market per quarter to 31 December 2007.	EECA contracted Construction Marketing Services to present material on solar water heating to industry and consumers. Presentations were given to:  Q1 685 building industry professionals and 644 consumers;  Q2 570 building industry professionals and 733 consumers;  Q3 497 building industry professionals and 654 consumers; and  Q4 567 building industry professionals and 593 consumers.	Exceeded
Promote and report on usage of EECA's Solarsmarter website by 30 June 2008.	Over 32,850 people visited the solar water heating website in the last quarter compared with 8,600 in the first quarter.	Achieved
Continue technical development work for the Solar Water Heating programme and industry, by 30 June 2008, including:  a. improved energy performance information;  b. working with the Australia/New Zealand Standards Committee for ongoing revision and improvement of Standards; and  c. improved supplier accreditation processes in the industry.	a. EECA improved the performance information on its website for 136 packaged systems from 20 solar suppliers.  b. EECA represented on CS28 Standards Committee reviewing AS/NZS 4234 – Calculation of Energy Consumption. Publication date of revised Standard set for July 2008.  c. EECA continued working with the Solar Industries Association on its accreditation and complaints processes.	Achieved



PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Continue to promote and expand the current installer training course so that at least 100 installers have undergone training and received certification by 30 June 2008.	169 installers have completed the training course this year (96 at Wintec, 37 at Unitec, 25 at CPIT and 11 at Weltec).	<b>Exceeded</b>
Increase the number of course providers offering installer training by an additional three by 30 June 2008.	Three additional providers are offering the course – Unitec (Auckland), CPIT (Christchurch) and Weltec (Wellington).	<b>Achieved</b>
<p>Work with local government to encourage reviews and reductions of the costs of building consents, including:</p> <ul style="list-style-type: none"> <li>Conduct detailed research into local government processes and fees for obtaining building consents for the installation of solar hot water by 31 August 2007.</li> <li>Facilitate councils to improve procedures and reduce costs to homeowners, present to at least 40 territorial authorities by 30 September 2007 to increase understanding of national objectives for solar water heating and the awareness of an Acceptable Solution.</li> </ul>	<p>Seven councils have now waived fees: Waitakere, Hamilton and Nelson City Councils, plus Carterton, South Waikato, Stratford and Westland District Councils.</p> <p>Building consent research was completed by 31 August 2007 and the report was distributed to all territorial authorities.</p> <p>Meetings were conducted with 40 territorial authorities by 30 September 2007 and a total of 50 by 30 June 2008.</p>	<b>Achieved</b>
Obtain and use in-situ performance data and information on a range of solar water heating applications by 30 June 2008.	Four monitoring projects were initiated in the non-residential sector. One was completed and the other three continue to collect data.	<b>Achieved</b>
Undertake an audit on a sample of solar water heating units installed, through EECA's finance assistance scheme, to ensure installations meet acceptable standards and comply with the requirements of the finance assistance programmes by 31 March 2008.	An audit of a sample of installed solar water heating systems was completed by 31 March 2008.	<b>Achieved</b>

## SUPPORTING PROGRAMME – RENEWABLE ELECTRICITY

Objective: The Renewable Electricity and Heat programme is designed to inform, support and influence electricity and heat generators and developers of all sizes, as they make final investment decisions on whether to proceed with a project or technology. The programme is also responsible for administering the Government's Marine Energy Contestable Fund.

Outputs include:

- Financial assistance
- Information
- Industry association support

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Design a contestable grant fund for the deployment and/or adaptation of marine energy generation devices in New Zealand by 24 December 2007.	The Marine Energy Deployment grant fund was launched in October 2007.	<b>Achieved</b>
Provide grant funding of up to \$2m to marine energy generation devices that are likely to bring forward the early deployment and adaptation of marine energy in New Zealand by 30 June 2008.	A contract granting \$1.85m was made with Crest Energy on 23 May 2008. The grant is subject to resource consent being granted.	<b>Achieved</b>
<p>Promote the uptake of renewable electricity and heat that is connected to distribution grids and/or used directly on-site to industry and the public, to 30 June 2008, by:</p> <ul style="list-style-type: none"> <li>• investigating and recommending changes to the New Zealand Building Code that will help to facilitate the uptake of distributed renewables that are used directly on-site by 30 March 2008;</li> <li>• implementing an education programme that will raise awareness of the benefits, costs and the role of distributed renewables to meet future energy requirements by 30 June 2008; and</li> <li>• publishing a training strategy that will identify ways that will assist the distributed renewables industry to increase its design, installation and maintenance capability by 30 June 2008.</li> </ul>	<p>EECA investigated potential changes to the Building Code and provided input to the Department of Building and Housing for the ongoing development of the New Zealand Building Code by 30 March 2008.</p> <p>An education programme was implemented including research reports, website information and factsheets.</p> <p>An industry-led strategy and action plan was published with support from EECA. The plan identifies mechanisms and actions, including training, which will assist the distributed renewable industry to increase its design, installation and maintenance capability.</p>	<b>Achieved</b>

PERFORMANCE MEASURE	RESULTS AS AT 30 JUNE 2008	STATUS
Expand the Regional Renewable Energy Assessment programme to provide local government with detailed information on the uptake of renewable electricity and heat to assist with local government sustainable energy policy development by 30 June 2008 by:	EECA prepared a guidance document to assist local government to understand the implications of small-scale renewable energy generation on resource and building consent approval processes. Publication was deferred to ensure consistency with MfE's draft National Policy Statement.	<b>Partly achieved</b>
<ul style="list-style-type: none"> <li>publishing a guidance document to help local government understand the implications of distributed renewables for their planning process;</li> </ul>	EECA provided three regional renewable energy assessments (West Coast, Hawke's Bay and Horizons Manawatu), a more specific study for Horizons Regional Council and one workshop with Northland Regional Council.	<b>Exceeded</b>
<ul style="list-style-type: none"> <li>providing two regional renewable energy assessments and holding one workshop with a regional council (and its respective territorial authorities) to assist renewable energy policy;</li> </ul>	EECA provided wave and tidal information to the Wellington Regional Council.	<b>Achieved</b>
<ul style="list-style-type: none"> <li>providing one regional council with information on wave and tidal technology for its region; and</li> </ul>	EECA completed six submissions on key Resource Management Act plans and supported 11 resource consent applications (lodging submissions and attending hearings) for a potential 21.95 PJs a year of renewable energy.	<b>Exceeded</b>
<ul style="list-style-type: none"> <li>supporting at least two submissions on key Resource Management Act plans that have implications for the greater uptake of renewable electricity by 30 June 2008.</li> </ul>		
Provide assistance to the marine, sustainable electricity, wind and geothermal associations to report/advise on and to promote their respective renewable technologies by 30 June 2008.	EECA provided support by sponsoring standards, research, conferences and publications to: <ul style="list-style-type: none"> <li>The Sustainable Energy Association of New Zealand (SEANZ);</li> <li>The New Zealand Geothermal Association;</li> <li>The New Zealand Wind Energy Association; and</li> <li>Aotearoa Wave and Tidal Energy Association.</li> </ul>	<b>Achieved</b>

## COSTS

	Actual 2008 \$000	Budget 2008 \$000	Actual 2007 \$000
Revenue Crown	6,245	5,156	1,755
Other revenue	150	80	36
<i>Total revenue</i>	<i>6,395</i>	<i>5,236</i>	<i>1,791</i>
Total expenses	6,336	5,236	3,807
<b>Net surplus/(deficit)</b>	<b>59</b>	<b>-</b>	<b>(2,016)</b>

The increase in actual 2008 expenditure is due to the inclusion of grants administered by EECA on behalf of the Crown.

