Statement of Intent

2008–2011

Electricity Commission
Te Komihana Hiko

Electricity Commission
Te Komihana Hiko
Statement of Intent
2008–2011

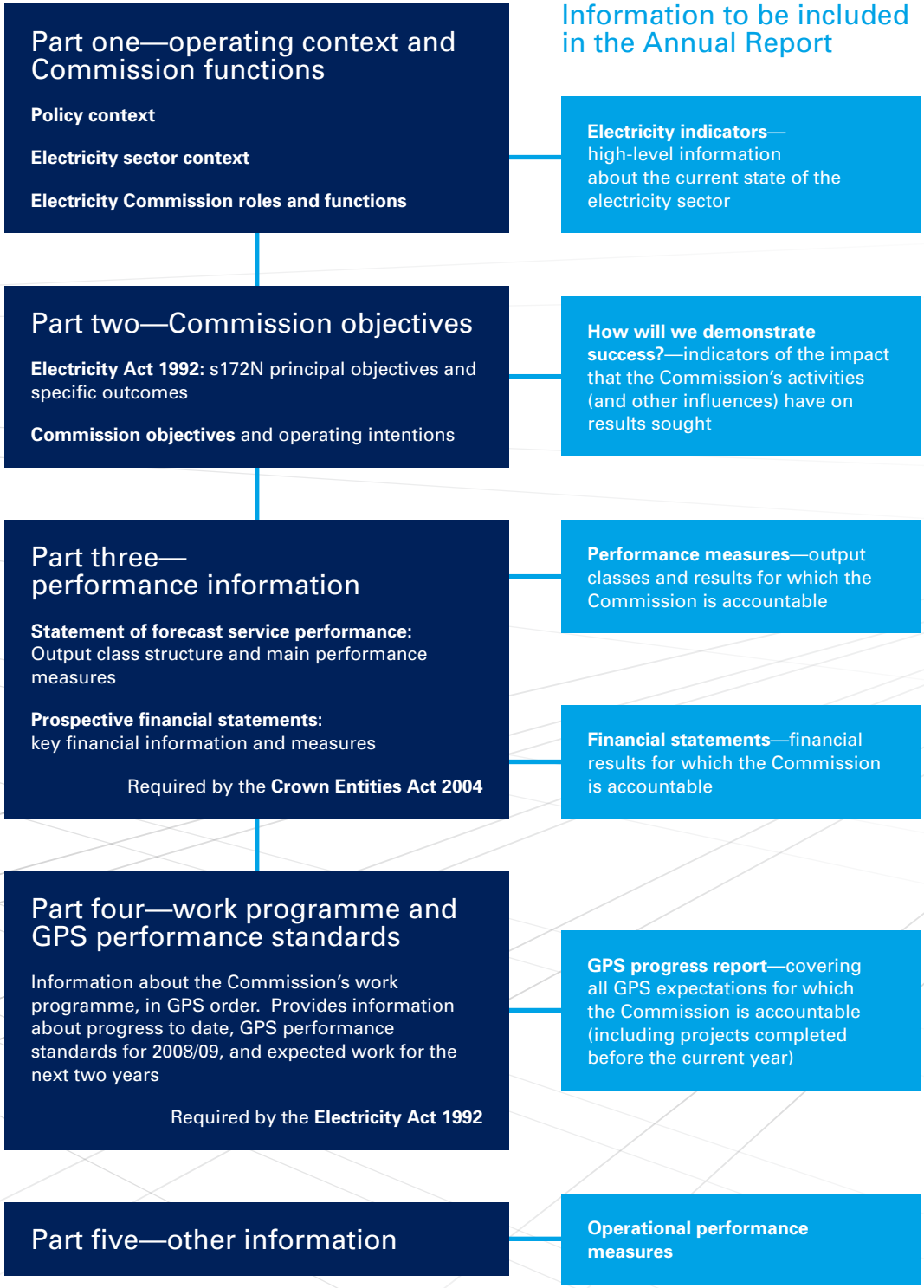
Prepared in accordance with part 4
of the Crown Entities Act 2004
and section 172ZL
of the Electricity Act 1992

Statement of Intent

This *Statement of Intent 2008–2011* (SOI) is the Commission's formal public accountability document setting out its plans for 2008/09 in detail, and for the subsequent two years in more general terms. The SOI is required to be tabled in Parliament and published.

The SOI provides the information required by the Crown Entities Act 2004 and the Electricity Act 1992.

Statement of Intent structure



Contents

Chair's foreword

The Electricity Commission (the Commission) is a multi-purpose agency responsible for regulatory oversight of the electricity industry and for the operation of the electricity system and markets. Established under the Electricity Act 1992 (the Act), the Commission is charged with the following principal objectives:

a to ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable, and environmentally sustainable manner; and

b to promote and facilitate the efficient use of electricity.

Key among the Commission's roles is the administration of the Regulations and Rules that govern the behaviour of all participants in the electricity sector. The inter-linked nature of the electricity system means that one participant's behaviour often affects others. Therefore common rules are necessary, and experience has shown that some of these at least need to be spelt out in regulation rather than left to private contract. The Commission has the function of recommending changes to these Regulations and Rules and administering existing Regulations and Rules.

This year the Commission will complete its review of the design of the wholesale and retail markets, which lie at the heart of the delivery system. After more than ten years of operation of the market, this review is timely and significant.

The Commission continues to place a high priority on ensuring that reserves are adequate to achieve security of electricity supply. Following on from the *Review of Reserve Energy* completed in 2007, the Commission will complete implementation of the necessary changes this year, while maintaining ongoing monitoring, information provision and capability functions.

A significant regulatory function for the Commission is making decisions on Transpower's proposals to invest in the high-voltage electricity grid. Future security of supply requires that the grid is periodically reinforced and expanded, the cost of which is borne by consumers.

The Commission has the task of considering upgrade proposals to ensure they appropriately balance security of supply against economic cost. The Commission has approved over a billion dollars of investment to date. This year will continue to be busy with several major projects to be considered, notably the upgrade of the High-Voltage Direct-Current link between the North and South Islands, and investment in the North Auckland and Northland region.

Much of the Commission's work relies on disseminating information rather than promulgating or enforcing Regulations and Rules. The importance of information sharing has been reinforced by the findings of the market design review. Indeed the Act requires the Commission to be satisfied that the cost of regulation is outweighed by the benefits, which implies that the same result cannot be achieved without regulation.

An important example of our information-sharing role occurs for security of supply. We continuously monitor the level of reserves and the capacity of the system to meet peak demand. In the longer term, investment decisions are likely to respond to

timely and accurate information about projected supply and demand. In the shorter term, before new investment becomes available, shortages of water, for example, must be met from other fuel reserves or reduced demand. The Commission works with participants to ensure that individual decisions, (for example those of the System Operator) are well informed and based on transparent, efficient rules.

The Government's *New Zealand Energy Strategy* (NZES), released last year, provides several challenges, notably the target of 90 per cent of electricity being generated from renewable sources by 2025. In consultation with the industry, including consumers, the Commission has conducted a series of reviews designed to identify the principal renewable resources and the changes that may be needed to facilitate greater uptake. This work will continue in the coming year.

We have also conducted extensive consultation to ensure that the potential of advanced meters enhances retail competition. Greater management of electricity load by retailers or distributors and greater response to price signals on the part of consumers have the potential to reduce peak demand, thereby lowering costs and helping energy to be used more efficiently. We will continue to pursue these initiatives this year.

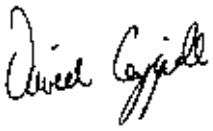
In 2008/09 we will also put in place an approved consumer complaints scheme in consultation with the Gas Industry Company. As the government has sought, the scheme we contemplate will cover both electricity and gas, and will operate in a timely and cost-effective manner.

As a Crown entity, the Commission is accountable to Parliament for the services it delivers and money it spends. The *Statement of Intent* (SOI) is published in accordance with the Crown Entities Act 2004 and provides information on the planned services and expenditure.

Our total funding is over $95 million. Most of the Commission's expenditure is associated with the contracts for the operation of the electricity system and markets (about $30 million), and also provides for the availability and operation, if necessary, of reserve energy measures (about $30 million). This year has the challenge of continuing the expansion of electricity efficiency programmes nationally that commenced in 2007/08. Up to $18.4 million is available to the Commission, which will only be committed to economically justified programmes that will provide long-term savings and accelerate the uptake of new efficient technologies.

This SOI describes the Commission's extensive programme of development work for the next three years and its ongoing outputs to progress the principal objectives in the Act.

This SOI is the result of several months of planning and consultation with interested parties. Implementing this plan will involve considerable work by both Commission staff and stakeholders. We look forward to continuing to work proactively with the electricity industry, consumers and other stakeholders to improve the overall results provided to New Zealand by the electricity sector.



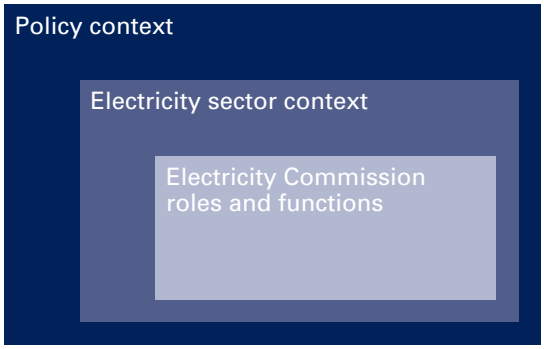
David Caygill
Chair

Part one

Operating context and Commission functions

This part of the *Statement of Intent* (SOI) provides a high-level outline of the context for the Commission's operations. Further information about the operating context is provided in appendix one. The Commission's plans take into account its operating context (see figure 1) and input from stakeholders in government, the electricity industry and electricity consumers.

Figure 1: Electricity Commission operating context and functions



Source: Electricity Commission 2008

Policy context

In April 2006 the Government announced its three priorities: economic transformation, families young and old, and national identity.

The Commission's main contribution is to the economic transformation priority. The Commission's regulatory oversight and decision-making in respect to the electricity sector contribute to the two themes within the economic transformation priority: world-class infrastructure and environmental sustainability.

In the Prime Minister's annual statement to Parliament in February 2008, the above priorities were reinforced, and additional emphasis was given to sustainability, including an expectation for the electricity sector to be effectively carbon neutral by 2025.[1]

In 2007 the Government released two key energy strategy documents: the *New Zealand Energy Strategy* (NZES); and the *New Zealand Energy Efficiency and Conservation Strategy* (NZEECS). The Minister of Energy also released a new *Government Policy Statement on Electricity Governance* (GPS) on 21 May 2008.

The key issues and risks facing the electricity sector, which the Commission must take into account in its work, are identified in these various government policy statements and in the principal objectives and specific outcomes for the Commission in section 172N of the Electricity Act 1992 (the Act).

The Commission has ensured that its objectives (part two), outputs (part three) and work programme (part four) appropriately address these strategy and policy documents.

1 The Prime Minister's speech is available at: http://www.beehive.govt.nz/speech/statement+to+parliament+2008 (accessed 27 March 2008).

Electricity sector context

This section outlines the major components of the electricity system and the roles of those involved. There are two aspects to this system—the physical system and the financial/institutional system. More detailed descriptions and information about the current state of the electricity sector are provided in appendix one.

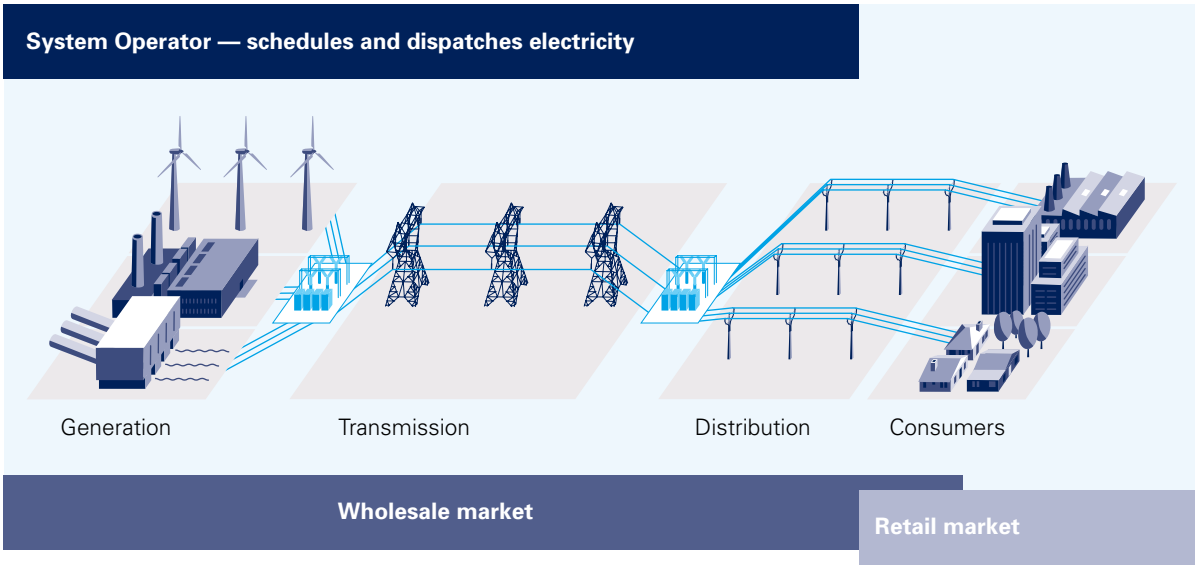
The electricity system (see figure 2) consists of:

- power stations (generators) that sell power on the wholesale electricity spot market;
- the wholesale market, comprising a short-term spot market and electricity hedges;
- system operation (including the provision of ancillary services);
- high-voltage power lines (the national grid owned by Transpower);
- low-voltage power lines (owned by local lines companies, also called distribution companies or networks);
- retailers that buy electricity on the electricity wholesale market, and sell it to consumers; and
- electricity consumption for plant, equipment, lighting and so on for industrial, commercial and residential purposes.

There are other dimensions to this picture.

- Embedded (or distributed) generation is any generation facility that produces electricity for use at the point of location, or supplies electricity to other consumers through a local lines distribution network. This power is not generally sold on the spot market (but can be). When these parties sell power they are generally selling to the retailer.
- Distributors can also be generators, but the Electricity Industry Reform Act 1998 limits how much generation they can have.

Figure 2: The electricity system



Source: Electricity Commission 2008

The Electricity Commission—overview

Statutory basis

The Government amended the Electricity Act 1992 (the Act) to establish the Electricity Commission in September 2003. The Commission is a Crown entity and operates in accordance with the Crown Entities Act 2004, including the requirement to publish statements of intent and annual reports.

The Electricity Act 1992 sets out the principal objectives and specific outcomes with which the Commission is charged. The Act also sets out the Commission's functions and lists the processes under which the Electricity Governance Regulations 2003 (Regulations) and Electricity Governance Rules 2003 (Rules) are established and amended. The Regulations and Rules set out in detail some of the obligations and responsibilities of the Commission and the electricity industry.

The *Government Policy Statement on Electricity Governance* (GPS) sets out the Government's expectations of the Commission, including the objectives and outcomes that the Government wants the Commission to give effect to.[2]

Governance and management

The Commission is governed by a Board appointed by the Minister of Energy. The Board is to have no fewer than five members, and no more than nine. Members hold office for a term of up to three years and may be reappointed. The Board generally meets on a three-weekly basis, and on other occasions when necessary. Board fees are funded from the levy on the electricity industry, which also funds the Commission's operations.

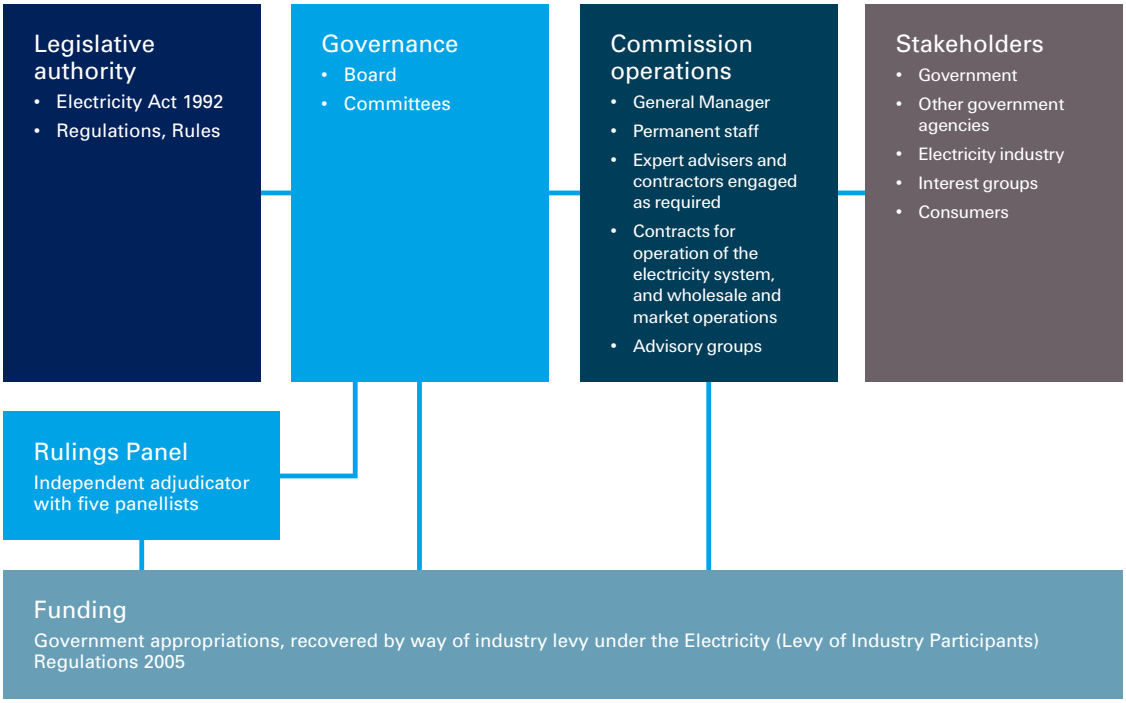
The Commission is managed by a general manager. The general manager employs a small professional team to deliver core services. External expert advice is contracted on a project-by-project basis where appropriate and necessary. Service provision contracts are used for the delivery of six major operational services central to the effective functioning of the electricity system and markets. The Commission also draws on the experience of advisory groups detailed in part five of this SOI.