# FINANCIAL STATEMENTS

These financial statements incorporate the following new disclosures:

- The amendments necessary for compliance with the New Zealand equivalents of International Financial Reporting Standards (including the restatement of prior year balances).
- A change to the policy for accounting for grant expenditure from a recognition on contract basis to a recognition on a percentage completion basis where grant expenditure is accrued only when the grantee becomes absolutely entitled to receive the grant. The balance of the sums payable under the contracts is disclosed as commitments (previous year balances have been restated accordingly).
- The inclusion of grants previously administered on behalf of the Crown from 1 July 2007 (to better reflect the operations of EECA). Previously these grants have been paid through the Ministry for the Environment and therefore there are no comparatives for 2007.
- The inclusion of Crown loans at fair value as at 30 June 2008.

## STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 30 JUNE 2008

	Notes	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
<b>Revenue</b>				
Crown Revenue				
Operational		20,582	20,090	15,515
Crown grants	27	8,967	–	–
Other revenue	2	2,799	305	146
Interest received		575	160	320
<b>Total revenue</b>		<b>32,923</b>	<b>20,555</b>	<b>15,981</b>
<b>Expenditure</b>				
Personnel		8,720	8,383	7,446
Operating				
Operational grants		3,355	1,205	43
Crown grants	27	8,967	–	–
Other	3	11,377	11,569	9,314
Depreciation	4	200	193	182
Amortisation	5	44	45	40
Capital charge	6	136	97	182
<b>Total expenditure</b>		<b>32,799</b>	<b>21,492</b>	<b>17,207</b>
<b>Net surplus/(deficit)</b>		<b>124</b>	<b>(937)</b>	<b>(1,226)</b>

The accompanying notes form part of these financial statements.

## STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 30 JUNE 2008

	Notes	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
<b>Opening equity</b>		1,924	1,287	3,150
<b>Net surplus/(deficit)</b>		<b>124</b>	<b>(937)</b>	<b>(1,226)</b>
Total recognised revenues and expenses for the period		124	(937)	(1,226)
Capital contribution	7	3,869	–	–
<b>Closing equity</b>	<b>7</b>	<b>5,917</b>	<b>350</b>	<b>1,924</b>

The accompanying notes form part of these financial statements.

## STATEMENT OF FINANCIAL POSITION AS AT 30 JUNE 2008

	Notes	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
<b>Equity</b>	7	<b>5,917</b>	<b>350</b>	<b>1,924</b>
Represented by:				
<b>Assets</b>				
<b>Current assets</b>				
Cash and cash equivalents		3,863	2,040	4,339
Other financial assets	8	3,838	–	–
Trade receivables	9	3,072	100	124
Prepayments		24	15	4
Loans	10	1,393	–	–
<b>Total current assets</b>		<b>12,190</b>	<b>2,155</b>	<b>4,467</b>
<b>Non-current assets</b>				
Loans	10	2,476	–	–
Property, plant and equipment	4	659	287	226
Intangibles	5	20	130	47
<b>Total non-current assets</b>		<b>3,155</b>	<b>417</b>	<b>273</b>
<b>Total assets</b>		<b>15,345</b>	<b>2,572</b>	<b>4,740</b>
<b>Liabilities</b>				
<b>Current liabilities</b>				
Payables	11	7,225	1,700	2,243
Income in advance		1,375	–	15
Employee entitlements	12	682	507	443
<b>Total current liabilities</b>		<b>9,282</b>	<b>2,207</b>	<b>2,701</b>
<b>Non-current liabilities</b>				
Employee entitlements	12	75	15	59
Reinstatement provision	13	71	–	56
<b>Total non-current liabilities</b>		<b>146</b>	<b>15</b>	<b>115</b>
<b>Total liabilities</b>		<b>9,428</b>	<b>2,222</b>	<b>2,816</b>
<b>Net assets</b>		<b>5,917</b>	<b>350</b>	<b>1,924</b>

The accompanying notes form part of these financial statements.

## STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2008

	Notes	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
<b>Cash flows from operating activities</b>				
<b>Cash was provided from:</b>				
Supply of outputs to the Crown		24,530	20,090	15,552
Supply of outputs to external parties		–	305	146
Interest received		575	160	320
Net Goods and Services Tax		(176)	–	66
		<b>24,929</b>	<b>20,555</b>	<b>16,084</b>
<b>Cash was applied to:</b>				
Payments to employees		(8,465)	(8,353)	(7,398)
Payments to suppliers		(12,316)	(12,774)	(9,251)
Capital charge		(136)	(97)	(182)
		<b>(20,917)</b>	<b>(21,224)</b>	<b>(16,831)</b>
<b>Net cash flows from operating activities</b>	<b>14</b>	<b>4,012</b>	<b>(669)</b>	<b>(747)</b>
<b>Cash flows from investing activities</b>				
<b>Cash was provided from:</b>				
Receipt from other financial assets		25,397	–	–
		<b>25,397</b>	<b>–</b>	<b>–</b>
<b>Cash was applied to:</b>				
Purchase of property, plant and equipment		(643)	(244)	(77)
Purchase of intangible assets		(6)	(125)	–
Acquisition of other financial assets		(29,236)	–	–
		<b>(29,885)</b>	<b>(369)</b>	<b>(77)</b>
<b>Net cash flows from investing activities</b>		<b>(4,488)</b>	<b>(369)</b>	<b>(77)</b>
Net increase/(decrease) in cash held		(476)	(1,038)	(824)
Opening cash balances		4,339	3,078	5,163
<b>Closing cash balances</b>		<b>3,863</b>	<b>2,040</b>	<b>4,339</b>
<b>Represented by:</b>				
Cash and cash equivalents		3,863	2,040	4,339
<b>Closing cash and cash equivalents</b>		<b>3,863</b>	<b>2,040</b>	<b>4,339</b>

The accompanying notes form part of these financial statements.