An independent Rulings Panel has been established to deal with breach notifications referred to it by the Board.

Figure 3 summarises the Commission's governance, management and funding arrangements.

2 The Regulations, Rules and GPS are available on the Commission's website: www.electricitycommission.govt.nz

Figure 3: Governance, management and funding of the Electricity Commission



Source: Electricity Commission 2008

Roles and functions

Operation of the electricity system and markets

The Commission is responsible for the performance of the electricity system, and wholesale and retail markets. The Commission carries out this work by contracting and managing external service providers. The Commission contracts the System Operator for the day-to-day operation of the electricity system (see page 79).

The wholesale market involves bids to buy and offers to sell electricity. For that to happen, the Commission contracts the Pricing Manager to set final prices, the Reconciliation Manager to reconcile electricity volumes, and the Clearing Manager to carry out the process for settling accounts. The Commission contracts the Wholesale Information and Trading System to carry out information transfers, especially the uploading of bids and offers.

In the retail market, the Commission contracts the Registry to hold information on points-of-connection for consumers. The Registry enables consumers to switch retailers and retailers to access the information they need to facilitate the switching process. The Commission appointed itself as Market Administrator in 2004.[3]

Ensuring compliance with Regulations and Rules

The Commission is responsible for monitoring and enforcing compliance with the Electricity Governance Regulations 2003 and Electricity Governance Rules 2003, including:

- operation of the wholesale markets (spot and hedge);
- operation of the retail market;
- consumer protection activities;
- monitoring of the Electricity Governance (Connection of Distributed Generation) Regulations 2007; and
- monitoring of the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004.

3 Further information about service providers is available at http://www.electricitycommission.govt.nz/aboutcommission/

The Commission aims to facilitate greater understanding of and, thereby, improved compliance with the Rules, and to identify areas of the Rules that may need to be changed.

The Commission advises the Minister of Energy on statutory Regulations and Rules to ensure that the wholesale and retail markets operate efficiently and fairly.

Information provision

The Commission collects and publishes information to facilitate the efficient operation of the electricity system and markets. The Commission collects and publishes information to guide investment in transmission and transmission alternatives in the form of the *Statement of Opportunities* (SOO). Other information provision includes the centralised dataset (CDS) and wholesale and retail market reports.[4]

The Commission has also developed voluntary information publication arrangements with the industry including hydro spill data and full and up-to-date information on retail tariffs. The Commission is working on:

- improving accessibility to wholesale and retail market information;
- improving information availability following from the market design review; and
- implementing disclosure of hedge market contract information.

Transmission investment decision-making

Transpower is responsible for planning the development of the grid and must apply to the Commission for approval of its grid upgrade plans (GUPs). The Commission has statutory responsibility for decision-making on grid investment proposals from Transpower. Once a grid investment has been approved, Transpower is responsible for all aspects of the upgrade, including land acquisition and resource consents.

Security of supply

The Commission is required to use reasonable endeavours to ensure security of supply, in particular for peak and winter supply, without assuming any demand reduction from emergency conservation campaigns. At the same time it must minimise distortions to the ordinary operation of the electricity market.

The Commission works with the electricity industry to ensure security of supply. To do so, it collects and monitors a considerable amount of data and publishes information on the security of supply status. The future need for reserve energy is reviewed on at least an annual basis.

The Commission may contract for reserve energy and will manage security of supply emergencies if required. The expected result is that, if needed, implementation of reserve energy and emergency measures by the Commission provides an effective contribution to mitigating risks.

Electricity efficiency

The Commission has a significant and growing role in delivering programmes for electricity efficiency. In the 2007 Budget, the Government approved funding of $44.5 million (excluding GST) over the 2007/08 to 2009/10 years. The goal is to significantly reduce general and peak electricity demand and CO_2 emissions through more efficient use of electricity.

This investment is expected to realise sustained electricity efficiency and conservation gains. Ongoing annual benefits by the end of the 2009/10 financial year, from the combined programmes, are expected to be: electricity savings of 450 GWh per annum; and CO_2 savings of 87,000 tonnes per annum.

A principle of the NZES is that investment should occur in energy efficiency measures where this is cheaper than the long term costs of building extra generation capacity, including environmental costs.

4 Information about the CDS and a range of statistical information is available on the Commission's website at: www.electricitycommission.govt.nz

The Commission's investment in electricity efficiency programmes supports this principle. Savings are expected to be delivered at an average cost over the life of the investment of significantly less than the cost of investing in equivalent new generating capacity.

The electricity efficiency appropriation was increased by $2.6 million per annum in the 2008 Budget to contribute to the Commission's potential funding of the proposed EnergyWise Home Loans Scheme, part of the Energy Efficiency and Conservation Authority (EECA) EnergyWise programme. In addition, $2.4 million has been also been provisionally reallocated to this project from existing Commission funding, making the total potential Commission funding for the EnergyWise Home Loans Scheme $5.0 million.

The Commission's participation in the proposed EnergyWise programme is a new expectation from the NZEECS and will depend on developing a satisfactory business case, programme design and contracting arrangements.

Performance information

The Commission's output classes, performance measures, and financial statements relating to these roles and functions are included in part three of this SOI.

Figure 4 summarises the Commission's roles and functions.

Figure 4: Electricity Commission roles and functions

What the commission does: output classes	What the commission does not do	Others involved
Output class one—electricity governance and market operations **Electricity system and market operations** • Contracts providers for core services for operation of the electricity system and markets. **Monitoring and compliance** • Monitors and enforces compliance with the Electricity Governance Regulations, Rules and other legislation. • Investigates, determines, declares and seeks remedies to undesirable trading situations. • Appoints a Rulings Panel to decide disputes between market participants. • Monitors the implementation of voluntary arrangements, model agreements and guidelines it has issued, e.g. for domestic consumer contracts. **Regulatory development** • Facilitates and encourages the development of voluntary arrangements. • Proposes and administers Regulations and Rules. • Approves consumer protection mechanisms, e.g. consumer complaints scheme and guidelines for domestic consumer contracts. • Grants exemptions from Rules. • Approves grid pricing methodology. • Determines contracting parties for Transpower. **Information** • Collects and provides information to industry to assist with informing investment decisions on generation and transmission. • Provides information to consumers to assist with informing purchase and use decisions (including efficiency and power savings). **Transmission investment decisions** • Assesses and approves (or declines) Transpower's grid upgrade plans. **Security of supply governance** • Provides information and advice on policy in relation to management of security of supply. **Output classes two and three—reserve energy** • Uses reasonable endeavours to ensure security of supply including contracting for reserve energy. • Assesses the need for reserve energy and arranges for reserve energy if required. • Manages emergency conservation campaigns, if needed, to avoid material risk of supply shortages. **Output class four—electricity efficiency** • Promotes electricity efficiency, including funding efficiency programmes. • Encourages new investment in demand-side initiatives and generation, including generation from renewables (and seeking to remove barriers where identified).	Carry out planning for the electricity sector. Set retail or wholesale prices. Control prices set by Transpower or lines companies. Set strategic policy for the electricity sector. Set policy or become involved in the operation of the Resource Management Act 1991 (RMA). Regulate the gas industry. Adjudicate on retail disputes—this is carried out by independent complaints bodies. Decide whether gas, coal, wind or energy efficiency will meet new demand. Carry out planning for transmission. Provide baseload generation. Approve new generation projects. Set policy or national strategy for energy efficiency or conservation.	Planning for generation investment is carried out by both state-owned and private sector companies. Transpower is responsible for planning the national grid and distributions companies are responsible for planning local networks. Retail and wholesale prices are determined by the market. The Commerce Commission has a pricing regulation function for Transpower and lines companies. The Government's strategic policy for the electricity sector is set by the Government with policy advice and support provided by the Ministry of Economic Development (MED). The RMA is administered by the Ministry for the Environment. The gas industry has a co-regulatory arrangement under the Gas Industry Company Ltd. Electricity retailers are required to belong to the consumer complaints scheme, once approved. Whether gas, coal, wind or energy efficiency will meet new demand is determined by decisions made by investors in existing and new generation. Decisions will be influenced by the Government's announced preference for new generation to be renewable. Planning of the transmission network is carried out by Transpower, a state-owned company. Generation is provided by generation companies. EECA is the lead government agency for energy efficiency and conservation advice and programmes.

Source: Electricity Commission 2008

Part two

Commission objectives

This part of the SOI provides information about the Commission's objectives and operating intentions for the coming three years. The detail of the outputs and work programme that support the Commission's objectives is provided in parts three and four respectively.

The Commission's high-level outcomes are specified in Section 172N of the Act as principal objectives and specific outcomes.

Commission objectives—overview

The Commission has developed four objectives that link its work to the principal objectives and specific outcomes in the Act and to the requirements of the GPS. The links to the principal objectives and specific outcomes are shown in figure 5. The links to the GPS are shown in part four of this SOI.

The objectives show the Commission's three-year operating intentions, as required by section 141 of the Crown Entities Act 2004. The Commission objectives will be reviewed annually to address progress to date and changes in the operating environment.

The Commission objectives are:

1 security of supply;

2 system stability;

3 fair and efficient markets; and

4 environmental sustainability and efficient use.

For each of the Commission objectives we answer the following questions:

- What are we seeking to achieve? This section explains what the objective means and outlines the overall results to which the Commission is seeking to contribute.
- Why is this objective a priority? This section outlines the main drivers or policy source that the Commission has considered in developing this objective and its planned actions.
- What will we do to achieve the objective? This section lists the key projects or outputs that the Commission is carrying out to progress the objective. More detailed information is provided in parts three and four of this SOI.
- How will we demonstrate success? This section lists impact indicators and expected trends. The Commission expects to make a positive contribution to the impact indicators over the longer-term. However, note that a wide range of factors outside the Commission's control will also influence the impact indicators. In reporting against the indicators in its *Annual Report*, the Commission will therefore provide both data and commentary, as appropriate, for each impact indicator.

In its 2006/07 *Annual Report* the Commission published explanatory statements for each of the components of its principal objectives 'reliable' (covering 'security of supply', and 'system stability'), 'fairness', 'efficiency', 'environmentally sustainable', and 'efficient use'.

Figure 5: Commission objectives—links with the principal objectives and specific outcomes in the Electricity Act 1992

Principal objectives and specific outcomes	Commission objectives			
	1 Security of supply	2 System stability	3 Fair and efficient markets	4 Environmental sustainability and efficient use
Principal objectives				
1 The principal objectives of the Commission in relation to electricity are:				
a to ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable and environmentally sustainable manner	✓	✓	✓	✓
b to promote and facilitate the efficient use of electricity	✓		✓	✓
Specific outcomes				
2 Consistent with those principal objectives, the Commission must seek to achieve, in relation to electricity, the following specific outcomes:				
a energy and other resources are used efficiently	✓		✓	✓
b risks (including price risks) relating to security of supply are properly and efficiently managed	✓	✓		
c barriers to competition in the electricity industry are minimised for the long-term benefit of end users	✓	✓	✓	
d incentives for investment in generation, transmission, lines, energy efficiency and demand-side management are maintained or enhanced and do not discriminate between public and private investment	✓	✓	✓	✓
e the full costs of producing and transporting each additional unit of electricity are signalled			✓	
f delivered electricity costs and prices are subject to sustained downward pressure			✓	✓
g the electricity sector contributes to achieving the Government's climate change objectives by minimising hydro spill, efficiently managing transmission and distribution losses and constraints, promoting demand-side management and energy efficiency and removing barriers to investment in new generation technologies, renewables and distributed generation	✓		✓	✓

Source: Electricity Commission 2008

Objective 1
Security of supply

What are we seeking to achieve?

Security of supply is achieved when the electricity system (generation, transmission and distribution) can meet current demand and reasonably foreseeable demand. Ongoing investment in electricity infrastructure is needed to meet reliability requirements in the face of growing demand and changing generation and use patterns. While the Commission does not control this investment, it seeks to contribute ensuring security of supply by:

- providing information about future demand and the needs of the electricity system;
- ensuring effective operation of markets, resulting in efficient use of resources;
- facilitating timely processes and appropriate decisions for economic grid investment; and
- monitoring and facilitating the management of generation supply risks.

Why is this objective a priority?

This objective supports the following outcomes:

- the Government key priority of economic development—sufficient supply for growth, industry, business and residential use;
- the 'reliable' component of the Commission's principal objectives, and specific outcomes a, b, c, d, and g (see figure 5); and
- the requirements of the GPS related to transmission, distributed generation and security of supply, in particular addressing peak and winter capacity and capability.

What will we do to achieve the objective?

The Commission's key contributions are to:

- carry out regulatory development functions to facilitate improving security of supply— output class one, page 27, including:
  - the transmission for renewables project; and
  - supporting the process for grid investment decision-making;
- provide information to assist with decision-making, including regarding transmission and alternatives, e.g. SOO, centralised dataset, models, Minzone and riskmeter—output class one, page 27;
- carry out transmission investment decision-making functions—output class one, page 27;
- carry out security of supply governance functions including monitoring, advice on security, and procurement of reserve energy, if necessary—output class one, page 27; and
- manage availability and use of Whirinaki reserve energy power station—output classes two and three, page 29.

How will we demonstrate success?

Impact indicators

1 Total value of grid investment approvals.[5]

2 The security margin (peak and energy) is maintained or increased.

3 The amount of contracted reserve energy required reduces.

Objective 2
System stability

What are we seeking to achieve?

System stability is achieved when the electricity system remains stable and appropriate planning and management is carried out to deal with a range of contingencies. Demand-side and load management initiatives help to maintain system stability.

The Commission seeks to contribute to system stability by:

- contracting effectively for the day-to-day operation of the electricity system and markets; and
- undertaking project work to improve common quality.

Why is this objective a priority?

This objective supports the following outcomes:

- the Government key priority of economic development—secure supply for industry, business and residential consumers;
- the 'reliable' component of the Commission's principal objectives, and specific outcomes b, c, and d (see figure 5); and
- the requirements of the GPS related to system operation and market operation.

What will we do to achieve the objective?

The Commission's key contributions are to:

- ensure an appropriate contract is in place with the System Operator to schedule and dispatch electricity in a manner that avoids fluctuations in frequency and disruptions in supply and to monitor and enforce the contract, if required—output class one, page 27;
- carry out projects to improve the operation of the electricity system—output class one, page 27, including:
  - common quality development projects—developing rules, policies and processes to efficiently manage the frequency, voltage, and reliability of the New Zealand generation and transmission system—NZES, page 60; GPS paragraph 79;

5 This is a preliminary indicator that provides information relating to the decision-making process. The Commission is working on development of impact indicators more closely related to the impacts of its work.

- market design review—includes detailed consideration of issues for the wholesale and retail markets, including market information, prices and switching—NZES, page 60; GPS paragraph 79; and
- demand-side bidding and forecasting—NZEECS, page 62; GPS paragraph 46.

How will we demonstrate success?

Impact indicators

4 The operation of the electricity system meets quality and reliability standards—as indicated by breaches of principal performance obligations.

5 The operation of the electricity system meets frequency management standards—as indicated by the number of frequency excursions.

Objective 3
Fair and efficient markets

What are we seeking to achieve?

A key regulatory function is to ensure that the electricity system and markets operate fairly and efficiently, enabling investment in new generation to meet energy demand at the lowest cost. Fair and efficient markets also support the achievement of the other Commission objectives.

The Commission seeks to contribute to fair and efficient markets by promoting voluntary arrangements, and developing Regulations to:

- support fair and efficient operation of the wholesale and retail electricity markets;
- improve services to consumers; and
- removing barriers to generation investment.

The Commission has a strong degree of influence over the day-to-day operation of the electricity market through being responsible for contracting for these services. It can also influence the markets through the development of voluntary arrangements and Regulations. The Commission also monitors and enforces Regulations and Rules, including a range relating to protection of consumers. However, other agencies also have consumer protection responsibilities, including the Commerce Commission and the consumer complaints scheme provider (once approved).

Why is this objective a priority?

This objective supports the following outcomes:

- the Government's key priority of economic development—competitive prices for industry, business and residential consumers;
- the Government's key priority of families young and old—protecting consumers from high power bills and forced disconnection;

- the 'fair and efficient' components of the Commission's principal objectives, and specific outcomes a, c, d, e, f, and g (see figure 5); and
- the requirements of the GPS relating to wholesale related markets, consumer protection, retail and distributed generation.

What will we do to achieve the objective?

The Commission's key contributions are to:

- ensure appropriate contracts are in place for the delivery of market systems and operations (System Operator, Clearing Manager, Pricing Manager, Wholesale Information and Trading System, Registry, and Reconciliation Manager), and to monitor and enforce contracts, if required—output class one, page 27;
- monitor and enforce compliance, including low-user regulations, consumer disconnections and monitoring of distributed generation regulations (to process connection applications on a more fair and consistent basis)—NZES, page 60; output class one, page 27;
- carry out regulatory development functions including voluntary arrangements or regulation, where appropriate—output class one, page 27, including:
  - disconnections protocol;
  - consumer complaints scheme;
  - market design review—includes detailed consideration of issues for the wholesale and retail markets, including market information, prices and switching—NZES, page 60; GPS paragraph 79;
  - advanced metering guidelines—NZEECS, page 62; GPS paragraphs 46 and 125;
  - the wind project—NZEECS, page 62; GPS paragraphs 50 and 79;
  - demand side participation and pricing work; and
  - model agreements for small-scale (embedded) generation; and
- provide information to assist with decision-making such as publishing retail statistics, supporting the Powerswitch website, improving hedge market disclosure, and providing market service provider reports—output class one, page 27.

How will we demonstrate success?

Impact indicators

6 The number of rule-breaches reduces.

7 The number of advanced meters installed increases.

8 Satisfaction with the hedge market increases—as measured by the two-yearly hedge market survey.

Objective 4
Environmental sustainability and efficient use

What are we seeking to achieve?

The Commission seeks to contribute to:

- removal of barriers to renewable generation;
- improved environmental sustainability of the electricity sector by providing information, facilitation or voluntary arrangements and development of regulation; and
- improved efficiency of electricity use.

The Commission has several projects that will help improve environmental sustainability, in particular through removing barriers to renewable generation. However, note that many of the impacts of electricity production and delivery are addressed by regional and local authorities and the Environment Court through the Resource Management Act 1991—the Commission has limited involvement in these processes.

An increase in the efficiency of energy use means a change to energy use that results in an increase in net benefits per unit of energy consumed. Reducing or eliminating market barriers required to deliver electricity efficiency may require programmes that subsidise and promote electricity efficiency technologies. The Commission's investment in electricity efficiency supports the NZES principle that investment should occur in energy efficiency measures where this is cheaper than the long term costs of building extra generation capacity, including environmental costs. The Commission's programmes deliver savings at a cost significantly less than the long-run marginal cost of new generation.

Why is this objective a priority?

This objective supports the following outcomes:

- the Government's key priority of economic development—sustainable electricity supply;
- the Government's key priority of national identity—protecting New Zealand's environmental image;
- NZES requirements, including the target of 90 per cent renewables by 2025;
- the NZES principle for energy efficiency investment (as above) and the Government's peference for new generation to be renewable, except to the extent necessary to maintain security of supply;
- NZEECS requirements;
- the 'environmentally sustainable' and 'efficient use' components of the Commission's principal objectives, and specific outcomes a, d, f, and g (see figure 5); and
- the requirements of the GPS relating to electricity efficiency and renewable energy.

What will we do to achieve the objective?

The Commission's key contributions are to:

- monitor and enforce compliance, including the Electricity Governance (Connection of Distributed Generation) Regulations 2007—NZES, page 60; output class one, page 27;
- facilitate small-scale and renewable generation through regulatory development functions using voluntary arrangements, Rules or Regulations, where appropriate—output class one, page 27, including:
  - load management initiatives and advanced metering guidelines—NZEECS, page 62; GPS paragraphs 46 and 125;
  - transmission for renewables project—NZES, page 72; GPS paragraph 49;
  - demand-side bidding and forecasting—NZEECS, page 62; GPS paragraph 46;
  - the wind project—NZEECS, page 62; GPS paragraphs 50 and 79;
  - itemised billing for small scale generation—NZEECS, page 62; GPS paragraphs 120–123; and
  - technical guidelines for small-scale distributed generation programme—NZEECS, page 63; GPS paragraphs 120–123; and
- deliver cost-effective electricity efficiency programmes. Electricity efficiency programme—NZEECS, chapters two and three; output class four, page 30.

How will we demonstrate success?

Impact indicators

9 The number of GWh saved from electricity efficiency programmes increases.

10 The amount of CO_2 saved from electricity efficiency programmes increases.

11 Savings in MW peak demand from electricity efficiency programmes increase.

12 Electricity efficiency programmes are cost-effective—delivered at below the cost of constructing equivalent new generation.

Part three

Performance information

This part contains the Commission's forecast financial and non-financial performance information required by the Crown Entities Act 2004.

Statement of responsibility

Pursuant to the Crown Entities Act 2004, we acknowledge responsibility for the preparation of the statement of forecast service performance and forecast financial statements included in this part of the *Statement of Intent 2008–2011*, including the appropriateness of the assumptions underlying the forecast financial statements and all other required disclosures.

Pursuant to the Electricity Act 1992, we acknowledge the responsibility for the preparation of annual performance standards relating to the GPS objectives and outcomes, included in part four of this *Statement of Intent 2008–2011*.

We acknowledge the responsibility for establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of the Commission's performance, financial and GPS reporting, and to ensure that GPS reporting provides the basis for an informed assessment to be made of the performance of the Commission against the GPS.

We certify that the information contained in this report is consistent with the appropriations contained in the Estimates for the year ending 30 June 2009 that were laid before the House of Representatives under section 9 of the Public Finance Act 1989.

David Caygill
Chair
21 May 2008

Peter Harris
Commissioner
21 May 2008

Statement of forecast service performance

This statement of forecast service performance contains the information required by sections 141(1)(f) and 142(1)(b) of the Crown Entities Act 2004. This information will be reported against in the Commission's *Annual Report* for 2008/09 and will be audited.

The Commission's output classes are aligned one-to-one with its appropriations. Each output class statement on the following pages provides a brief description and the main measures.

Summary of output classes and main activities

Output class	Main activities	Appropriations: 2008/09 ($million)	Major contribution to commission objectives by outputs			
			1 Security of supply	2 System stability	3 Fair and efficient markets	4 Environmental sustainability and efficient use
1 Electricity governance and market operations	• Electricity system and market operations • Monitoring and compliance • Regulatory development • Information services • Transmission investment decisions • Security of supply governance	$49.043	✓	✓	✓	✓
2 Reserve energy and emergency measures—availability	• Contingency plans for emergency situations • Tendering for generation and emergency options as required • Contracting for the availability of the Whirinaki power station for the generation of reserve energy as required	$29.981	✓		✓	
3 Reserve energy and emergency measures—variable	• Multi-year reserve energy and emergency measures—variable appropriation is available to implement emergency options if needed, including fuel for Whirinaki (covers the period 1 July 2007 to 30 June 2012)	$6.000 over five years	✓		✓	
4 Electricity efficiency	• Maintaining the electricity efficiency potentials model • Electricity efficiency programmes to promote and facilitate the efficient use and conservation of electricity	$18.398	✓		✓	✓

Commission quality standard

Quality is assessed for Board papers, advice or reports to the Minister of Energy, rule-change recommendations, consultation documents, publication of final decisions and published information documents. The Commission has established a quality standard that is applied to relevant ongoing outputs and to all projects.

Commission quality standard

The required standard for all consultation papers, reports to the Minister, rule-change recommendations, and published information reports is for the following to be achieved, where applicable:

- **issue definition**—provides a clear statement of the issue or problem being addressed;
- **objectives and outcomes assessment**—provides an assessment of the issues or problem in terms of the principal objectives and specific outcomes in the Electricity Act 1992. Provides an assessment against GPS requirements, if applicable;
- **options assessment**—considers the range of viable options to address the policy issue. For each option: explains how it would address the issue, provides intervention logic for how it would achieve the objectives, discusses the costs and benefits, and sets out the advantages and disadvantages;
- **assumptions**—states any assumptions made in the analysis;
- **consultation**—demonstrates the Commission has applied an appropriate consultation process, and issues raised have been considered;
- **conclusions**—are based on the information and evidence available;
- **recommendations**—contains clear, logical recommendations;
- **written for audience**—presented clearly, logically and accurately for intended audiences; and
- **meeting all appropriate requirements**—legislative requirements will be met for all work and advice will conform with Ministerial or Cabinet Office requirements, as appropriate;

The *Annual Report* for this SOI will include a report against the quality standard in aggregate form, as assessed as part of the Commission's quality review process.

Output class one
Electricity governance and market operations

The electricity governance and market operations appropriation and output class provides for governance and monitoring of New Zealand's electricity market under the Rules and Regulations. It includes the general operations of the Electricity Commission, including the Board and advisory groups, and operation of the electricity system and market operations as described in the section on roles and functions on page 9. The major activities carried out are:

1 **Electricity system and market operations**—operation of the electricity system and wholesale and retail markets is delivered primarily through the management of contracts with service providers. This work addresses paragraph 79 of the GPS.

2 **Monitoring and compliance**—the Commission monitors and enforces compliance with the Regulations and Rules, including operation of the wholesale markets (spot and hedge), operation of the retail market, consumer protection activities, and monitoring of the Electricity Governance (Connection of Distributed Generation) Regulations 2007 and Electricity (Low fixed Charge Tariff Option for Domestic Consumers) Regulations 2004. This work addresses paragraph 10 of the GPS.

3 **Regulatory development**—the Commission facilitates the development of voluntary arrangements and advises the Minister of Energy on statutory Regulations and Rules relating to the electricity sector. This work addresses requirements throughout the GPS and is specified in part four of this SOI. Major projects during 2008/09 include the market design review, work on enabling renewables (including intermittent generation), load management and advanced metering.

4 **Information services**—the Commission collects and publishes a wide range of information to inform the efficient operation of the electricity system and markets. This work addresses paragraphs 9 and 89 of the GPS. Key publications include the *Statement of Opportunities* (SOO) and centralised dataset (CDS).

5 **Transmission investment decisions**—the Commission has a statutory responsibility for decision-making on Transpower's grid investment proposals. The Commission's decisions are required to address the Commission's principal objectives, meet the process requirements of the Rules, and meet the Grid Investment Test (GIT). This work addresses paragraphs 82–106 of the GPS.

6 **Security of supply governance**—the Commission is required to use reasonable endeavours to ensure security of supply, in accordance with Government policy. Ongoing activities include an annual review of need for reserve energy, information provision and monitoring, and contingency planning for emergency management. This work addresses GPS paragraphs 9, and 51–78. This policy and advice work is supported by contracting for reserve energy and emergency measures, and delivery of reserve energy, as required, under output classes 2 and 3.

Main performance measures 2008/09

1 Contracts are in place, monitored and enforced (if necessary) for the operation of the electricity system, wholesale market and retail market (System Operator, Clearing Manager, Reconciliation Manager, Pricing Manager, Wholesale Information and Trading System, Registry).

2 The annual performance review of the System Operator is completed within three months of receipt of the system operator's report.

3 Progress is on track for the annual update of the System Operator policy statement in accordance with the Rules and the Electricity Act 1992, by 1 September 2009.

4 The annual update of the System Operator procurement plan is completed in accordance with the Rules and the Electricity Act 1992, by 1 December 2008.

5 The number of rule-breach notifications closed (estimated range 170–230).

6 Rule-breach investigations of alleged breaches are completed:

- 50% within three months of notification.
- 85% within six months of notification.

7 Consultation papers, reports to the Minister, investigation reports and published information reports listed in the work programme (part four) meet the Commission's quality standard.

8 Consultation papers, reports to the Minister, investigation reports and published information reports listed in the work programme (part four) meet the GPS performance standard for timeliness.

9 There are no successful legal challenges of the Commission's decisions or recommendations.

10 Wholesale and retail market information reports are published monthly.

11 Grid investment decisions are made in accordance with published timetables, which may be varied by agreement, or by Commission stipulation.

12 The annual review of need for reserve energy report is completed and meets the Commission's quality standard.

13 Security of supply information is published on a timely basis and in accordance with risk status.

Output class one appropriation—electricity governance and market operations

($m, excl. GST)	Budget 2007/08	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Electricity governance and market operations—income	**49.043**	**49.043**	**46.723**	**46.723**
Electricity governance and market operations—expenditure	***49.043***	***49.043***	***46.723***	***46.723***

Output class two
Reserve energy and emergency measures—availability

The purpose of the reserve energy and emergency measures—availability appropriation and output class is to ensure the availability of reserve energy and emergency options, if needed. The Commission is required to ensure that capacity and capability are available, whether or not they are used, as described in the section on roles and functions on page 9. The major activities carried out are:

- **Contingency plans for emergency situations**—developing plans in case market mechanisms prove insufficient to address any supply shortage that may eventuate.
- **Tendering for generation and emergency options as required**—includes completing tender design, preparing tender documents, administering the tender process, and finalising procurement contracts (if needed for procurement of reserve energy or emergency measures).
- **Whirinaki availability**—contracting for the availability of the 155MW diesel-fired Whirinaki power station for the generation of reserve energy as required.

The reserve energy and emergency measures—availability output class addresses various GPS requirements under paragraphs 51–78.

Main performance measures 2008/09

14 Whirinaki power station availability is delivered in accordance with the contract.

15 Conduct tendering of reserve energy generation and emergency options for demand reduction, as required.

Output class two appropriation—reserve energy and emergency measures—availability

($m, excl. GST)	Budget 2007/08	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Reserve energy and emergency measures—availability—income	**$29.981**	**$29.981**	**$29.981**	**$29.981**
Reserve energy and emergency measures—availability—expenditure	***$29.981***	***$29.981***	***$29.981***	***$29.981***

Output class three
Reserve energy and emergency measures—variable

The reserve energy and emergency measures—variable appropriation and output class covers the Commission's intervention to address reserve energy and emergency measures, if needed, as described in the section on roles and functions on page 9. The appropriation is available to implement emergency options if needed, including fuel for Whirinaki. This appropriation is not usually drawn down as the revenue generated from Whirinaki exceeds the fuel cost.

This output class addresses various GPS requirements under paragraphs 51–78.

Main performance measure 2008/09

16 Whirinaki power station generation is delivered in accordance with the contract.

Output class three appropriation— reserve energy and emergency measures—variable

($m, excl. GST)	Budget 2007/08	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Reserve energy and emergency measures—variable—income				**$6.000 (over five years 1 July 2007 to 30 June 2012)**
Reserve energy and emergency measures—variable—expenditure				***$6.000 (over five years 1 July 2007 to 30 June 2012)***

Output class four
Electricity efficiency

The Commission's electricity efficiency output class is part of a new multi-class output expense appropriation: Energy Efficiency and Conservation. The appropriation funds the EECA energy efficiency and conservation output class and the Commission's electricity efficiency output class. This SOI addresses only the electricity efficiency output class component of the appropriation.

The Commission's electricity efficiency output class includes:

- maintaining the electricity efficiency potentials model; and
- delivering programmes to promote and facilitate the efficient use and conservation of electricity as described in the section on roles and functions on page 9.

The Commission manages programmes for electricity efficiency in the following areas:

- compressed air systems;
- industrial motors;
- national efficient lighting strategy; and
- commercial buildings.

The Commission works closely with EECA in conducting this work, which includes the consideration of possible implementation of the EnergyWise home loans scheme in 2008/09.

This output class addresses paragraphs 9, 33–42 and 46 of the GPS.

Main performance measures 2008/09

17 Develop and implement a plan to make appropriate electricity efficiency potential information available to targeted stakeholder groups.

18 Reports for Electricity efficiency programmes listed in the work programme (part four) meet the Commission's quality standard.

19 Reports for Electricity efficiency programmes listed in the work programme (part four) meet the GPS performance standard for timeliness.

Output class four appropriation—electricity efficiency

($m, excl. GST)	Budget 2007/08	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Electricity efficiency—income	**13.074**[6]	**18.401**	**15.595**	**17.519**
Electricity efficiency—expenditure	***13.074***	***18.401***	***15.595***	***17.519***

Electricity Commission litigation fund

The Electricity Commission litigation fund appropriation is to provide funding to ensure that the Electricity Commission is able to participate in litigation effectively and without delay. This is a Crown expense appropriation, which is drawn on only for major litigation. There is no output class for this appropriation.