# NOTES TO THE FINANCIAL STATEMENTS

## 1. STATEMENT OF ACCOUNTING POLICIES FOR THE YEAR ENDED 30 JUNE 2008

### REPORTING ENTITY

The Energy Efficiency and Conservation Authority (EECA) is a Crown entity in terms of the Crown Entities Act 2004 and was established under the Energy Efficiency and Conservation Act 2000. EECA works to implement New Zealand Government strategies for energy efficiency, conservation and renewable energy in both the private and public sectors.

EECA is a public benefit entity for financial reporting purposes of New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS).

These financial statements have been prepared in accordance with section 154 of the Crown Entities Act 2004.

The financial statements are for the year ended 30 June 2008 and were approved by the Board on 7 August 2008.

### BASIS OF PREPARATION

#### Statement of Compliance

The financial statements have been prepared in accordance with Generally Accepted Accounting Practice in New Zealand (NZ GAAP). They comply with the New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS).

#### First year of preparation under NZ IFRS

EECA has changed its accounting policies to comply with NZ IFRS. The transition to NZ IFRS is accounted for in accordance with *NZ IFRS 1: First-time Adoption of New Zealand Equivalents to International Financial Reporting Standards*, with 1 July 2006 as the date of transition. An explanation of how the transition from superseded policies to NZ IFRS has affected EECA's financial position, financial performance and cash flows is discussed in note 26.

The accounting policies set out below have been applied in preparing the financial statements for the year ended 30 June 2008, the comparative information presented in these financial statements for the year ended 30 June 2007, and in preparation of the opening NZ IFRS balance sheet at 1 July 2006, EECA's date of transition.

### Measurement base

The financial statements have been prepared on an historical cost basis. Cost is based on the fair value of the consideration given in exchange for assets.

Accounting policies are selected and applied in a manner which ensures that the resulting financial information satisfies the concepts of relevance and reliability, thereby ensuring that the substance of the underlying transactions or other events is reported.

### Functional and presentation currency

The financial statements are presented in New Zealand dollars and all values are rounded to the nearest thousand dollars (\$000). The functional currency is New Zealand dollars.

### PARTICULAR ACCOUNTING POLICIES

The following particular accounting policies, which materially affect the measurement of financial performance and financial position, have been applied:

#### Budget figures

The budget figures are those approved by the Board at the beginning of the financial year. The budget figures have been prepared in accordance with generally accepted accounting practice and are consistent with the accounting policies adopted by the Board for the preparation of the financial statements at the time the budgets were approved.

#### Revenue

##### Rendering of services

EECA derives revenue through the provision of outputs to the Crown, for services to third parties. Revenue from the Crown is recognised when received and revenue from other sources is recognised for services to third parties by reference to the stage of completion of the contract at balance sheet date.

##### Interest revenue

Interest revenue is recognised on a time proportionate basis that takes into account the effective yield on the financial asset.



### Grants expenditure

EECA enters into long-term contracts to grant monies to various organisations to undertake energy conservation initiatives. These contracts oblige EECA to pay the grant when prescribed activities are undertaken by the grantee. Grant expenditure is accrued only when the grantees become absolutely entitled to receive the grant. Sums payable under the contracts for which the grantee has not yet met the conditions are reported as commitments.

### Goods and Services Tax (GST)

All items in the financial statements are exclusive of GST, with the exception of accounts receivable and accounts payable, which are stated with GST included.

Where GST is irrecoverable as an input tax, then it is recognised as part of the related asset or expense.

### Taxation

EECA is a public authority in terms of the Income Tax Act 2004 and consequently is exempt from income tax.

### Loans

Loans are initially recorded at fair value, being the notional value of the loans at date of acquisition or origination less the discount necessary to take account of the time value of money calculated at an interest rate applicable to the creditworthiness of the debtor. Thereafter, interest is recognised in accordance with the effective interest rate method such that the discount will be amortised at the interest rate applicable to the date of acquisition or origination.

### Property, plant and equipment

Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses.

Realised gains and losses arising from disposal of property, plant and equipment are recognised in the Statement of Financial Performance in the period in which the transaction occurs.

### Depreciation

Depreciation is charged on a straight line basis, so as to write off the net cost of each asset over its expected useful life to its estimated residual value.

Leasehold improvements are depreciated over the period of the lease or estimated useful life, whichever is shorter, using the straight line method.

The following estimated useful lives are used in the calculation of depreciation:

Computer equipment	3 years	33.3%
Plant & equipment	2.5-6 years	40%-16.67%
Furniture & fittings	6 years	16.67%

### Intangibles

Intangible assets comprise software applications which have a finite useful life and are recorded at cost less accumulated amortisation and impairment. These are amortised on a straight line basis over their useful lives as follows:

Computer software	3-5 years	20%-33.3%
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### Impairment

The carrying amounts of property, plant and equipment are reviewed at least annually to determine if there is any indication of impairment. Where an asset's recoverable amount is less than its carrying amount, it will be reported at its recoverable amount and an impairment loss will be recognised. Losses resulting from impairment are reported in the Statement of Financial Performance.

### Operating leases

Leases where the lessor effectively retains substantially all the risks and benefits of ownership of the leased items are classified as operating leases. Payments under these leases are recognised as an expense on a straight line basis over the lease term, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

### Employee entitlements

Provision is made in respect of EECA's liability for annual leave, long service leave and retirement leave when it is probable that settlement will be required and they are capable of being measured reliably.

Provisions made in respect of employee benefits expected to be settled within 12 months are measured at their nominal values using remuneration rate expected to apply at the time of settlement.

Provisions made in respect of employee benefits which are not expected to be settled within 12 months are measured as the present value of the estimated future cash outflows to be made by EECA in respect of services provided by employees up to reporting date.

Provision is made for sick leave at the estimated cost necessary to meet the Authority's obligations.

**Provision for reinstatement**

The provision for reinstatement represents the amount payable to restore leased premises to their original condition, discounted back to balance date. The discount rate is taken to be the Authority's incremental cost of borrowing, being the capital charge rate.

**Financial instruments**

EECA is party to financial instruments as part of its normal operations. All financial instruments are recognised in the Statement of Financial Position and all revenues and expenses in relation to financial instruments are recognised in the Statement of Financial Performance.

**Financial assets*****Cash and cash equivalents***

Cash and cash equivalents comprise cash on hand and demand deposits and other short-term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value.

***Other financial assets***

Loans and receivables comprise short-term deposits with maturities greater than 90 days from the date of acquisition.

Investments in bank deposits are initially measured at fair value plus transaction costs. After initial recognition, investments in bank deposits are measured at amortised cost using the effective interest method, subject to impairment losses if any.

***Loans***

Loans are recorded at fair value.

***Trade receivables***

Trade receivables are recorded at amortised cost less impairment.

**Financial liabilities*****Payables***

Trade payables and other payables are recognised when EECA becomes obliged to make future payments resulting from the purchase of goods and services.

**Cost of service statements**

The cost of service statements (tables), as reported in the Statement of Service Performance, report the net cost of services for the outputs of EECA and are represented by the costs of providing the output less all the revenue that can be allocated to those activities.

**Cost allocation**

EECA has derived the net cost of service for each significant activity of EECA using the cost allocation system outlined below.

***Cost allocation policy***

Direct costs are charged directly to significant activities. Indirect costs are charged to significant activities on a proportional basis, using the proportion of direct costs as a cost driver.

***Criteria for direct and indirect costs***

'Direct costs' are those costs directly attributable to a significant activity. 'Indirect costs' are those costs which cannot be identified in an economically feasible manner with a specific significant activity.

***Revenue allocation***

Interest received is apportioned to each of the output areas on the same basis as the cost allocation policy.

**New and amended standards**

There are a number of new or amended standards which have not yet taken effect.

Amendment to NZ IAS 1: *Presentation of Financial Statements*: An amendment to this Standard requires disclosure of comprehensive income. It takes effect for the 2009/2010 year. EECA has chosen not to apply this amendment early on the basis that it will have little effect on the presentation of its financial results.

NZ IAS 23: *Borrowing Costs*: This Standard was amended to prevent expensing of cost related to capital assets. The amendment applies for the 2009/2010 year. It will have no impact on EECA.

**Critical judgments, estimates and assumptions**

In preparing these financial statements EECA has made estimates and assumptions concerning the future. These estimates and assumptions may differ from actual results. The significant estimates and assumptions are as follows.

***Property, plant and equipment***

EECA establishes the useful lives of property, plant and equipment at acquisition. It reviews the lives and utility of this property, plant and equipment annually. In the event the lives differ from those assigned or if the utility of the assets is less than assumed, the cost in the form of depreciation may be wrongly allocated to any one year.

**Provisions**

EECA has a number of provisions relating to its employment and leasing contracts. These provisions depend on a number of factors including:

- the timing of amount payable;
- the amount payable; and
- the discount rate used in discounting the sums payable.

Should any of these assumptions vary from the actual timings or costs then the cost allocations may be wrong. Similarly, changes in discount rates will cause variations in the amount of cost recognised in any given period.

**Loans**

The carrying values of the loans assume that no debtor will default on any instalment due and that the discount rate applicable to the determination of the disclosed fair value is appropriate to the circumstances of each debtor. At the balance date the carrying value of the loans was fair value as this is the date of acquisition.

**Changes in accounting policy**

The accounting policy on grants has been changed to a policy in which grant expenditure is recognised only when the grantee is absolutely entitled to receipt, from a policy in which the full commitment was recognised at the inception of the contract.

The policy has been changed because the grantees do not always fulfil the conditions applicable. Consequently, there was the possibility that the payments would never be made. Any accrual relating to a payment that will never be made is considered not to fairly reflect the liabilities of EECA. As the value of the contracts which have not vested are disclosed by way of commitments no attempt has been made to calculate on the basis of probability of an accrual. It is considered that there is no reliable method to compute such an estimate.

The effect of the change in accounting policy is set out in note 27.

## 2. OTHER REVENUE

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Revenue from services to other agencies	2,429	–	–
Other revenue	370	305	146
<b>Total other revenue</b>	<b>2,799</b>	<b>305</b>	<b>146</b>

## 3. OPERATING EXPENSES

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Fees paid to external auditors:			
Audit fees – audit of financial statements	34	34	32
Audit fees – NZ IFRS	12	12	6
Board members' fees	94	93	86
Rental and operating lease costs	651	585	638
Contract services	3,998	3,050	4,574
Marketing services	4,846	4,519	2,561
Operations	1,742	3,276	1,417
<b>Total operating expenses</b>	<b>11,377</b>	<b>11,569</b>	<b>9,314</b>

## 4. PROPERTY, PLANT AND EQUIPMENT

Movement for each class of property, plant and equipment is as follows:

	Plant and equipment \$000	Furniture and equipment \$000	Computer equipment \$000	Leasehold improvements \$000	Leased assets \$000	Total \$000
<b>Cost</b>						
Balance as at 1 July 2006	204	154	282	351	30	1,021
Additions	–	–	116	1	–	117
Disposals	(2)	–	–	–	–	(2)
<b>Balance at 30 June 2007</b>	<b>202</b>	<b>154</b>	<b>398</b>	<b>352</b>	<b>30</b>	<b>1,136</b>
Balance at 1 July 2007	202	154	398	352	30	1,136
Additions	73	65	22	434	39	633
<b>Balance at 30 June 2008</b>	<b>275</b>	<b>219</b>	<b>420</b>	<b>786</b>	<b>69</b>	<b>1,769</b>
<b>Accumulated depreciation</b>						
Balance at 1 July 2006	128	106	229	235	30	728
Depreciation expense	29	25	61	67	–	182
<b>Balance at 30 June 2007</b>	<b>157</b>	<b>131</b>	<b>290</b>	<b>302</b>	<b>30</b>	<b>910</b>
Balance at 1 July 2007	157	131	290	302	30	910
Depreciation expense	38	18	62	70	12	200
<b>Balance at 30 June 2008</b>	<b>195</b>	<b>149</b>	<b>352</b>	<b>372</b>	<b>42</b>	<b>1,110</b>
<b>Carrying amounts</b>						
At 1 July 2006	76	48	53	114	–	291
<b>At 30 June 2007</b>	<b>45</b>	<b>23</b>	<b>108</b>	<b>50</b>	<b>–</b>	<b>226</b>
<b>At 30 June 2008</b>	<b>80</b>	<b>70</b>	<b>68</b>	<b>414</b>	<b>27</b>	<b>659</b>

## 5. INTANGIBLE ASSETS

Movement for each class of intangible assets is as follows:

	Acquired Software \$000
<b>Cost</b>	
Balance as at 1 July 2006	180
<b>Balance at 30 June 2007</b>	<b>180</b>
Balance at 1 July 2007	180
Additions	17
<b>Balance at 30 June 2008</b>	<b>197</b>
<b>Accumulated depreciation</b>	
Balance at 1 July 2006	93
Depreciation expense	40
<b>Balance at 30 June 2007</b>	<b>133</b>
Balance at 1 July 2007	133
Depreciation expense	44
<b>Balance at 30 June 2008</b>	<b>177</b>
<b>Carrying amounts</b>	
At 1 July 2006	87
<b>At 30 June 2007</b>	<b>47</b>
<b>At 30 June 2008</b>	<b>20</b>