Two judicial review cases were started in 2007/08, which are expected to continue into 2008/09. The judicial reviews underway at the time of publication of this SOI are:

- **Otahuhu substation diversity proposal**—in a decision announced on Friday 14 March 2008, the High Court declined a judicial review bought by the Major Electricity Users' Group in respect of the Commission's decision on Transpower's Otahuhu Substation Diversity Proposal. However, MEUG filed a notice of appeal on 15 April 2008.
- **North Island (Whakamaru–Pakuranga) grid upgrade (NIGU)**—on 19 December 2007 New Era Energy Incorporated commenced proceedings for a judicial review of the Commission's decision to approve NIGU. The hearing is currently set down for August 2008.

($m, excl. GST)	Budget 2007/08	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Electricity Commission litigation fund—income	**0.444**	**0.444**	**0.444**	**0.444**
Electricity Commission litigation fund—expenditure	***0.444***	***0.444***	***0.444***	***0.444***

6 Budget made up of $0.667 million transferred from 2006/07, plus $12.407 million funding for 2007/08.

Prospective financial statements

The Crown Entities Act 2004 requires prospective financial statements to be presented in the *Statement of Intent*. The purpose of these financial statements is to provide a base against which the Commission's actual financial performance can be assessed in order to promote public accountability.

These prospective financial statements are prepared for the purpose described above and the information may not be appropriate for any other purpose. Actual financial results achieved for the period covered may vary from the information presented, and the variations may be material.

There is no intention to update the prospective financial statements subsequent to presentation.

Reporting entity

The reporting entity is the Electricity Commission, which is a Crown Agent in terms of the Crown Entities Act 2004 and the Public Finance Act 1989. The Commission was established under the Electricity Act 1992.

The Commission is a public benefit entity, as defined under NZIAS 1 and a reporting entity for the purposes of the Financial Reporting Act 1993, the Public Finance Act 1989, and the Crown Entities Act 2004.

Statement of compliance and basis of preparation

These prospective financial statements have been prepared in accordance with Generally Accepted Accounting Practice (GAAP) in New Zealand, adopting the New Zealand equivalents to International Financial Reporting Standards (NZIFRS) and its interpretations approved by the Accounting Standards Review Board.

The financial statements are presented in New Zealand dollars rounded to the nearest thousand.

The accounting policies below have been applied consistently to all periods presented in the financial statements.

These prospective financial statements comply with FRS42.

Statement of significant assumptions

These financial statements have been compiled on the basis of government policies and legislation at the time the statements were finalised.

A conservative view has been adopted with the assumption that funding will remain at the currently appropriated levels over the forecast period of these statements.

Budget and forecast expenditure is based on the assumption that the cost of inputs will increase in line with general inflation, except where specific contractual obligations exist.

Prospective statement of financial performance

	Note	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Crown revenue	1	94,345	89,993	92,715
Whirinaki spot revenue[7]		–	–	–
Interest income		1,230	1,230	1,230
Other revenue		16	16	16
Total revenue		**95,591**	**91,239**	**93,961**
Employee benefit costs	3	7,171	7,529	7,906
Depreciation and amortisation expense		1,828	1,853	1,942
Other operating expenses	2	85,346	80,611	82,867
Total expenses		**94,345**	**89,993**	**92,715**
Surplus/(deficit) for the period		**1,246**	**1,246**	**1,246**

Prospective statement of movements in equity

	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Opening balance at 1 July	**6,343**	**7,589**	**8,835**
Surplus/(deficit)			
– Governance and market operations	1,246	1,246	1,246
– Reserve energy and emergency measures—availability	–	–	–
– Reserve energy and emergency measures—variable	–	–	–
– Electricity efficiency	–	–	–
– Electricity Commission litigation fund	–	–	–
	1,246	**1,246**	**1,246**
Closing balance at 30 June	**7,589**	**8,835**	**10,081**

7 Spot revenue is earned when the Whirinaki power station generates electricity. Whirinaki only generates electricity under specific conditions that may or may not occur. Due to the unpredictable nature of its operation, these figures are not able to be estimated with any degree of certainty. For this reason they are not included in the forecast financial statements.

The statement of accounting policies forms an integral part of, and should be read in conjunction with, these financial statements.

Prospective statement of financial position

	Note	Opening at 1 July 2008	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Taxpayers' funds		**6,343**	**7,589**	**8,835**	**10,081**
Assets					
Current assets					
Cash and cash equivalents		9,504	5,657	8,349	11,128
Receivables and prepayments		21	–	–	–
		9,525	**5,657**	**8,349**	**11,128**
Non-current assets					
Property, plant and equipment	4	528	1,281	1,110	938
Intangible assets	5	9,807	8,765	7,490	6,129
		10,335	10,046	8,600	7,067
Total assets		**19,860**	**15,703**	**16,949**	**18,195**
Liabilities					
Current liabilities					
Payables and accruals		7,631	7,631	7,631	7,631
Employee benefits		483	483	483	483
Provisions		5,403	–	–	–
		13,517	**8,114**	**8,114**	**8,114**
Total liabilities		**13,517**	**8,114**	**8,114**	**8,114**
Net assets employed		**6,343**	**7,589**	**8,835**	**10,081**

The statement of accounting policies forms an integral part of, and should be read in conjunction with, these financial statements.

Prospective statement of cash flows

	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Cash flows from operating activities			
Cash received from the Crown	88,943	89,994	92,715
Cash received from Whirinaki spot revenue	–	–	–
Cash received from third parties	16	16	16
Cash paid to suppliers	(85,326)	(80,611)	(82,868)
Cash paid to employees	(7,171)	(7,529)	(7,906)
Net GST refunded/(paid) on operations	–	–	–
Net cash flows from operating activities	**(3,538)**	**1,870**	**1,957**
Cash flows from investing activities			
Interest received from investments	1,230	1,230	1,230
Acquisition of property, plant and equipment	(1,118)	(108)	(108)
Acquisition of intangibles	(421)	(300)	(300)
Net cash flows from investing activities	**(309)**	**822**	**822**
Net increase/(decrease) in cash and cash equivalents	(3,847)	2,692	2,779
Cash and cash equivalents at beginning of year	9,504	5,657	8,349
Cash and cash equivalents at end of year	**5,657**	**8,349**	**11,128**

The statement of accounting policies forms an integral part of, and should be read in conjunction with, these financial statements.

Statement of significant accounting policies

a) Foreign currency transactions

Transactions in foreign currencies are translated at the foreign exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are translated to New Zealand dollars at the foreign exchange rate ruling at that date. Foreign exchange differences arising on translation are recognised in the statement of financial performance.

b) Property, plant and equipment

Classes of property, plant, and equipment

The major classes of property, plant, and equipment are as follows:

- leasehold improvements;
- computer hardware;
- furniture and fittings; and
- office equipment.

Owned assets

Items of property, plant and equipment are stated at cost, less accumulated depreciation and impairment losses. Where material parts of an item of property, plant, and equipment have different useful lives, they are accounted for as separate items of property, plant, and equipment.

Disposal of property, plant and equipment

Where an item of plant and equipment is disposed of, the gain or loss recognised in the statement of financial performance is calculated as the difference between the net sale price and the carrying amount of the asset.

Leased assets

Leases where the Commission assumes substantially all the risks and rewards of ownership are classified as finance leases. The assets acquired by way of finance lease are stated at an amount equal to the lower of their fair value and the present value of the minimum lease payments at inception of the lease, less accumulated depreciation and impairment losses.

Subsequent costs

Subsequent costs are added to the carrying amount of an item of property, plant, and equipment when that cost is incurred if it is probable that the future economic benefits embodied with the item will flow to the Commission. All other costs are recognised in the statement of financial performance as an expense as incurred.

Depreciation

Depreciation is charged to the statement of financial performance using the straight line method. Depreciation is set at rates that will write off the cost of the assets, less their estimated residual values, over their useful lives. The estimated useful lives of major classes of assets and resulting rates are as follows:

Type of asset	Estimated life	Depreciation rate
Computer hardware	3–5 years	20%–33%
Furniture and fittings	5 years	20%
Office equipment	5 years	20%

The cost of leasehold improvements is capitalised and depreciated over the unexpired period of the lease. All assets are assumed to have no residual value. Capital work-in-progress is recognised as costs are incurred and not depreciated until the asset is completed and fully operational.

c) Intangible assets

Software

Software applications that are acquired by the Commission are stated at cost less, accumulated amortisation and impairment losses.

Subsequent expenditure

Subsequent expenditure on intangible assets is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure is expensed as incurred.

Amortisation

Amortisation is charged to the statement of financial performance on a straight line basis over the estimated useful lives of intangible assets.

Type of asset	Estimated life	Depreciation rate
Software	3–8 years	12.5%–33%

d) Receivables and prepayment

Receivables and prepayments are stated at cost, less impairment losses. Bad debts are written off during the period in which they are identified.

e) Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits. Bank overdrafts that are repayable on demand and form an integral part of the Commission's cash management are included as a component of cash and cash equivalents for the purpose of the statement of cash flows.

f) Impairment

The carrying amounts of the Commission's assets are reviewed at each balance date to determine whether there is any indication of impairment. If any such indication exists, the recoverable amount for the asset is estimated. The estimated recoverable amount is the greater of the fair value for the asset, less costs to sell and value in use.

If the estimated recoverable amount of an asset is less than its carrying amount, the asset is written down to its estimated recoverable amount and an impairment loss is recognised in the statement of financial performance.

g) Employee benefits

Defined contribution plans

Obligations for contributions to defined contribution plans are recognised as an expense in the statement of financial performance as incurred.

Long service leave

The Commission's net obligation for long service leave is the amount of future benefit that employees have earned in return for their service in the current and prior periods. The obligation is calculated using the projected unit credit method and is discounted to its present value. The discount rate is the market yield on relevant New Zealand government bonds at the balance sheet date.

Annual leave

Annual leave is a short-term obligation and is calculated based on the actual amount the Commission expects to pay.

Sick leave

The Commission provides for accumulating sick leave to the extent that it is probable that the employees will take more than their future annual entitlements. The calculation of the provision for sick leave is based on historical payroll information, using remuneration rates current as at the reporting date to measure the liability.

h) Provisions

A provision is recognised when the Commission has a present legal or constructive obligation as a result of a past event and it is probable that an outflow of economic benefits will be required to settle the obligation.

i) Payables and accruals

Payables and accruals are stated at cost.

j) Income tax

The Commission is a public authority under the Income Tax Act 1994 and is therefore exempt from income tax.

k) Goods and services tax

All amounts are shown exclusive of goods and services tax (GST), except for receivables and payables, which are stated inclusive of GST. Where GST is not recoverable as an input tax, it is recognised as part of the related asset or expense.

l) Revenue

Crown revenue

The Commission is funded by appropriations from Parliament that cover the range of outputs the Commission provides to the Crown. Revenue from appropriations is recognised when matched by expenditure in the period in which it is incurred.

Whirinaki spot revenue

The Commission earns spot revenue from the sale of electricity generated by the Whirinaki power station. This revenue is recognised when earned and is reported in the financial period to which it relates.

Interest income

Interest income is recognised in the income statement as it accrues, using the effective interest method.

Other revenue

Other revenue is for services provided to third parties. Such revenue is recognised when earned and is reported in the financial period to which it relates.

m) Expenses

Operating lease payments

Payments made under operating leases are recognised in the statement of financial performance on a straight line basis over the term of the lease.

Changes in accounting policies

There have been no changes in accounting policies.

Notes to the financial statements

1 Crown revenue

	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Governance and market operations	49,043	46,723	46,723
Reserve energy and emergency measures – availability[8]	26,457	27,231	28,029
Reserve energy and emergency measures – variable[9]	–	–	–
Electricity efficiency	18,401	15,595	17,519
Electricity Commission litigation fund	444	444	444
	94,345	**89,993**	**92,715**

2 Other operating expenses

	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Service provider contracts	28,404	28,404	28,404
Whirinaki contract	25,809	26,583	27,381
Whirinaki fuel costs[10]	–	–	–
External advice	9,604	6,861	6,396
Efficiency programmes	16,966	14,160	16,083
Audit fees	37	37	37
Auditor fees for other services	12	12	12
Advisory and working group fees	285	285	285
Commissioners' fees	1,054	1,054	1,054
Rulings Panel fees	167	167	167
Operating lease expenses	591	631	631
Travel expenses	392	392	392
	2,025	2,025	2,025
	85,346	**80,611**	**82,867**

3 Employee benefit costs

	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Salaries and wages	6,990	7,339	7,706
Contributions to defined contribution plans	181	190	200
Increase/(decrease) in employee benefit provisions	–	–	–
	7,171	**7,529**	**7,906**

8 Reserve energy and emergency measures—availability is an annual appropriation to fund the availability of reserve energy and emergency options, if required. Costs forecast under this appropriation are primarily for the availability and operation of the Whirinaki power station, which is maintained on standby for the generation of reserve energy. There is also a contingency for emergency options. The prospective figures reflect the actual costs expected to be incurred under the Whirinaki contract. These are lower than the full appropriation, which was set before the contract was finalised.

9 Reserve energy and emergency measures—variable is a multi-year appropriation to cover the cost of fuel for the Whirinaki power station. Spot revenue is earned from the sale of electricity generated by Whirinaki and will usually be higher than the cost of fuel. It is therefore unlikely that this appropriation will be drawn down.

10 Whirinaki fuel costs arise only when electricity is generated. The Whirinaki power station only generates electricity under specific conditions that may or may not occur. Due to the unpredictable nature of its operation, these figures are not able to be estimated with any degree of certainty. For this reason they are not included in the forecast financial statements.

The statement of accounting policies forms an integral part of, and should be read in conjunction with, these financial statements.

4 Property, plant and equipment

	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Computer hardware	76	84	89
Computer hardware (service provider)	756	638	523
Office equipment	47	51	54
Furniture and fittings	57	56	55
Leasehold improvements	345	281	217
Net book value at 30 June	**1,281**	**1,110**	**938**

5 Intangible assets

	Budget 2008/09	Forecast 2009/10	Forecast 2010/11
Software	240	325	324
Software (service provider)	8,525	7,165	5,805
Net book value at 30 June	**8,765**	**7,490**	**6,129**

The statement of accounting policies forms an integral part of, and should be read in conjunction with, these financial statements.

Part four

Work programme and GPS performance standards

Work programme planning and reporting

The Commission's work programme lists key activities and projects in the order in which they appear in the GPS. The work programme includes GPS performance standards for 2008/09 required by section 172ZL of the Electricity Act 1992. The work programme has been updated to address the 2008 GPS.

Many of the performance standards relate to project work and relevant documents (such as consultation papers and final reports) are notified in the *Commission Update* and published on the Commission's website.

The *Annual Report* for 2008/09 will provide a report against all GPS performance standards in this SOI. The *Annual Report* will provide the information that is necessary to enable an informed assessment to be made of the performance of the Commission against the GPS objectives and outcomes and against the performance standards for 2008/09. The report will provide more detailed information on ongoing activities such as monitoring and statistical reporting. The actual results for transmission investment proposal timetables will be reported in the *Annual Report*.

Work programme

GPS paragraph	Output class reference	GPS project	Expected progress 2007/08 [11]	GPS performance standard for 2008/09 [12]	2009/10 and 2010/11 expected progress	Contribution to Commission objectives			
						1. Security of supply	2. System stability	3. Fair and efficient markets	4. Environmental sustainability and efficient use
Commission powers and approach									
1–3	All	General expectations on process, approach and consultation	Ongoing requirements	Ongoing requirements	Ongoing requirements	✓	✓	✓	✓
4–6		**Consultation**							
4–5	All	Consultation processes	Ongoing requirements	Ongoing requirements	Ongoing requirements	✓	✓	✓	✓
5	All	Consultation protocol	Completed 2007	Maintain	Maintain	✓	✓	✓	✓
6	1	Consultation with the Ministry of Consumer Affairs	New requirement included in the 2008 GPS	Ongoing activity	Ongoing activity			✓	
7		**Advisory groups**							
7	All	Advisory group support and input	Ongoing activity	Ongoing activity	Ongoing activity	✓	✓	✓	✓

11 These statements of expected progress will be reported on in the Commission's report for 2007/08. Actual results are not available until the end of the financial year and may affect performance expectations in following years.

12 These statements address the requirements of section 172ZL of the Electricity Act 1992. They will be reported against in the Commission's 2008/09 Annual Report as described above.

GPS paragraph	Output class reference	GPS project	Expected progress 2007/08	GPS performance standard for 2008/09	2009/10 and 2010/11 expected progress	Contribution to Commission objectives			
						1. Security of supply	2. System stability	3. Fair and efficient markets	4. Environmental sustainability and efficient use
8		**Innovation**							
8	All	Encouraging innovation in Commission work	Ongoing requirements	Ongoing requirements	Ongoing requirements	✓	✓	✓	✓
9		**Information**							
9	1	Information collection, analysis and dissemination	Ongoing activity	Ongoing activity	Ongoing activity	✓	✓	✓	✓
9	1	Centralised dataset (CDS)	CDS, 4 datasets to November 2007	Two CDS updates	Ongoing CDS updates	✓	✓	✓	
9, 89	1	*Statement of Opportunities* (SOO)—see paragraph 89							
9	1	Market modelling, including the Generation Expansion Model (GEM) and market simulation	Development started in 2006 GEM published 2007	Updated and improved GEM released into the public domain Market simulation and real-time dispatch models released	Ongoing update of models	✓	✓		
10		**Administration of regulations and rules**							
10	1	Monitoring and compliance with Rules and Regulations	Ongoing monitoring and compliance Enforcement, if necessary	Ongoing monitoring and compliance Enforcement, if necessary	Ongoing monitoring and compliance Enforcement, if necessary		✓	✓	✓
10	1	Compliance framework—review of the compliance regime	Started 2007/08	Implement the results of the compliance framework review	Business-as-usual		✓	✓	✓
10	1	Review of market monitoring and compliance approach	Started 2007/08	Complete development of a proactive monitoring method	Business-as-usual		✓	✓	✓
New Zealand Energy Strategy* and *New Zealand Energy Efficiency and Conservation Strategy									
11–16	1–4	NZES and NZEECS general expectations	Ongoing requirements for delivery, reporting and monitoring	Ongoing requirements for delivery, reporting and monitoring	Ongoing requirements for delivery, reporting and monitoring	✓		✓	✓

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
Consumer protection									
17–20		**Domestic consumer contracts**							
17–20	1	Domestic consumer contracts	Development completed	Alignment process with benchmark (transmission) agreement underway as business-as-usual Ongoing monitoring	Ongoing monitoring			✓	
21–22		**Low fixed charges**							
21–22	1	Monitoring the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004	Ongoing monitoring Enforcement, if necessary	Ongoing monitoring Enforcement, if necessary	Ongoing monitoring Enforcement, if necessary			✓	
23–24		**Arrangements for the benefit of low-income and vulnerable domestic consumers**							
23–24	1	Guidelines on arrangements to assist low-income and vulnerable domestic consumers	Guidelines updated July 2007 and in February 2008	Ongoing monitoring Recommend Regulations, if necessary	Ongoing monitoring Recommend Regulations, if necessary			✓	
25		**Arrangements in the event of retailer insolvency**							
25	1	Arrangements in the event of retailer insolvency	Issues and options paper developed	Finalise recommendations	Implement recommendations			✓	
26–32		**Consumer complaints resolution system**							
26–32	1	Development and approval of consumer complaints resolution scheme	Development of scheme Government promulgated policy to have one scheme for electricity and gas	Complete approval of scheme and commence business-as-usual monitoring	Business-as-usual monitoring Recommend Regulations, if necessary			✓	

GPS paragraph	Output class reference	GPS project	Expected progress 2007/08	GPS performance standard for 2008/09	2009/10 and 2010/11 expected progress	Contribution to commission objectives			
						1. Security of supply	2. System stability	3. Fair and efficient markets	4. Environmental sustainability and efficient use
Electricity efficiency									
33–39	4	General requirements, inter-agency coordination	Ongoing requirements	Ongoing requirements	Ongoing requirements	✓		✓	✓
35	4	Electricity efficiency potentials study	Potentials study completed and published	Updates to model developed and made available	Ongoing updates	✓		✓	✓
40	4	Memorandum of understanding (MOU) with EECA	MOU signed in August 2005	MOU update to address new requirements in 2008 GPS	Ongoing coordination on programmes	✓		✓	✓
41–42		**Discount rate**							
42	4	Cost-effectiveness assessment of programmes	Business-as-usual assessment	Business-as-usual assessment	Business-as-usual assessment	✓		✓	✓
43–46		**Other arrangements and programmes**							
44		**Generation**							
44	1	Hydro spill information disclosure	Ongoing industry reporting of hydro spill data under a voluntary arrangement	Ongoing industry reporting of hydro spill data under a voluntary arrangement	Ongoing industry reporting of hydro spill data under a voluntary arrangement	✓			✓
45		**Conveyance**							
45	1	Load management	Complete investigation stages and develop recommendations	Initiate priority load management development items and associated rule-changes, if necessary	Lead management development work may continue into 2009/10 and 2010/11	✓	✓	✓	✓
46		**End use**							
46, 125	1	Metering technology *(includes NZEECS action—page 62)*	Complete advanced metering and load management guidelines	Implementation	Ongoing monitoring Development of regulations, if necessary	✓	✓	✓	✓

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
46	1	Demand-side initiatives following from market design review (see paragraph 79) *(includes NZEECS action—page 62)*	Complete demand-side initiatives as in the 2007–10 SOI Market design options paper	Potential initiatives from market design review to improve levels of demand response	Work will continue from 2008/09	✓	✓		✓
46	4	Efficient lighting *(includes NZEECS action—page 18)*	Complete compact flourescent lamp (CFL) programme Develop efficient lighting strategy Complete request for proposals (RFP) to develop and implement lighting efficiency programmes beyond the scope of the residential CFL programme	Implement lighting efficiency programme based on 2007 RFP responses	Ongoing programme	✓	✓	✓	✓
46	4	Compressed air *(includes NZEECS action—page 32)*	Develop and deliver best practice package for compressed air operation and maintenance Complete RFP for auditors Complete best practice assessments for 40 large industrial consumers	Continue to provide subsidised efficiency audits of major compressed air systems and facilities Case-by-case subsidies for capital improvement Best practice operation and maintenance guidelines completed	Programme continues - focus on case-by-case subsidies Best practice transfer to industry	✓	✓	✓	✓
46	4	Electric motors—'bounty scheme' for accelerated replacement to efficient MEPS compliant motors *(includes NZEECS action—page 32)*	Develop and implement awareness programme and policies for motor replacement Complete RFP and implement motors bounty scheme	Continue 'bounty scheme' for motors Roll-out of motor replacement policies for industry uptake Possible rewinders accreditation	Ongoing programme Potential for additional programmes around ongoing management of efficient motor systems	✓	✓	✓	✓

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
46	4	Commercial buildings *(includes NZEECS action—page 33)*	Complete RFP and implement commercial building programme	Continue to implement commercial buildings programme	Continue commercial buildings programme	✓	✓	✓	✓
46	4	EnergyWise home loans project *(NZEECS action—page 18)*	Consideration of the EnergyWise Home Loans Scheme Potential development of contract arrangements	Potential programme implementation	Potential ongoing programme	✓			✓
Renewable energy									
47–50	1	Transmission enabling renewables *(includes NZES action—pages 72 and 81).*	Project initiated in October 2007 Issue identification completed	Possible framework covering information provision and policy issues to be addressed Develop policy solutions	Possible implementation of policy solutions	✓	✓		✓
50		**Integration issues**							
50, 79	1	Strategic wind project	Phase 1 and Phase 2 completed —initial consultation, analysis of the impacts and consultation on high-level mitigation options	Complete phase 3—initiate rule changes arising from impact investigations	Business-as-usual	✓	✓	✓	✓
Security of supply									
51–57		**Security of supply background, key requirements and objective for the Commission**							
51–57	1	Correlation of intermittent generation	Modify security assessment to factor in correlation between periods of low hydraulic inflows and wind	Possible finalisation of 2007/08 work Assessment of peak capability	Business-as-usual	✓	✓		✓

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
51–57	1	Price demand elasticity assessment		Carry out analysis to develop understanding of demand response to price	Business-as-usual	✓	✓		✓
58–60		**Security of supply policy**							
53–66, 78	1	Implement reserve energy review recommendations *(includes NZES action—pages 60 and 68)*	*Initial Security of Supply Policy* published in June 2005 Independent review published May 2007 Commission consulted and reported to the Minister Start implementation	Complete implementation the review recommendations	Business-as-usual Next review to be completed by the end of 2012	✓	✓		✓
61–64		**Information, forecasting and monitoring**							
61–64	1	Information, forecasting and monitoring	Ongoing requirements	Ongoing requirements	Ongoing requirements	✓	✓		✓
65–66		**Hydro storage guidelines**							
65–66	1	Hydro storage guidelines	Addressed as part of the review of the security of supply policy	Included as part of the annual security assessment	Included as part of the annual security assessment	✓	✓		✓
67–73		**Reserve energy**							
67–73	1	Contracting reserve energy capacity	From 1 April 2005, reserve generation capacity has been provided by the Whirinaki 155MW power station	Considered as part of the annual security assessment	Considered as part of the annual security assessment	✓	✓		
74–75		**Emergency management**							
74–75	2, 3	Response planning and contingency arrangements	Interim response plan completed Commission emergency response not required during 2006/07 and 2007/08 up to 30 April	Implement reserve energy and emergency options as needed	Implement reserve energy and emergency options as needed	✓	✓		

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
76–77		**Levy**							
76–77	2, 3	Cost and recovery from reserve energy requirements	Ongoing arrangements	Ongoing arrangements	Ongoing arrangements	✓	✓		
System operation and wholesale related markets									
79	1	Contracting for the operation of the electricity system and markets	Business-as-usual	Business-as-usual	Business-as-usual	✓	✓	✓	✓
79	1	Market design review *(includes NZES action—pages 60 and 68, NZEECS—page 62)*	*Market Design Issues Paper* published May 2007 Market design options paper expected to be published by June 2008	Market design work on the options paper has the potential to result in further work in 2008/09 Release of final market design review (solutions) paper Implementation phase	Potential work may continue from 2008/09	✓	✓	✓	✓
79	1	Market information project	Market design options paper	Potential initiatives from market design review to improve market information and analysis	Work may continue from 2008/09		✓	✓	✓
79	1	Offer and dispatch rule development	Industrial co-generation rules completed Consultation papers covering: a. dispatch of HVDC b. minor offer and dispatch rule changes	Completion of work from 2007/08 Work arising out of the wind project Potential work arising out of market design review	First principles review of dispatch and consideration of specific rule-change proposals	✓	✓	✓	✓
79, 124	1	Guidelines for secondary networks.		Embedded network guidelines completed.	Consult on and complete guidelines for the creation and operation of consumer networks and network extensions			✓	

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
79	1	Pricing process improvements	Consultation paper and rule changes for initial initiatives in 2007/08	Implement initial initiatives Publish consultation paper on additional possible initiatives	Possible implementation of additional initiatives			✓	
79	1	Common quality development programme *(includes NZES action—pages 60 and 68)*							
		Expand normal frequency band	Scope and investigation	Complete market investigation of normal frequency bands and frequency keeping (FK) procurement Complete business case and initiate rule changes	Complete rule changes and implementation		✓	✓	
		Multiple frequency keepers	Investigation of market solutions	Develop a system to co-ordinate multiple frequency keepers Complete market integration investigation and expert technical investigation	Complete implementation		✓	✓	
		HVDC frequency sharing capability	Investigation initiated	Complete investigation and recommend course of action	Unknown—depends on the results of investigation completed in 2008/09		✓	✓	
		HVDC instantaneous reserve transfer capability	Stage 1—investigation. The Commission is seeking input from Transpower as grid owner on the HVDC capacity	Stage 2—define rule changes and market system requirements	Complete implementation	✓	✓	✓	

GPS paragraph	Output class reference	GPS project	Expected progress 2007/08	GPS performance standard for 2008/09	2009/10 and 2010/11 expected progress	Contribution to Commission objectives			
						1. Security of supply	2. System stability	3. Fair and efficient markets	4. Environmental sustainability and efficient use
79, 125	1	Electricity hedge market development	Survey and report in 2006/07 Complete development and implement effective and liquid energy hedge arrangements Disclosure rule changes	Develop and implement remaining initiatives proposed by the Hedge Market Development Steering Group Annual survey Potential work from the market design review	Business-as-usual, including regular surveys, if warranted	✓		✓	
80–81		**Transmission risk management**							
80–81	1	Transmission hedge market development	Survey and report completed 2006/07 Consultation paper on transmission hedge rules Economic analysis model and consultation paper	Finalise proposal and make recommendations to the Minister	Complete implementation	✓		✓	
Transmission									
82–83		**Transmission background and objectives**							
84–88		**Connection to and use of the national grid**							
84–87		Grid reliability standards (GRS)	GRS completed February 2006	Business-as-usual	Business-as-usual		✓	✓	
88	1	Transmission contracting arrangements (Benchmark Agreement (BA), and Interconnection Rules (ICR))	BA completed 2006/07 Connection code, outage protocol and interconnection services developed 2007/08	Support implementation	Business-as-usual		✓	✓	
89–106		**Investment in and maintenance of the transmission network, planning ahead, environmental effects, transmission alternatives**							
89, 8	1	*Statement of Opportunities* (SOO)	*Initial Statement of Opportunities* (SOO) in July 2005	SOO August 2008	SOO August 2010	✓	✓	✓	

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
90–106	1	Grid investment decision-making	To 2006/07—$256m of approvals July 2007–March 2008—$995m of approvals including Whakamaru to Auckland, Otahuhu substation and upper South Island reactive support	Depends on timing of complete proposals from Transpower, decisions are expected to be made on: – HVDC link upgrade – North Auckland and Northland grid upgrades – West Coast grid upgrade – Economic investments required to support renewables	To be decided—based on Transpower's 2008 *Annual Planning Report*	✓	✓	✓	
107–109		**Pricing for connection to and use of the national grid, and cost recovery and pricing principles**							
107–109, 45	1	Transmission pricing methodology (TPM)	Final TPM gazetted on 12 July 2007	Transpower is to address issues raised by internal audit. The Commission will monitor progress	Business-as-usual monitoring				
107–109, 45	1	Locational transmission pricing investigation		Scoping to be carried out	Investigation and analysis completed Completion expected in 2010/2011			✓	✓
Distribution									
110–112		**Pricing methodologies**							
110–112	1	Distribution pricing methodologies *(includes NZEECS action—page 62)*	Complete development of principles or model approaches to distribution pricing	Ongiong monitoring Develop regulations, if necessary	Business-as-usual monitoring	✓	✓	✓	✓
112	1	Monitoring of changes in urban and rural lines charges		Formal monitoring implemented	Business-as-usual monitoring	✓		✓	

GPS paragraph	Output class reference	GPS project	Expected progress 2007/08	GPS performance standard for 2008/09	2009/10 and 2010/11 expected progress	Contribution to Commission objectives			
						1. Security of supply	2. System stability	3. Fair and efficient markets	4. Environmental sustainability and efficient use
113		**Use of system agreements**							
113	1	Distribution use-of-system agreements	The Commission published model distribution use-of-system agreements in December 2005	Business-as-usual monitoring	Business-as-usual monitoring		✓	✓	
Interrelationship with the Commerce Commission									
114–119	All	Memorandum of understanding (MOU)	The MOU between the two Commissions was last updated in August 2007	Further update requested by 30 November 2008— paragraph 119 of the 2008 GPS	Business-as-usual			✓	
Distributed generation									
121	1	Guidelines or standards for domestic-scale distributed generation		Investigate the provision of guidelines or standards for domestic-scale distributed generation	Potential for further action depending on the results of the investigation	✓	✓	✓	✓
122–123	1	Distributed generation: itemised billing and technical standards *(includes NZEECS actions—pages 62 and 63)*	Plan and scope projects	Production of guidelines and standards completed	Business-as-usual			✓	
Retail									
124	1	Market design improvements in the retail area	Market design issues paper, May 2007 Options paper in 2007/08	Market design work on the options paper has the potential to result in further work in 2008/09 Release of final market design review (solutions) paper Implementation phase	Potential continued work from 2008/09			✓	✓

GPS PARAGRAPH	OUTPUT CLASS REFERENCE	GPS PROJECT	EXPECTED PROGRESS 2007/08	GPS PERFORMANCE STANDARD FOR 2008/09	2009/10 AND 2010/11 EXPECTED PROGRESS	CONTRIBUTION TO COMMISSION OBJECTIVES			
						1. SECURITY OF SUPPLY	2. SYSTEM STABILITY	3. FAIR AND EFFICIENT MARKETS	4. ENVIRONMENTAL SUSTAINABILITY AND EFFICIENT USE
125	1	Review of part J of the Rules	Completion of rule changes and system developments	Complete implementation and initiate business-as-usual monitoring	Business-as-usual monitoring	✓	✓	✓	
125	1	Review of part D of the Rules (metering)		Initiate review	Implement rule changes Possible publication of guidelines for compliance and information papers			✓	
125	1	Consumer switching rules compliance	Business-as-usual monitoring	Business-as-usual monitoring	Business-as-usual monitoring			✓	
126		**Reconciliation of, and payment for, distribution line losses**							
126	1	Loss factors methodology—including loss factors and loss optimisation *(includes NZEECS action—page 62)*	Complete development of distribution loss optimisation model approach	Ongoing monitoring Develop regulations, if necessary	Ongoing monitoring Develop regulations, if necessary			✓	✓
Accountability requirements									
128	NA	Quarterly reporting to Minister	Ongoing reporting	Ongoing reporting	Ongoing reporting	✓	✓	✓	✓

Part five

Other information

Operational information, health and capability

Main operational performance measures

The Commission has identified four main operational performance measures, which relate to how the Commission operates. These measures are described in the following sections on organisational health and capability, business and information systems, risk management, communication and stakeholder relationships, and relationships with other government agencies.