## 6. CAPITAL CHARGE

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
EECA pays a capital charge to the Crown on its taxpayers' funds at 30 June and 31 December each year. The capital charge rate for the 2007/2008 financial year was 7.5 per cent	136	97	182
<b>Total capital charge</b>	<b>136</b>	<b>97</b>	<b>182</b>

## 7. EQUITY

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Opening Crown equity	545	545	545
Capital contribution	3,869	–	–
<b>Closing Crown equity</b>	<b>4,414</b>	<b>545</b>	<b>545</b>
Opening retained earnings	1,379	742	2,605
Surplus/(deficit)	124	(937)	(1,226)
<b>Closing retained earnings</b>	<b>1,503</b>	<b>(195)</b>	<b>1,379</b>
<b>Total equity</b>	<b>5,917</b>	<b>350</b>	<b>1,924</b>

### RIGHTS ATTACHING TO EQUITY

The Minister of Energy, being the responsible Minister, has the power to direct the Authority by virtue of section 20 of the Energy Efficiency and Conservation Act 2000 and section 7 of the Crown Entities Act 2004. This power includes the power to direct the Authority in matters of financial policy including distribution policy.

The capital contribution relates to the fair value of Crown loans administered by EECA as at 30 June 2008, which have been included in these financial statements.

## 8. OTHER FINANCIAL ASSETS

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Loans and receivables			
Short-term deposits > 90 days	3,838	–	–
<b>Total loans and receivables</b>	<b>3,838</b>	<b>–</b>	<b>–</b>

Weighted average effective interest rates:

Short-term deposits	8.55%	8.00%	7.34%
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## 9. TRADE RECEIVABLES

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Trade debtors	315	100	124
Crown grants receivables	2,757	–	–
<b>Total trade receivables</b>	<b>3,072</b>	<b>100</b>	<b>124</b>

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Not past due	240	100	124
Past due 1-30 days	–	–	–
Past due 31-60 days	72	–	–
Past due 61-90 days	3	–	–
	<b>315</b>	<b>100</b>	<b>124</b>

All these amounts are net of impairment which has been assessed as nil.

The carrying value of receivables approximates their fair value. As at 30 June 2008, no Crown grants receivables are past due. The Crown grants receivables are due from EECA's monitoring agency.

## 10. LOANS

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Face value of the loans	4,872	–	–
Discounted at 12.5%	(1,003)	–	–
<b>Fair value of the loans</b>	<b>3,869</b>	<b>–</b>	<b>–</b>

Short-term (< 12 months)	1,393	–	–
Long-term (> 12 months)	2,476	–	–
<b>Fair value of the loans</b>	<b>3,869</b>	<b>–</b>	<b>–</b>

EECA, on behalf of the Crown, approves and administers loans to third parties to undertake specific energy efficiency projects. The loans are interest free and repayable at periods ranging from 3-5 years. In carrying out this obligation EECA bears the risk on these loans and therefore the loans have been included in these financial statements to ensure full disclosure. Loans are recorded at fair value.

## 11. PAYABLES AND ACCRUALS

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Trade creditors	44	200	466
Accrued expenses – Grants	5,000	1,000	1,158
– Other	2,181	500	619
<b>Total payables and accruals</b>	<b>7,225</b>	<b>1,700</b>	<b>2,243</b>



## 12. EMPLOYEE ENTITLEMENTS

	Actual 30/06/2008 \$000	Budget 30/06/2008 \$000	Actual 30/06/2007 \$000
Annual leave	299	200	232
Sick leave	144	–	65
Performance-related pay	131	127	140
Accrued wages/fees	108	180	6
<b>Total current employee entitlements</b>	<b>682</b>	<b>507</b>	<b>443</b>
Long service leave	9	8	6
Retirement leave	66	7	53
<b>Total non-current employee entitlements</b>	<b>75</b>	<b>15</b>	<b>59</b>
<b>Total employee entitlements</b>	<b>757</b>	<b>522</b>	<b>502</b>

## 13. REINSTATEMENT PROVISIONS

	Actual \$000
<b>Opening balance 1 July 2007</b>	<b>47</b>
Charge for year	13
Backlog charge	9
Discounted value	2
<b>Closing balance 30 June 2008</b>	<b>71</b>

The provision represents the estimated amount necessary to restore leased premises to their original condition. This includes provisions for the relocation of EECA to Levels 7 and 8 in Vector House.

## 14. RECONCILIATION OF THE NET SURPLUS/(DEFICIT) TO NET CASH FLOWS FROM OPERATING ACTIVITIES

	Actual 30/06/2008 \$000	Actual 30/06/2007 \$000
<b>Net surplus/(deficit) from the Statement of Financial Performance</b>	<b>124</b>	<b>(1,226)</b>
Add non-cash items:		
Depreciation and amortisation	244	222
Crown grants funding	8,967	–
Crown grants expenditure	(8,967)	–
<b>Total non-cash items</b>	<b>244</b>	<b>222</b>
Add/(deduct) movements in working capital items:		
Decrease/(increase) in receivables and prepayments	(2,968)	(37)
(Decrease)/increase in payables and provisions	4,997	246
Increase/(decrease) of income in advance	1,360	–
(Decrease)/increase in employee entitlements	255	48
<b>Net movement in working capital items</b>	<b>3,644</b>	<b>257</b>
<b>Net cash flows from operating activities</b>	<b>4,012</b>	<b>(747)</b>

Crown loans are not included in the cash flow calculation as they are administered in conjunction with EECA's monitoring agent.

## 15. LEASE COMMITMENTS

	Actual 30/06/2008 \$000	Actual 30/06/2007 \$000
<b>Non-cancellable operating lease commitments payable:</b>		
Not later than one year	861	316
Later than one year and not later than two years	1,412	261
Later than two years and not later than five years	1,554	198
Later than five years	36	–
<b>Total commitments</b>	<b>3,863</b>	<b>775</b>

EECA leases office premises in Wellington, Auckland and Christchurch. The leases expire on 30 June 2010 and 1 March 2014, 3 August 2009, 15 February 2015 respectively. The commitments shown in the table relate to the non-cancellable portion of the lease commitments.

## 16. GRANT COMMITMENTS

	Actual 30/06/2008 \$000	Actual 30/06/2007 \$000
<b>Grants commitments:</b>		
Energy Intensive Business	581	561
Energy Audit	662	62
Solar Water Heating	1,403	3
ENERGYWISE™ Home Grants	5,690	–
FIDA	1,375	–
Fridge retirement grants	–	–
Interest free subsidy	–	–
<b>Total commitments</b>	<b>9,711</b>	<b>626</b>

## 17. RELATED PARTY TRANSACTIONS AND KEY MANAGEMENT PERSONNEL

EECA is a wholly owned entity of the Crown. The Government significantly influences the role of EECA as well as being its major source of revenue.