Main operational performance measures 2008/09

1 The Commission's consultation protocol is followed when applicable.

2 The Commission manages within its appropriations.

3 Maintain low level of staff turnover.

4 Complete a review of the performance management process.

Organisational health and capability

Staff retention and recruitment

The Commission operates with a small team of high-achieving specialists and a small number of skilled support staff. The high level of industry knowledge required in many roles is not readily available. The Commission is conscious of the need to retain staff as well as to provide an environment into which it can recruit new staff, if needed. The focus is on maintaining a culture of excellence, mutual respect, enthusiasm and personal development.

Staff turnover at the Commission is low, with recruitment in the last year mainly into the electricity efficiency area to meet the requirements of expanded programmes and to bring in-house some work previously outsourced. The aim for the coming year will be to maintain low turnover and to consider flexible options for newly established roles.

The Commission does not envisage a significant increase in staff numbers in the short term. Several operational areas have been reviewed in recent years and an appropriate balance established between contract resource and in-house staff.

Staff support package

The Commission recognises the importance of physical activity to balance the office based work environment, to contribute to the overall wellbeing of staff and to encourage interaction in non-work environments.

In 2007 the Commission introduced a staff support package, which provides opportunities for subsidised health and fitness initiatives. The package will be reviewed on an ongoing basis to ensure fit for the organisation and good practice. In addition, the Commission encourages work-based team activities and supports staff at local, national and international level in a variety of sporting endeavours. An employee assistance programme has also been introduced to provide support for staff with home or work-based issues.

Review of job descriptions and job sizing

The current tight labour market and scarcity of appropriate resources brings into sharp focus the requirement for appropriate remuneration and reward for all staff. The Commission uses the Hay job sizing system as a guide for salary setting and is about to undertake a review of job descriptions and job sizing.

Performance management

The Commission recognises the importance of personal and professional development. In 2006, the Commission introduced a performance management programme, which has been implemented for all staff. This programme is being reviewed to ensure it meets the ongoing needs of the organisation. Any changes resulting from the review will be implemented for the 2008/09 year.

An important component of the performance management process is the identification of training and development needs. The Commission recognises the importance of continued development for staff

within their current roles and for potential moves within the organisation. The coming year will see emphasis on leadership development for the senior management team, formalising of the development plans for all staff, and succession planning.

Business and information systems

In 2005 the Commission completed a review of the pathway forward for information management. Since that time various projects have been undertaken that have enabled, for example:

- improving access to the Commission's systems for staff who need to work remotely; and
- improved use of standard document formats for both staff and external advisers working for the Commission.

The Commission continues to outsource the management of its desktop and server environment. This approach is working well with no change of approach forecast in this area.

Risk management

In 2006 the Board established a Risk and Audit Committee. The Committee's role includes:

- overseeing the quality and integrity of financial reporting;
- considering of the appropriateness of the Commission's policy framework and management processes regarding risk identification; and
- overseeing the internal audit process to evaluate the effectiveness of risk management.

The committee has approved a risk framework and risk register. The risk register is regularly updated and mitigation actions recorded. The Chief Financial Officer, General Manager and Risk and Audit Committee monitor progress on mitigation actions.

The Commission has a business continuity plan that contains guidance for staff and, in particular, includes steps to be taken in the event of a pandemic.

Communication and stakeholder relationships

The Commission relies heavily on its ongoing relationship with companies in the electricity industry to gain feedback on proposals for the development of improvements to the operation of the New Zealand electricity market.

Advisory groups and project teams

The Commission maintains active communication links with industry and with other interested groups, such as Grey Power, through the operation of seven advisory groups. The focus for these groups ranges from advice on transmission to the operation of the wholesale market. In addition specific project teams are established for the duration of individual projects where a high-level of external input is beneficial. Project teams include, by way of example, the retail social agency protocol working group, the lighting efficiency stakeholder group, and the wind generation investigation project technical stakeholders group. Information on advisory groups and project teams is provided in the following section.

The Electricity Commission puts considerable emphasis on effective consultation in carrying out its functions, including consulation related to:

- issues on which the Commission may consider recommending Rules or rule changes;
- grid investment decision-making (as required under part F of the Rules); and
- the Commission's planning processes.

Specific processes are followed for rule changes. The Commission reports to the Minister with recommendations, and the Minister makes the final decision. Both the Commission's recommendations and the Minister's decisions on rule changes are published in the *New Zealand Gazette*.

Relationships with other government agencies

Ministry of Economic Development

The Ministry of Economic Development (MED) is the Government's policy adviser for the energy sector, including the electricity sector. The Ministry leads the development of sector strategy, for example through the development of the NZES, and is involved in the formulation of legislation (Acts and Regulations) for the electricity sector. The MED also acts as the purchase adviser to the Minister of Energy on the requirements of the Crown Entities Act 2004.

Ministry of Consumer Affairs

The Ministry of Consumer Affairs is part of the MED. The Ministry's primary role is to create an environment that promotes good and accurate information flows between suppliers and consumers so that consumers can transact with confidence. Paragraph 6 of the 2008 GPS includes an expectation that the Commission will consult with the Ministry of Consumer Affairs when pursuing outcomes that directly impact on small consumers.

Ministry for the Environment

The Ministry for the Environment is responsible for administering the Resource Management Act 1991 (RMA). The Ministry is a government department, responsible to the Minister for the Environment. The RMA is the legislation under which generators apply for resource consents for the construction and operation of generating plant and any associated development work. RMA requirements also apply to the development of transmission and distribution infrastructure, and some maintenance work.

Applications for resource consent under the RMA are made to territorial local authorities and may be appealed to the Environment Court. The Ministry is responsible for managing the call-in process for resource consents and for the developing national policy statements, including the national policy statement on transmission (completed) and national policy statement on renewables (being developed).

Commerce Commission

The relationship between the Electricity Commission and Commerce Commission is addressed in paragraphs 114–119 of the GPS. The two commissions have developed a memorandum of understanding (MOU), which was updated in 2007 and is available on the Commission's website.

Energy Efficiency and Conservation Authority

The Electricity Commission's role and relationship with the Energy Efficiency and Conservation Authority (EECA) is outlined in paragraphs 33 to 40 of the GPS. The Commission works closely with EECA to co-ordinate electricity efficiency initiatives and design and implement programmes to promote and encourage the uptake of electricity efficiency measures among consumers. A memorandum of understanding (MOU) was agreed between the two agencies in August 2005 and is available on the Commission's website. The MOU is being updated to address the recent changes to the GPS.

Parliamentary Commissioner for the Environment

The Parliamentary Commissioner for the Environment (PCE) was set up under the Environment Act 1986. As an independent Officer of Parliament, the PCE has wide-ranging powers to investigate environmental concerns. 'Independent' means independent of the government of the day, so the PCE reports not to a government Minister but to Parliament. The Commissioner is separate from the Ministry for the Environment. The PCE carries out an annual examination of the Electricity Commission's achievement against GPS objectives and outcomes concerning the environment under section 172ZP of the Electricity Act 1992. The reports are available on the PCE website: www.pce.govt.nz

Cost-effectiveness of the Commission's work

The cost-effectiveness of the Commission's work is assured through:

- **Appropriation consultation**—the Commission's planned work priorities and appropriations are scrutinised through public consultation in accordance with section 172ZCA of the Electricity Act 1992. The Commission provides information on its proposed work priorities and high-level information on intended expenditure. Where relevant and possible, information is provided on the potential benefits being sought in terms of net present value. While very detailed costing information is not available at this stage of the planning cycle, the information provided allows levy-payers and other interested parties to provide feedback on the value being provided by the Commission.
- **Assessment of proposed regulations**—the benefits and costs of proposed regulation or rule changes are scrutinised through public consultation process in accordance with sections 172F and 172H of the Electricity Act 1992.
- **Assessment electricity efficiency programmes**—under paragraphs 41–42 of the GPS, the Commission's programmes must meet a five per cent discount rate. The Commission also assesses potential costs and benefits of electricity efficiency programmes compared to the long-run marginal cost of new generation.

Board, committees, and advisory groups

Board

The Commission is governed by a Board appointed by the Minister of Energy. The Board is to have no fewer than five members and no more than nine. Members hold office for a term of up to three years and may be reappointed. The Board generally meets on a three-weekly basis and on other occasions when necessary. Board fees are funded from the levy on the electricity industry, which also funds the Commission's operations. The Board members, are:

- David Caygill, Chair;
- Richard Bentley;
- David Bull;
- Linda Constable;
- Peter Harris; and
- Stan Rodger

Further information about Board members is provided on the Commission's website at: http://www.electricitycommission.govt.nz/aboutcommission/board/

Board committees

Electricity Governance Rules Committee

One of the Commission's core functions is to create effective electricity Regulations and Rules. This function led to the establishment of the Commission's Electricity Governance Rules (EGR) Committee. The Committee is responsible for:

- making decisions on requests for exemptions;
- dismissing the notification of an alleged breach;
- appointing investigators to investigate rule breaches;
- making decisions on notified and investigated rule breaches;
- making recommendations to the Board:
  - to approve settlements; or
  - to lay a formal complaint with the Rulings Panel.

System Operations Committee

The System Operations Committee of the Board:

- considers the monthly System Operator reports and identifies any emerging real-time security issues on a timely basis; and
- addresses technical rule-change proposals (not policy) in the area of wholesale, retail, and common quality, including:
  - approval for consultation; and
  - making recommendations to the Minister.

Undesirable Trading Situations Committee

Under part 3 of the Electricity Governance Regulations 2003 (the Regulations), the Electricity Commission is responsible for investigating undesirable trading situations (UTSs).

If the Commission finds that an UTS is developing or has developed, it may take steps to address that UTS. The Undersirable Trading Situation Committee addresses UTS investigations and comprises all members of the Board of the Commission.

Risk and Audit Committee

The Risk and Audit Committee advises the Board on:

- overseeing, reviewing, and assessing the quality and integrity of financial reporting of the Commission, which includes managing the relationship with the external auditor;
- considering whether the Commission has established appropriate policies and put in place management processes to ensure risks are properly identified and managed; and
- overseeing and assessing the internal audit process for evaluating the effectiveness of risk management, control and governance processes.

Remuneration Committee

The Remuneration Committee advises the Board on:

- establishing and maintaining of remuneration policies and practices; and
- setting and reviewing the General Manager's remuneration.

Rulings Panel

The Commission appoints the members of the Rulings Panel (a body corporate established under the Electricity Governance Regulations 2003) and is responsible for its funding. The Rulings Panel is the industry dispute resolution and disciplinary body that determines complaints and certain disputes brought to it under the Regulations and Rules.

Further information about the Rulings Panel is available on the Commission's website at: http://www.electricitycommission.govt.nz/rulingsp/

Advisory and project groups

Paragraph 7 of the GPS states that the Commission should make extensive use of advisory groups wherever possible to develop industry arrangements and make recommendations concerning Regulations and Rules.

The Commission has established advisory groups with industry, consumer, and independent representatives as appropriate to the role of the group. Advisory groups provide a wide range of advice and input on the operation of the Regulations and Rules as well as on other policy and work programme matters.

The terms of reference for the advisory groups, working papers and minutes are on the Commission's website at: http://www.electricitycommission.govt.nz/advisorygroups

The Commission also uses project teams and specialist consultants for specific tasks as required. Information on all project-related teams is available on the Commission's website at: http://www.electricitycommission.govt.nz/advisorygroups/pjtteam

Advisory group members

Transmission Advisory Group

The members of the Transmission Advisory Group are:

- Bill Heaps Chair (Strata)
- Bob Simpson (Transpower)
- Dick Whitelaw (New Zealand Steel)
- Malcolm Alexander (Genesis Energy)
- Michael Whaley (Powerco)
- Ralph Matthes (Major Electricity Users Group)
- Peter Calderwood (TrustPower)
- Tas Scott (Orion)
- Tim Densem (Mighty River Power)
- Tim George (Transpower)
- Clive Bull (Vector)
- Guy Waipara (Meridian Energy)
- James Collinson-Smith (Contact Energy)
- Russell Longuet (Exergi Consulting)

John Gleadow, Director Transmission, is the Commission's representative on the group.

Common Quality Advisory Group

The members of the Common Quality Advisory Group are:

- Toby Stevenson, Chair (Law and Economics Consulting Group)
- Tim Chatterton (Vector)
- Bryan Leyland (Consulting Engineer)
- Terrence Currie (T C Associates)
- Chris Ewers (Meridian Energy)
- Pauline Buckley (Mighty River Power)
- John Clarke (Transpower—System Operator)
- Nalin Pahalawaththa (Transpower—grid owner)

Darryl Renner, Director System Operations and Common Quality, is the Commission's representative on the group.

Retail Market Advisory Group

The members of the Retail Market Advisory Group are:

- David Russell, Chair (Independent)
- Keith Tempest (TrustPower)
- Rob Jamieson (Orion)
- Nigel Barbour (Powerco)
- Neil Barton (Federated Farmers)
- Peter Rutledge (Grey Power)
- Anne Herrington (Smart Power)
- Cory Franklin (Contact Energy)
- Raewyn Fox (New Zealand Federation of Family Budgeting Services)
- John Scott (Consultant)

Ron Beatty, Senior Adviser Retail Operations, is the Commission's representative on the group.

Wholesale Market Advisory Group

The members of the Wholesale Market Advisory Group are:

- Bill Heaps, Chair (Strata)
- Grant Sullivan (Meridian Energy)
- Therese Thorn (TrustPower)
- Doug Goodwin (Transpower)
- John Scott (Consultant)
- Phil Gibson (Mighty River Power)
- Kit Wilson (King Country Energy)
- Graham Stairmand (Grey Power)
- Rod Boyte (Smart Power)
- Bob Weir (Genesis Energy)

Tim Street, Director Wholesale, is the Commission's representative on the group.

Hedge Market Development Steering Group

The members of the Hedge Market Steering Group are:

- Tony Baldwin, Chair (Independent)
- James Moulder (Mighty River Power)
- Mark Trigg (Contact Energy)
- Ralph Matthes (Major Electricity Users Group)
- Russell Longuet (Exergi Consulting)

Tim Street, Director Wholesale, is the Commission's representative on the group.

Security Advisory Group

The members of the Security Advisory Group are:

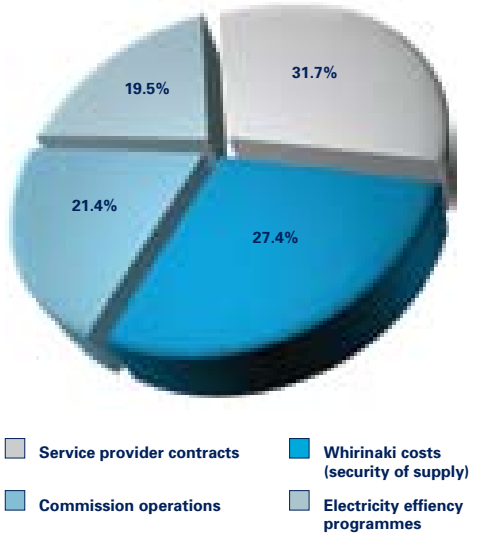
- Richard Bentley, Chair (Electricity Commission)
- Duncan Head (Vector)
- Kevin Small (Transpower)
- Peter Kimber (Genesis Power)
- Peter MacIntyre (Contact Energy)
- Barbara Elliston (Elliston Power Consultants)
- Grant Smith (Meridian Energy)

Gari Bickers, Director, Security, Generation and Distribution, is the Commission's representative on the group.

Electricity Commission funding and levy

The Commission is funded by appropriations from Parliament under Vote Energy. The appropriations cover all the services and activities of the Commission. Figure 6 shows the broad areas of the Commission's planned expenditure for 2008/09.

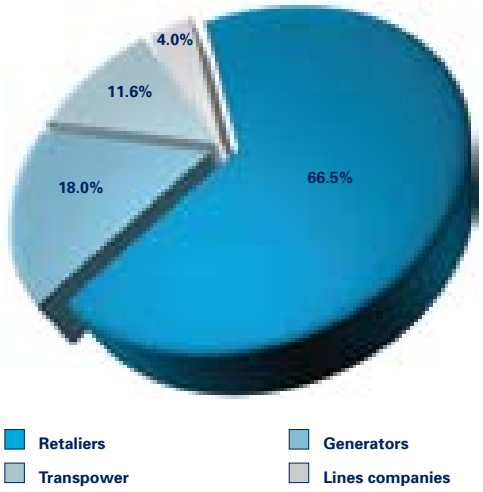
Figure 6: Forecast expenditure 2008/09



Source: Electricity Commission

The Crown is reimbursed for the cost of the Commission by way of a levy on the electricity industry. The levy is collected by the Commission on behalf of the Crown. The various components of the Commission's funding are levied on different sectors of the electricity industry. The amount paid by an individual company will depend on the volume of activity for that company. Provisional allocation of the levy to electricity industry sectors is shown in figure 7.

Figure 7: Provisional levy allocation 2008/09



Source: Electricity Commission

Notes:

Service provider contracts—costs that cover agreements between the Commission and the companies that provide services to operate the electricity system and wholesale and retail markets.

Commission operations—all operational costs of the Commission (except service provider costs). Including rent, overheads, staff costs, Board costs and external legal and other professional advice.

Whirinaki costs (security of supply)—costs of the Commission's contract with the Crown for the availability and operation of the Whirinaki power station. Also included is the cost of tendering for reserve energy, if needed.

Electricity efficiency programmes—costs of electricity efficiency programmes and electricity efficiency potentials modelling.

Commission planning and reporting

In addition to the requirements of the Crown Entities Act 2004, specific consultation, planning and reporting requirements for the Commission are contained in the Electricity Act 1992 and the GPS.

In developing the *Statement of Intent* (SOI), the Commission identified a set of three-year objectives that it used to establish draft priorities for its work. It then consulted with Levy payers as required by section 172ZCA of the Act. The Commission also consulted with the industry on the projects to be included in the work programme. The Commission used this input to develop its three-year objectives, statement of service performance, and work programme, for this SOI. The draft SOI was provided to the Minister of Energy for comment, before being finalised and tabled in Parliament after Budget day.

Section 141(g) of the Crown Entities Act 2004 requires the Statement of Intent to include matters on which:

- **The Commission will consult or notify the Minister of Energy before making a decision**—there are no specific matters on which the Commission is required to consult or notify the Minister. The Commission Chair meets with the Minister on a regular basis, and the Commission provides the Minister with briefings and advice as requested or on its own volition.
- **The matters on which the Commission will report to the Minister, and the frequency of reporting**—the Commission provides the Minister with ad hoc reports as agreed and a quarterly report, which includes:
  - year-to-date progress against outputs as set out in part three of this SOI;
  - year-to-date financial performance;
  - life-to-date progress against the GPS; and
  - quarterly updates on published consultation papers and completed rule changes.

The Commission prepares an *Annual Report* in accordance with section 150 of the Crown Entities Act 2004. The report also provides the information on GPS performance standards required under section 172ZM of the Electricity Act 1992. The financial performance, non-financial performance, and GPS performance are audited by Audit New Zealand. The Minister of Energy tables the report in Parliament. The report is then published and distributed by the Commission.

The Commission also publishes a report against the GPS on its website on a quarterly basis.

NZES and NZEECS actions

The table below lists the action requirements on the Electricity Commission arising out of the Government's *New Zealand Electricity Strategy* (NZES) and *New Zealand Energy Efficiency and Conservation Strategy* (NZEECS).

NZES AND NZEECS REF.	ACTION	LEAD	TIMING
NZES, chapter 8—Security of electricity supply, pages 60 and 68	Review the reserve energy policy and the government will consider whether additional measures are required.	MED/ EC	2007/08
NZES, chapter 8—Security of electricity supply, pages 60 and 68	Continue the current work programme to advance wholesale market design issues.	EC	2007/08
NZES, chapter 8—Security of electricity supply, pages 60 and 68	Developing policies and processes to efficiently manage the frequency, voltage and reliability of the New Zealand generation and transmission system.	EC	Ongoing
NZES, chapter 8—Security of electricity supply, page 60	The government is promulgating distributed generation regulations to process connection applications on a more fair and consistent basis.	MED/EC	End 2007
NZES, chapter 9—Low emissions power and heat, pages 72 and 81	The EC and Transpower are developing planning processes and guidelines to better co-ordinate transmission and renewables investment.	MED/EC	2007/08
NZEECS, chapter 2, EnergyWise homes, page 18	Efficient Lighting Strategy to accelerate the uptake of better lighting technology.	EC	
NZEECS, chapter 2, EnergyWise homes, page 18	Subsidise an additional 5.7 million compact fluorescent lamps.	EC	End of 2009
NZEECS, chapter 3, EnergyWise business, page 32	Compressed air systems project.	EC	
NZEECS, chapter 3, EnergyWise business, page 32	Electric motor project.	EC	
NZEECS, chapter 3, EnergyWise business, page 33	Implement an electricity efficiency programme for commercial buildings.	EC	

NZES AND NZEECS REF.	ACTION	LEAD	TIMING
NZEECS, chapter 5, efficient and renewable electricity system, page 62	Smart meters guidelines published.	EC	End of 2007
	Decision on regulation.		End of 2009
NZEECS, chapter 5, efficient and renewable electricity system, page 62	Market design review recommendations.	EC	June 2008
NZEECS, chapter 5, efficient and renewable electricity system, page 62	Demand-side bidding and forecasting—new arrangements in place.	EC	June 2008
NZEECS, chapter 5, efficient and renewable electricity system, page 62	Distribution network pricing published.	EC	December 2008
NZEECS, chapter 5, efficient and renewable electricity system, page 62	Distribution network losses recommendations.	EC	June 2008
NZEECS, chapter 5, efficient and renewable electricity system, page 62	Identify changes to market arrangements to manage higher levels of wind generation in the future. Complete the wind integration project.	EC	June 2008
NZEECS, chapter 5, efficient and renewable electricity system, page 62	Itemised billing arrangements for small-scale generation—recommendations.	EC	End of 2009
NZEECS, chapter 5, efficient and renewable electricity system, page 63	Technical guidelines for small-scale distributed generation programme—publish guidelines.	EC	End of 2009
NZEECS, chapter 5, efficient and renewable electricity system, page 63	Marine energy technical and industry standards.	Standards NZ, EECA and EC	End of 2011

Glossary and abbreviations

Advanced metering systems—electronic meters that measure electricity, record consumption and meter event information electronically, have two-way communications, and can be remotely read. Advanced meters may also have a range of additional attributes.

Ancillary service—the System Operator has contracts with generators, customers, retailers and distributors to provide ancillary services. Ancillary services comprise black start, over-frequency reserve, frequency-keeping reserve (also known as frequency-regulating service), instantaneous reserve or voltage support. The System Operator obtains instantaneous reserve on a half-hourly basis through the market. Ancillary services are described in the annual System Operator Procurement Plan, available on the Commission's website.

Board—the Board of the Commission as provided for in section 172M of the Electricity Act 1992.

Carbon dioxide (CO_2)—carbon dioxide, methane (CH_4), and nitrous oxide (N_2O) are considered to be the main 'greenhouse' gases. CO_2 is the most significant of the three.

Centralised dataset (CDS)—a collection of data published by the Commission to support planning processes underlying decisions on transmission and transmission alternatives. The Commission retains information relating to transmission and transmission services, under section III, part F of the Rules.

Committee—a committee of the Board of the Electricity Commission appointed by the Commission as provided for by the Crown Entities Act 2004.

Common quality—those elements of quality of electricity conveyed across the grid that cannot be technically or commercially isolated to an identifiable person or persons. Common quality is often referred to in conjunction with system operations.

Compact fluorescent lamp (CFL)—an energy-saving replacement for incandescent light bulbs.

Consumer—any person who is supplied electricity for consumption. A consumer may include a distributor, a retailer or a generator when supplied with electricity for consumption.

Demand-side initiative—an initiative that encourages or facilitates electricity consumers to modify their usage in a way that reduces consumption in a specific time period or shifts consumption from one time period to another.

Demand-side management (DSM)—implementation of policies or measures designed to control or influence the demand for electricity.

Distributed generation—a distributed (or embedded) generator is a small-scale generator that commonly inputs electricity to the distribution network rather than the transmission grid. A distributed generator can include an industrial plant or domestic generation system that sells excess generation into the system.

Distributor—a participant that owns or operates a local electricity network. For the purposes of parts D, E and J of the Rules, 'distributor' includes an embedded network owner. For the purposes of part C of the Rules, 'distributor' includes consumers with a point of connection to the grid.

Electricity Act 1992 (the Act)—as amended by later Acts, regulates the New Zealand electricity industry, and provides the statutory framework for the Electricity Commission's operation.

Electricity Amendment Act 2004—enacted in October 2004, this Act added to and clarified the Commission's responsibilities and authorities, including adding electricity efficiency functions. The changes were part of a package of government policy announcements made at the time the Commission was formed.

Electricity and Gas Complaints Commissioner—a separate organisation from the Electricity Commission. The Commissioner provides electricity consumers with a free and independent dispute resolution service for complaints about their electricity lines or retail companies.

Electricity efficiencies potentials study—also referred to as 'the potentials study'. The study, published in September 2007, was conducted by

the Commission and EECA to answer the following questions:

- How much cost-effective electricity efficiency resource is available across all sectors of the New Zealand economy, in terms of capacity reductions (MW) at peak times and total consumed electricity (MWh) by region, by sector, by end-use technology?
- How could the Electricity Commission prudently act to realise the cost-effective electricity efficiency improvements?

Electricity Governance Regulations (Regulations) and Electricity Governance Rules (Rules)—the Electricity Governance Regulations 2003 and the Electricity Governance Rules 2003 under which the electricity market has operated since 1 March 2004. The Regulations include provisions related to service provider agreements, undesirable trading situations, rule breaches and exemptions, and the establishment and proceedings of the Rulings Panel. The Rules set out various authorities and responsibilities of the Commission to carry out market and system governance functions, as well as to make several decisions relating to Transpower and the transmission grid (part F of the Rules).

Electricity Governance Rules Committee—the Electricity Governance Rules Committee (EGR Committee) is a committee of the Board. The Board has delegated responsibility to the EGR Committee to make decisions on how breach notifications should be responded to. In cases where participants wish to settle investigated breaches, the Board is required to approve any formal agreements. For more serious breaches, the Board may lay complaints with the Rulings Panel, which operates independently from the Board.

Embedded generation—see **distributed generation**.

Energy Efficiency and Conservation Authority (EECA)—the Energy Efficiency and Conservation Authority (EECA) was established under section 20 of the Energy Efficiency and Conservation Act 2000. It promotes energy efficiency, energy conservation and renewable energy.

Estimates of Appropriations (Estimates)—the formal budget document as released on budget night each year. This document outlines funding and performance for all government entities for the year ahead. The Commission receives funding under Vote Energy.

Frequency keeping—the frequency of the New Zealand grid is normally maintained at 50 Hertz frequency and is the number of cycles per second. Frequency keeping is delivered through contracting generation that keeps the frequency of the grid within its normal band. Frequency keeping involves increasing or decreasing generation within a set band to ensure that supply equals demand on a second-by-second basis.

Generator—a person who owns generating units connected to the grid or to a local network, or a person who acts, under parts G and H of the Rules, on behalf of any person who owns such generating units. This includes embedded generators and intermittent generators.

***Government Policy Statement on Electricity Governance* (GPS)**—issued by the Minister of Energy and specifies the objectives and outcomes the Government wants the Commission to give effect to, and against which the Commission must report. Authority for the GPS is provided by section 172ZK of the Electricity Act 1992. Under section 172ZL of the Act, the Commission is obliged to include in its SOI performance standards that relate to all of the GPS objectives and outcomes. These performance standards are subsequently reported on in the Annual Report in accordance with section 172ZM of the Act. The GPS was published in October 2004, updated in October 2006, and replaced in May 2008.

Grid or national grid—the high-voltage electricity transmission network that transmits electricity throughout New Zealand. This network is used to connect grid injection points and grid exit points to transmit electricity, throughout the North and South Islands of New Zealand over more than 12,000 kilometres of transmission lines, including the HVDC link. It comprises major power generation stations to local distribution networks, operated by local lines companies and large industrial users. The grid is owned by state-owned company, Transpower New Zealand Limited.

Grid investment test (GIT)—applied to transmission investment proposals from Transpower. The GIT is provided for under part F of the Rules

and requires that a proposed investment maximise the expected net market benefit or minimise the expected net market cost compared with alternative projects.

Grid upgrade plan (GUP)—Transpower's plan for investments in grid upgrades, which must be provided to the Commission for review and approval.

Hedge contract—a financial risk management product that protects against price risks associated with the spot price of electricity.

High-voltage direct-current (HVDC)—at present the only high-voltage direct-current transmission is the line and cable under Cook Strait that connects the Haywards substation in the North Island with Benmore power station in the South Island.

Intermittent generation—generation for which the source is intermittent and not easily predicted, such as wind or wave generation.

Megawatt hour (MWh)—one megawatt hour is equal to 1,000 kilowatt hours. Megawatt hours are the metering standard unit for the wholesale market.

Ministry for the Environment (MFE)—responsible for the Resource Management Act 1991 (RMA). The Ministry is a government department, responsible to the Minister for the Environment.

Ministry of Economic Development (MED)—the Ministry responsible for Vote Energy, under which the Commission's appropriations are included as non-departmental output classes. The Ministry provides the Government with policy advice on energy matters.

Minzone—the Minzone represents the minimum level of hydro storage required at any time of year to ensure that, given a low-flow event from that point in time, demand can still be met when all available thermal plant is run to capacity. The Minzone is an analytical tool that helps electricity system planners understand the data about hydro storage levels. It is based on the record of 74 years of hydro inflows into the storage lakes. Information about the Minzone model and the latest Minzone graph are available on the Commission's website at: http://www.electricitycommission.govt.nz/opdev/secsupply/sos/status/minzone/index.html/view?searchterm=minzone

***New Zealand Energy Strategy* (NZES)**—a national strategy, for which development and implementation is led by the Ministry of Economic Development (MED). The New Zealand Energy Strategy was published in October 2007.

***New Zealand Energy Efficiency and Conservation Strategy* (NZEECS)**—a national strategy, for which development and implementation is led by the Energy Efficiency and Conservation Authority (EECA). The strategy was published in October 2007.

1-in-60 dry year—a year in which there is a drought in hydro catchments of the severity that can statistically, be expected to occur every 60 years. The duration and timing of such an event will determine whether it has implications for security of supply. See also **Minzone** above.

Outcome—the result that the Commission is seeking to influence or achieve. An outcome is defined in the Public Finance Act 1989 as "a state or condition of society, the economy, or the environment; and includes a change in that state or condition".

Output—a product or service that the Commission is responsible for delivering to a specified quality, timeliness and quantity (if appropriate). Outputs are defined in the Public Finance Act 1989 as "goods or services that are supplied by a department, Crown entity, Office of Parliament, or other person or body; and includes goods or services that a department, Crown entity, Office of Parliament, or other person or body has agreed or contracted to supply on a contingent basis, but that have not been supplied".

Parliamentary Commissioner for the Environment (PCE)—the Parliamentary Commissioner for the Environment was established under the Environment Act 1986. As an independent Officer of Parliament, the PCE has wide-ranging powers to investigate environmental concerns.

Participants—participants are the industry-related groups or individuals who engage with the Commission as defined in the Regulations. Participants include:

- electricity retailers;
- electricity distributors;
- electricity generators;

- line owners;
- electricity consumers connected directly to the grid;
- people who purchase electricity from the Clearing Manager;
- service providers;
- metering equipment owners;
- ancillary service agents;
- data administrators; and
- approved test houses.

Regulations—the Electricity Governance Regulations 2003 (Regulations) as amended from time to time in accordance with the Electricity Act 1992.

Reserve energy—energy capability bought by the Commission as a reserve against peak, winter or dry year hydro shortfalls. Reserve energy requirements cover tendering for reserve energy generation and emergency options, and the costs associated with the Whirinaki reserve energy plant being available.

Resource Management Act 1991 (RMA)—the primary legislation relating to the use of land, air and water. Land-use activities, including those associated with generation and transmission of electricity and discharges or taking of water, are required to comply with rules prepared under the RMA and consents granted under the RMA. Consent applications are generally heard and determined by local authorities and may be appealed to the Environment Court.

Retailer—a person or company that supplies electricity to a consumer or to another retailer.

Ring-fenced generation—using a generation plant or demand-side initiatives dedicated to providing reserve energy.

Risk and Audit Committee—a committee of the Board. The Committee has agreed a risk policy and framework and oversees internal audit processes.

Riskmeter—a high-level graphical representation of the outlook for electricity supply. The Riskmeter is available on the Commission's website and is updated as necessary.

Rule breach—occurs when a participant fails to meet its obligations under the Regulations and Rules.

Rulings Panel—established under the Electricity Governance Regulations 2003, deals with the formal complaints of breaches of the Regulations or Rules by market participants referred to it by the Commission. If the Rulings Panel upholds a complaint, it has several options available including imposing penalties against participants, awarding costs or compensation, issuing suspension or termination orders, and recommending rule changes. It also determines certain disputes between participants and can hear appeals on specific decisions made by the System Operator.

Service providers—the Electricity Commission is responsible for ensuring the effective day-to-day operation of the electricity system and markets through the operation of core system and market services in accordance with the Rules. The Commission provides the following services through service provider contracts:

- Clearing Manager;
- Wholesale Information and Trading System;
- Pricing Manager;
- Reconciliation Manager;
- Registry; and
- System Operator.