EECA contracted services with various organisations in the normal course of its business and on normal commercial terms, some of which the Directors of EECA have a business relationship with. At no time were any Directors involved in the decision making on any transactions with these related parties as detailed below:

			2008 \$	2007 \$
Roger Sutton (Chairman)	CEO Trustee	Orion New Zealand Ltd Community Energy Action	36,598 536,157	29,545 369,817
Alastair Patrick (Deputy Chairman)	Fellow Consultant	Chartered Institute of Logistics and Transport Department of Corrections	170 –	– 3,100
Geraldine Baumann (Retired)	Director	Genesis Energy	16,834	23,202
Penny Hulse	Deputy Mayor	Waitakere City Council	8,026	–
Russell Longuet	Member	Major Electricity Users' Group representing Carter Holt Harvey	1,313	1,712
	Consultant	Primary Producers Cooperative Society (PPCS)	–	100,000
Dennis Parker	Business Manager Director	UC Opportunity, University of Canterbury Sustainable Business Network – National	3,232 17,574	23,569 13,088
Greg Sise	Director	Energy Link Ltd	8,010	–

No other related party transactions took place during the period of review.

## 18. THE AUTHORITY MEMBERS' FEES

	Fees 2008 \$000	Fees 2007 \$000
<b>Board members' fees during the year were:</b>		
<b>Member</b>		
R Sutton (Chairman, appointed May 2007)	20	15
K M Ford (Chairman, retired April 2007)	–	17
A Patrick (Deputy Chairman, appointed Oct 2007)	14	12
G Baumann (Deputy Chairman, retired Sept 2007)	4	13
R Longuet	12	12
D Parker	12	12
R Sims (Retired Dec 2006)	–	5
G Sise	8	–
T Owen	8	–
P Hulse	8	–
A Pearce	8	–
<b>Total fees paid</b>	<b>94</b>	<b>86</b>

## 19. KEY MANAGEMENT PERSONNEL COMPENSATION

	Actual 2008 \$000	Actual 2007 \$000
Salaries and other short-term employee benefits	1,883	1,851
Post-employment benefits	–	–
Other long-term benefits	–	–
Termination benefits	1	–
<b>Total key management personnel compensation</b>	<b>1,884</b>	<b>1,851</b>

Key management personnel includes all Board members, the Chief Executive and the remaining 11 members of the Leadership Team.

## 20. EMPLOYEES' REMUNERATION

Total remuneration and benefits \$000	Number of employees 2008	Number of employees 2007
100-110	5	1
110-120	3	4
120-130	–	3
130-140	3	1
140-150	2	2
150-160	2	–
160-170	1	2
170-180	1	–
180-190	1	–
250-260	1	1

The Chief Executive's remuneration and benefits are in the \$250,000-\$260,000 band (2007: Chief Executive's remuneration and benefits were in the \$250,000-\$260,000 band).

## 21. EVENTS AFTER THE BALANCE SHEET DATE

There were no events after balance sheet date requiring comment.

## 22. FINANCIAL INSTRUMENTS' FAIR VALUE

	2008 \$000	2007 \$000
Short-term deposit < 90 days	2,316	4,032
Short-term deposit > 90 days	3,838	–
<b>Fair value of term deposit</b>	<b>6,154</b>	<b>4,032</b>

The fair value of accounts payable is equal to its carrying value. The fair value of the loans is the same as its carrying value as these loans were initially recognised as at balance date.

## 23. FINANCIAL INSTRUMENT RISKS

### Financial instruments which expose EECA to risk include:

- Cash and cash equivalents
- Other financial assets
- Payables
- Receivables
- Loans

### Cash and cash equivalents

Cash and cash equivalents comprise cash and short-term deposits less than 90 days from the date of acquisition.

### Credit risk

Credit risk arises in that the organisation or organisations with which surplus monies are invested may default on repayment. The maximum credit risk of cash and cash equivalents is \$3,863,000 (2007: \$4,339,000).

### Interest rate risk

EECA is subject to interest rate risk in that cash and cash equivalents are invested in term deposits with maturity dates of less than one year. It is possible that current market interest rates will rise causing the fair value of the investments to fall.

### Liquidity risk

In meeting its liquidity requirements, EECA maintains a target level of investments that must mature within specified timeframes.

In accordance with the investment policy determined by the Board surplus monies are invested with the following objectives:

- to ensure that the statutory requirements for investing are met;
- to ensure that credit risk is minimised so far as is possible; and
- to ensure that liquid funds are available as and when necessary.

It is a statutory requirement that surplus monies are held in certain prescribed institutions, being registered banks and other highly credit-rated organisations.

All term deposit monies are held with Westpac Banking Corporation Limited (Westpac). Westpac has an AA credit rating.

As the primary objective of the investment programme is to ensure monies are available to meet operational needs, investments are made with terms of less than one year. Because interest rates are re-priced in the short term there is minimal loss of value when interest rates change (see note 8).

At 30 June 2008 if interest rates had been 10 basis points higher, the fair value of short-term deposits in note 8 would have been lower by \$114.93.

### Other financial assets

Other financial assets include short-term deposits with maturities greater than 90 days from the date of acquisition [the note on 'Cash and cash equivalents' (above) is applicable to 'Loans and receivables'].

### Receivables

The only receivables outstanding are those due, in the short term greater than 90 days from the date of acquisition, from government departments. As such there is considered to be minimal credit risk attaching.

### Loans

Loans are the residual sums due from a variety of persons to whom interest free loans have been made to achieve energy conservation measures. All such borrowers are public sector entities, including health boards, territorial authorities, schools and tertiary institutions. As the emphasis on the lending programme is on energy efficiency objectives, credit risk is not regarded as a priority. Accordingly, no security is taken.

If interest rates were 10 basis point higher, the fair value of the loans would be lower by \$3,869.43.

### Payables

Payables fall due in the short term. As the cash and other cash and cash equivalents are also available in the short term, no liquidity risk arises.

## 24. CAPITAL MANAGEMENT

The Board takes all possible precautions to ensure that no adverse event arises. For instance, it strictly adheres to the prudential requirements on financial management imposed by the Crown Entities Act 2004. It also transfers its risks by purchasing various forms of insurance from appropriate creditworthy insurers.

The policy of the Board is to manage capital such that the Authority is able to tolerate a 'once in a generation' shock such as the failure of a banking institution or an adverse litigation ruling so as to protect its creditors. It seeks to do so without unnecessarily holding capital.

## 25. EXPLANATION OF SIGNIFICANT VARIANCES AGAINST BUDGET

Explanations for significant variances from the budgeted figures in the Statement of Intent are as follows:

These financial statements incorporate the following new disclosures:

- The amendments necessary for compliance with the NZ equivalents of International Financial Reporting Standards (including the restatement of prior year balances).
- A change to the policy for accounting for grant expenditure from recognition on contract basis to recognition on a percentage completion basis where grant expenditure is accrued only when the grantee becomes absolutely entitled to receive the grant. The balance of the sums payable under the contracts is disclosed as commitments (previous year balances have been restated accordingly).
- The inclusion of grants previously administered on behalf of the Crown.
- The inclusion of Crown loans at fair value as at 30 June 2008.

The budget figures are those approved by the Minister in EECA's *2007-2010 Statement of Intent* and therefore do not include any of the new disclosures noted above. Therefore, any variance between actual and budget must be viewed with this in mind.

### Statement of Financial Performance

#### Operational revenue

Operational revenue was \$0.5m higher than budgeted due to additional funding provided from the NZEECS contingency funds received during the year.

#### Other revenue

Other revenue was \$2.4m over budget because of funding received from the Ministry of Agriculture and Forestry (\$2.0m) for the FIDA project; and reimbursements due from the Ministry of Economic Development for work undertaken on the Biofuels Sales Obligation.

#### Interest revenue

Interest revenue was \$0.4m over budget as a result of higher interest income from better cash management and grantees taking longer to satisfy the requirements of the grant payment.

#### Personnel

Personnel was \$0.3m higher than budgeted as a result of additional staff employed to deliver work programmes associated with new funding.

#### Operational grants

Operational grants were \$2.0m higher for work undertaken in the FIDA grant. There is corresponding revenue received from the Ministry of Agriculture and Forestry.

#### Operational other

Other expenses were \$0.2m less than budgeted due to delay in the work programme associated with the Biofuels Sales Obligation.

#### Capital charge

Higher capital charge due to higher retained earnings arising from smaller 2006/2007 budgeted deficit.

### Statement of Financial Position

#### Trade receivables

Trade receivables were \$2.9m higher due to the amount receivable from Crown grants previously administered by EECA's monitoring agency.

#### Payables

Payables were \$5.5m higher than budgeted due to the inclusion of Crown grants (\$2.8m), and high volumes of work in progress.

### Statement of Changes in Equity

#### Surplus/deficit for the year

The surplus for the year was greater than budgeted by \$1.1m due to the budget variances explained in the Statement of Financial Performance above.

#### Capital contribution

A Capital contribution of \$3.9m was recorded as at 30 June 2008 to account for the inclusion of the Crown loan book at fair value.

## 26. EXPLANATION OF TRANSITION TO NZ IFRS

Reconciliation of equity	30/06/2007 \$000	30/07/2006 \$000
Equity under previous GAAP	1,382	3,215
Sick leave provision as at 1 July 2006	(a) (36)	(36)
Movement for sick leave provision for 30 June 2007	(b) (29)	–
Re-stated provision as at 30 June 2007	(65)	(36)
Change in the annual leave provision as at 1 July 2006	(c) (18)	(18)
Change in the annual leave provision for the year ended 30 June 2007	(d) 10	–
Change in annual leave provision due to IFRS transitions	(8)	(18)
Backlog charge for reinstatement provisions	(11) (11)	
Re-stated equity under IFRS	1,298	3,150
<b>Reconciliation of surplus</b>		
Surplus under previous GAAP	(1,833)	
Additional charge due to movement of sick leave provisions for the year	(e) (29)	
Reduction in charge due to movement of annual leave provisions for the year	(e) 10	
Re-stated surplus under NZ IFRS	(1,852)	
Accounting change for grants adjustments	626	
Re-stated surplus under NZ IFRS including grants adjustments	(1,226)	

### Explanatory notes – Reconciliation of equity

#### (a) Employee entitlement – sick leave

Sick leave was not recognised as a liability under previous NZ GAAP. NZ IAS 19 requires EECA to recognise employees' unused sick leave entitlement that can be carried forward at balance date, to the extent EECA anticipates it will be used by staff to cover future absences.

This represents sick leave provisions as 1 July 2006.

#### (b) This represents movement for sick leave provisions as at 30 June 2007 from \$35,612.21 to \$64,637.99.

#### (c) Annual leave

A computation was made based on IAS 19.14 which requires the rate of pay to be 'expected cost'. It resulted in an additional amount of annual leave of \$18,000. Under previous GAAP, annual leave was calculated by reference to the rate of pay prevailing at balance date. The basis for calculation has been revised so that the rate of pay is that estimated to be applicable at the date of crystallisation.

#### (d) This represents the change in annual leave for the year ended 30 June 2007.

#### (e) Surplus/(deficit)

This represents adjustments to the deficit as a result of the increase in the sick leave provision, which was not recognised under previous NZ GAAP and movement in annual leave provisions.



## 27. EXPLANATORY NOTES – RECONCILIATION OF SURPLUS

### Change in accounting policy

Effect on net surplus 2008	OPEX \$000	Crown \$000	Total \$000
Grant expenditure before change in policy	5,578	10,743	16,321
Less: reduction in accrual	(2,223)	(1,776)	(3,999)
<b>Revised expenditure 2008</b>	<b>3,355</b>	<b>8,967</b>	<b>12,322</b>

Effect on net surplus 2007	OPEX \$000	Crown \$000	Total \$000
Grant expenditure before change in policy	669	–	669
Less: reduction in accrual	(626)	–	(626)
<b>Revised expenditure 2007</b>	<b>43</b>	<b>–</b>	<b>43</b>

# FURTHER INFORMATION

## GOVERNANCE

### Directors holding office during the year

Roger Sutton – Chairman

Alastair Patrick – Deputy Chairman

Geraldine Baumann – retired 30 September 2007

Penny Hulse – appointed 15 October 2007

Russell Longuet

Toni Owen – appointed 15 October 2007

Dennis Parker

Dr Andy Pearce – appointed 15 October 2007

Greg Sise – appointed 15 October 2007

### Permission to act despite being an interested member

The EECA Board maintained an interest register that was updated six-monthly during the year. An item was also placed on the Board Agenda providing the opportunity for members to declare an interest in any item on the agenda. During the 2007/2008 financial year, no member was granted permission to act despite being an interested member.

### Direction given by the Minister of Energy

The Minister of Energy did not give any written direction under any enactment to EECA during the 2007/2008 financial year.

### Section 19 of the Crown Entities Act 2004

EECA has not performed any acts in breach of section 19 of the Crown Entities Act 2004.

### Risk and compliance programme

The Board views risk management as an integral part of its role. The approved risk management framework (implemented in EECA during 2005/2006), sets out strategic and operational risks for the organisation. It also has a legislative compliance programme. It is an important risk management tool, ensuring that EECA is not exposed to reputation or prosecution risks.

### Conduct

EECA has a code of conduct that outlines the standard of behaviour required. The Authority expects staff to perform their duties in accordance with this code.

EECA also has a protected disclosures policy and register of interests for both Board members and staff. During the financial year ended 30 June 2008 no protected disclosures were received and no member was granted permission to act despite being an interested member.

## Auditors

The Board has contracted Deloitte as its internal audit agent. In 2007/2008 Deloitte provided audit advice and reviews on the design of application procedures and financial controls intended for the Solar Water Heating grants programme; financial management internal controls and guidelines for sensitive expenditure; expense planning and forecasting; and contract development, monitoring and evaluation.

The statutory external audit is performed by Audit New Zealand on behalf of the Auditor-General under the Public Audit Act 2001. The results of the audit are reported to the Board and the Minister of Energy, and the audit report on the accounts and statement of service performance is included in this document.

### Internal quality criteria

EECA has a number of processes and systems to monitor the quality of its outputs.

All papers released to the Minister of Energy, Government Spokesperson on Energy Efficiency and Conservation and the Board are subject to an internal sign-off process. The responsible manager and Chief Executive sign off all papers prior to their release to ensure internal quality criteria are met.

The Board considers the progress of all its outputs and project milestones on a monthly basis. Monthly governance reporting assists the Board to scrutinise all aspects of programmes.

The Board reports in detail on a quarterly basis on all its projects to the Minister of Energy and the Government Spokesperson on Energy Efficiency and Conservation. The Ministry for the Environment, as EECA's monitoring agency, also provided advice to the Minister of Energy on EECA's performance throughout the year.

The Board has separately assessed EECA management's output delivery over the year.

### Relationship with other government agencies

The Ministry for the Environment has, up to 30 June 2008, monitored EECA's performance under the Crown Entities Act. From the 2008/2009 financial year forward, this monitoring role will be the responsibility of the Ministry of Economic Development.

The Ministry of Economic Development is the government policy advisor for the energy sector and the Ministry for the Environment also provides advice to the Minister of Energy in the development of government policy advice on energy efficiency, conservation and the use of renewable sources of energy.

EECA and the Ministry of Economic Development have a Monitoring Agreement that sets out how the two agencies will work together.

EECA works closely with the Electricity Commission, guided by a Memorandum of Understanding.

## **ORGANISATION**

### **Management team**

Chief Executive – Mike Underhill

General Manager Corporate – Ian Horne

Government and Local Government Manager – Walter Friedel

Business Manager – Murray Bell

Marketing Manager – Pat Murray

Energy Supply Manager – Fiona Weightman

Residential Manager – Katie Mathison

Products Manager – Terry Collins

Business Development Manager – Bill Brander

Monitoring and Research Manager – Robert Tromop

Finance and IT Manager – Mark Ngan Kee

### **Good employer obligations**

EECA recognises the value of good staff practices.

Key successes in the 2007/2008 financial year include:

- organisational realignment to focus on delivery;
- implementing a new team manager and team leader tier to provide a leadership pipeline and career progression for staff;
- ongoing leadership and capability development of our people;
- improving our systems and processes, by enhancing and maximising the use of our Human Resource Management Information System (HRMIS);
- improving recruitment processes to attract talented staff in a difficult labour market;
- improving our retention strategies to retain good people;
- reducing the level of staff turnover and the number of contractors considerably by establishing processes to analyse and report on staff turnover;

- measuring staff satisfaction and actioning key areas identified through our workplace survey;
- continued recognition of high achievers including staff recognition awards;
- supporting migrant talent;
- maintaining acceptable levels of organisational health; including the introduction of a number of wellness initiatives such as access to on-site massage, flu vaccinations, promotion of yoga classes, participation in the Bikewise Challenge;
- continuing to provide flexible work practices, including flexitime;
- providing information sessions on KiwiSaver;
- comprehensive induction programme to support new staff into the organisation;
- introduction to the Treaty of Waitangi training for all staff offered; and
- continued enhancements to our Training and Development strategy in order to continually educate and upskill our staff.

These activities support EECA's wider business strategy – ensuring that EECA has access to the right capability at the right time and in the right places to support the business.

# GLOSSARY OF KEY TERMS

## **Biofuel**

Biofuel is any gaseous or liquid fuel produced from biomass that can be used as a fuel for engines.

## **Building Code**

The New Zealand Building Code is the first schedule to the Building Regulations and sets out performance standards that building work must meet. All new building work in New Zealand must comply with the Building Code. Clause H1 specifies energy efficiency performance requirements.

## **Demand-side**

The load that creates the demand for energy as opposed to supply-side which refers to energy generation and supply systems. Demand-side is simply on the customer side of the meter.

## **Distributed energy/distributed generation**

Distributed energy is niche energy supply, for local needs. It is often small-scale electricity generation in homes or businesses. It can either be connected to the local electricity distribution lines, or as 'stand alone' systems that are not connected to the network. Distributed energy also includes local demand for heat, such as direct use of geothermal heat.

## **Emprove**

An EECA programme that supports the energy management initiatives of organisations that spend more than \$500,000 a year on energy.

## **Energy Intensive Businesses (EIB)**

An EECA programme that offers cash grants to help businesses adopt energy saving technologies. It is aimed at companies that spend a high portion of their business costs on energy.

## **ENERGY STAR®**

ENERGY STAR is the global mark of energy efficiency, identifying the most energy efficient products and appliances in a category.

## **Gigawatt-hour (GWh)**

One gigawatt-hour is equal to one million kilowatt-hours. New Zealand's annual demand is approximately 38,000 GWh. Huntly power station running at full capacity for one hour would produce a gigawatt-hour of electricity.

## **Joule**

The joule is the Système International (SI) derived unit of energy and heat. Its consistent use simplifies comparisons between different forms of energy and between energy supplied or consumed in New Zealand and overseas. A joule is the energy required to heat 1 cubic centimetre of water by about a quarter (0.239) of a degree Celsius, or the energy needed to lift a kilogram about 102 millimetres.

## **Kilowatt-hour (kWh)**

In the electricity industry, energy is measured in kilowatt-hours (kWh). A device with a rating of 1,000 watts or one kilowatt running for one hour would consume one kWh of electricity.

## **Megawatt-hour (MWh)**

One megawatt-hour (MWh) is equal to 1,000 kWh. MWh is the metering standard unit for the wholesale market.

## **Petajoule (PJ)**

The unit most often used to measure energy production and use on a national scale. A petajoule is  $10^{15}$  (1,000,000,000,000,000 joules). A joule is one watt over one second, meaning one kWh is equivalent to 3,600 joules. One PJ costs New Zealand between \$20m and \$30m to produce. One PJ is equal to approximately:

- 278 GW of electricity;
- 25 million m<sup>3</sup> of natural gas;
- 37 million kilograms of coal;
- 25 million litres of oil – the amount contained in a coastal tanker; or
- the amount of energy used by 28,000 households in a year.

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