Smart meters—see **advanced metering systems**.

Spot market—the buying and selling of wholesale electricity is done through a 'pool', where electricity generators offer electricity to the market and retailers bid to buy the electricity. This market is called the spot or physical wholesale market.

Statement of Intent **(SOI)**—published in accordance with part 4 of the Crown Entities Act 2004. The SOI is the Commission's formal public accountability document, setting out its plans and financial information for one year in detail and the next two years in more general terms. The SOI provides information on what the Commission will be doing to progress the principal objectives and specific outcomes in section 172N of the Electricity Act 1992, and includes performance standards for the

objectives and outcomes of the GPS as required by section 172ZL of the Act. The Commission's achievements against the SOI expectations, and its financial management, are audited by Audit New Zealand and reported to Parliament in the *Annual Report*.

Statement of Opportunities **(SOO)**—the Commission is required under section III of part F of the Rules, to publish a SOO for transmission and transmission alternatives at least every two years. The SOO is to enable the identification of potential opportunities for efficient management of the grid, including investment in upgrades and transmission alternatives.

System operations—the minute-by-minute (real-time) control and co-ordination of the grid including management of security, dispatch of generation and reserves, and control of voltage and frequency.

System Operations Committee—a committee of the Board.

System Operator—the service provider responsible for scheduling and dispatching electricity in real-time, and avoiding fluctuations in frequency or disruption of supply.

Undesirable trading situation (UTS)—arises when there is a threat to orderly trading or settlement that cannot be resolved satisfactorily under the Rules. The Commission can investigate any potential UTS and take certain actions it considers appropriate.

Undesirable Trading Situations Committee—a committee of the Board.

Winter energy margin—expected available generation (after allowing for planned and unplanned outages, available thermal fuel and transmission constraints) minus expected demand (as a proportion of expected demand for the winter period (April to September)). For the purposes of assessing expected hydro generation, mean inflows will be used. For the purposes of assessing wind generation, long run averages will be used.

Appendix one

Policy and electricity sector context

This appendix provides more information about the context in which the Commission operates, from the broad policy context and settings to the specifics of the Commission's roles and functions. This information supports the summary provided in part one. The Commission's operating context information covers:

- summary information on the policy context in which the Commission operates; and
- an outline of the electricity sector, including electricity indicators that provide a high-level picture of the overall state of the electricity sector in New Zealand.

Policy context

Key government priorities

In April 2006, the Government announced its three priorities.[13]

- economic transformation;
- families young and old; and
- national identity.

The Commission's main contribution is to the economic transformation priority. In addressing economic transformation, the Commission is focussing on the Government's five mutually supporting themes:

- **Growing globally competitive firms**—the Commission contributions include the operation of the electricity system wholesale market and overview of security of supply.
- **Innovative and productive workplaces**—the Commission contributions include energy efficiency programmes for commercial buildings, motors, lights and air compressors.
- **World-class infrastructure**—the Commission contributes through regulatory oversight and decision-making on the transmission infrastructure.
- **An internationally competitive city—Auckland**—the Commission contributions include using its oversight of Transpower investment to promote an electricity supply that is reliable and meets the present and future needs of the city.
- **Environmental sustainability**—the Commission contributions include demand-side management, load management, promoting more electricity efficient equipment, and facilitating the development of renewable generation and its integration into the electricity system.

The Commission also contributes to the families young and old priority through its work in ensuring a fair and efficient retail electricity market, competition in retail services, the availability of low-fixed-charge contracts, a consumer complaint scheme, and processes to protect low-income and vulnerable consumers.

In the Prime Minister's annual statement to Parliament in February 2008, the above priorities were reinforced and additional emphasis was given to sustainability, including an expectation for the electricity sector to be effectively carbon neutral by 2025.[14]

New Zealand Energy Strategy and *New Zealand Electricity Efficiency* and *Conservation Strategy*

In 2007 the Government released two key strategy documents:

- the *New Zealand Energy Strategy* (NZES); and
- the *New Zealand Energy Efficiency and Conservation Strategy* (NZEECS).

The NZES vision is for a reliable and resilient system delivering New Zealand sustainable, low-emissions energy services. The Government has set a target of 90 per cent of electricity to be generated from renewable sources by 2025. It has announced a preference for all new generation to be renewable, unless additional thermal generation is needed for security of supply.

13 Cabinet Minute reference: CAB Min (06) 7/22 recommendation 1.

14 The Prime Minister's speech is available at: http://www.beehive.govt.nz/speech/statement+to+parliament+2008 (accessed 27 March 2008).

Much of the work envisaged in the Government strategy is already underway, for example the strategic wind project, which commenced in 2005/06, and national electricity efficiency programmes, for which funding was approved in 2007/08. However, the Commission has reviewed its plans in light of the new strategy documents as additional focus may be required on some of the projects the Commission is undertaking to accelerate progress.

In respect to the new strategy, the Commission has noted:

- Work is required with Transpower, and with input from other stakeholders, on how renewables can be integrated into the national grid. The Commission has already commenced work on this issue.
- It is a high priority to complete the wind project and other enhancements to the electricity system to enable it to operate effectively under a regime of increased renewables.
- Work on load management, advanced meters, retail innovation, and distributed generation is becoming increasingly important to address peak load issues, increased renewables and to facilitate small-scale generation.
- The contribution of electricity efficiency to overall load and peak load management is becoming increasingly important. The Commission's programmes are designed to promote best-practice and reduce market barriers to the use of efficient technologies.

The NZES and NZEECS actions for the Commission have been included in the work programme in part four. Part five includes a cross reference of Commission actions to the NZES and NZEECS documents.

Government Policy Statement on Electricity Governance (GPS)

The Minister of Energy announced a new *Government Policy Statement on Electricity Governance* (GPS) on 21 May 2008. The GPS is available on the MED website.

The Commission is required to include its GPS performance standards in the *Statement of Intent.* This information is provided in the Commission's work programme, which is set out in GPS order in part four. Where appropriate, the Commission's objectives (part two) and the statement of service performance (SSP)(part three) are cross-referenced in the work programme.

Other policy factors

A range of other Government policies, for which the Commission does not have accountability, will impact on the electricity sector through time. These include:

- the economic transformation agenda;[15]
- climate change policy;[16]
- the framework for an emissions trading scheme;[17]
- national policy statements and national environmental standards under the Resource Management Act 1991;
- the sustainable development for New Zealand programme of action;[18] and
- policy and regulatory settings for the gas sector, including the *Government Policy Statement on Gas Governance*[19] and measures to encourage petroleum exploration.

The key issues and risks facing the electricity sector, and that the Commission must take into account in its work, are identified in these various government policy statements, and in the principal objectives and specific outcomes for the Commission in section 172N of the Act.

15 http://www.med.govt.nz/templates/StandardSummary____22996.aspx (accessed 9 May 2008).

16 http://www.climatechange.govt.nz/ (accessed 9 May 2008).

17 http://www.climatechange.govt.nz/nz-solutions/trading-scheme-reports.shtml (accessed 9 May 2008).

18 http://www.mfe.govt.nz/publications/sus-dev/sus-dev-programme-of-action-jan03.html (accessed 9 May 2008).

19 http://www.med.govt.nz/ers/gas (accessed 9 May 2008).

Electricity sector context

This section outlines the major components of the electricity system and the roles of those involved. There are two aspects to this system—the physical system and the financial/institutional system.

Electricity indicator information is included to provide an understanding of the status of the sector. These electricity indicators provide a high-level picture of the state of aspects of the electricity sector, over which the Commission has varying degrees of influence. The electricity indicators are not directly within the Commission's control, but represent the overall results that are sought for high-level outcomes. They also provide the context for the Commission's activities, as outlined in parts two, three and four of this *Statement of Intent*.

Generation

Physical system

In 2007 the majority of New Zealand's electricity was generated from hydro (54.9 per cent), with the remainder as follows:

- gas—26.9 per cent;
- coal—6.9 per cent;
- geothermal—7.8 per cent;
- wind—2.2 per cent; and
- other—1.3 per cent.[10]

Each of these sources has different characteristics.

- Hydro is subject to the varying lake levels as climatic conditions vary from year to year. Hydro storage is limited.
- The level of extraction of geothermal energy can be managed up to a maximum capacity, which may be determined by either resource constraint or generation equipment constraints.
- Wind is intermittent—it is either available or not and there is no 'storage' component.
- Coal, gas and oil are all fuels that can be stored.

The five major generators (Genesis, Mighty River Power, Meridian, Contact Energy and TrustPower) collectively produce more than 95 per cent of New Zealand's electricity.[21]

The balance of electricity generation is provided by some industries through self-generation (particularly wood products) and independent operators of small generators.

Financial/institutional system

The Commission provides information on generation and usage (demand) to assist generators in determining the extent and nature of investment in generating capacity.

Generators decide whether to build generation capacity and how much and what type of generation capacity to build.

The Commission monitors the availability of electricity capacity and demand. The Commission also contracts for emergency (reserve energy) generation capacity to cover circumstances where hydro storage may not be enough to guarantee continuity of supply.

20 Annual figure for the year to December 2007. Source: *New Zealand Energy Quarterly*, December 2007 Quarter, MED, released 18 March 2008.

21 Source: Clearing Manager generation data for the 12 months to February 2008.

Electricity indicators

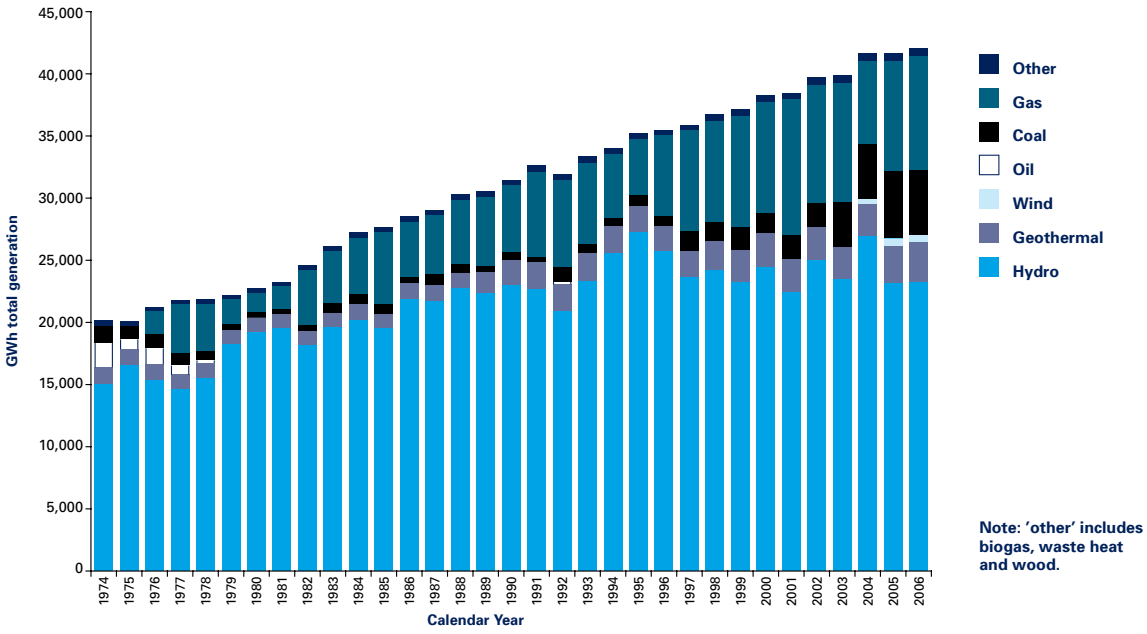
Generation from renewable sources

The NZES puts significant emphasis on environmental sustainability and increasing electricity generation from renewable sources.

Some variation is expected in renewable generation due to factors such as rainfall, particularly with a high proportion of renewables coming from hydro sources. The commissioning of the Huntly e3p plant in June 2007 is displacing coal with gas generation, but as yet this does not show in the statistics on which the graph below is based.

The Commission has no direct involvement in decision-making on generation investment and cannot provide incentives or subsidies for particular types of generation. The Commission's regulatory function is to ensure that investors can enter the generation market on competitive terms. However, it has several high-priority projects that are expected to better support the development of renewable generation, which is reflected in its objectives and work programme (see parts two and four of this SOI).

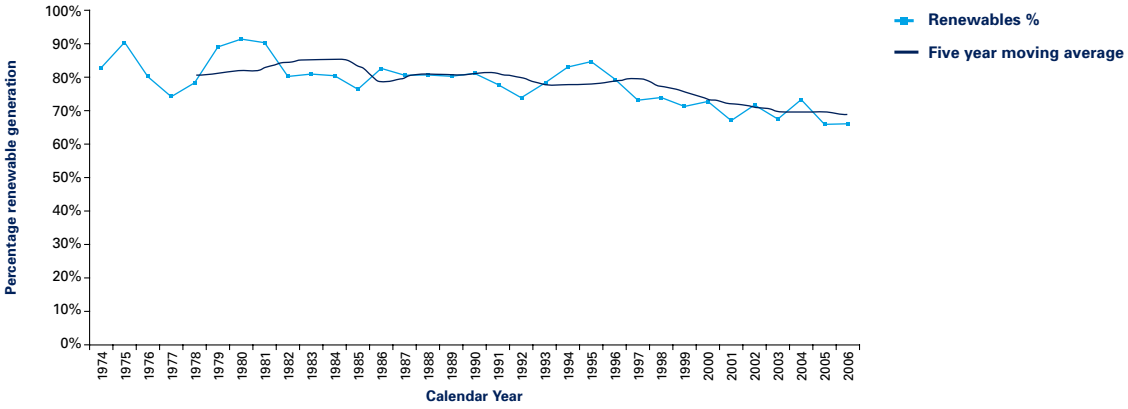
Net electricity generation by fuel type



Note: 'other' includes biogas, waste heat and wood.

Source: Ministry of Economic Development, Energy Data File, 2007

Percent of net electricity generation from renewable resources



Source: Ministry of Economic Development, Energy Data File, 2007

Greenhouse gas emissions from electricity generation

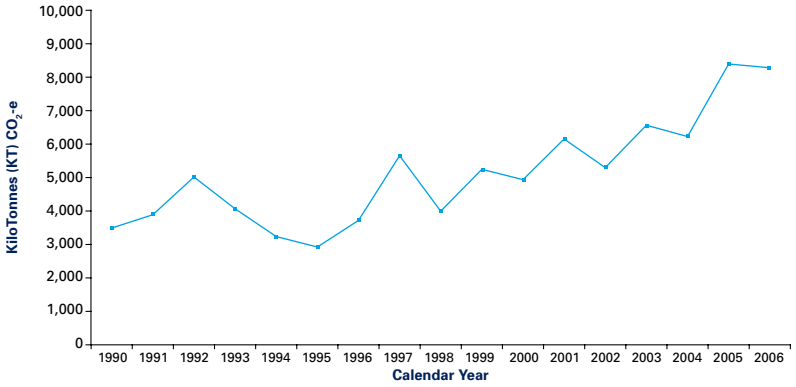
The majority of New Zealand's electricity production comes from hydro power stations, but there has been an increasing proportion of fossil-fuelled electricity generation, initially from Maui gas and increasingly from coal. This trend means that electricity sector emissions have been growing. The CO_2-equivalent output from electricity generation in New Zealand has approximately doubled from 1990. Thermal generation reliance has moved from being primarily a 'backup' to renewables for peak demand and dry periods, to being essential to meet general demand.

The commissioning of the Huntly e3p plant in June 2007 is displacing coal with gas generation. Compared with the equivalent coal-fired plant, a 60 per cent reduction in carbon emissions has been reported from the combined-cycle gas plant.[22]

The Commission has carried out research into the potential for electricity efficiency savings and has completed a range of pilot programmes to identify economically efficient interventions. During 2007/08 the Commission has been implementing a range of programmes designed to deliver electricity savings at significantly less than the cost of new generation.

22 Murray Jackson, Genesis Energy Chief Executive, quoted on TVNZ news: http://tvnz.co.nz/view/page/1330063 (accessed 26 March 2008).

Thermal electricity generation gross CO_2 equivalent emissions



Source: Ministry of Economic Development, *New Zealand Energy Greenhouse Gas Emissions 1990–2006*

System operation

Physical system

The Commission is responsible for ensuring the effective day-to-day operation of the power system in accordance with the Electricity Governance Rules 2003 (the Rules). The short-term planning for generation and dispatch, and the real-time co-ordination of the power system is carried out by Transpower as the System Operator.

The System Operator schedules and dispatches generation to match predicted and real-time fluctuations in demand. It also ensures that there is minimal risk of a disruption of supply caused by major system events by purchasing ancillary services.

Financial/institutional system

The Commission contracts Transpower as the System Operator to deliver these outputs on its behalf. See output class one in part three of this *Statement of Intent.*

The System Operator determines a set of forecast prices to facilitate decision-making by generators and purchasers in the market.

Electricity indicators

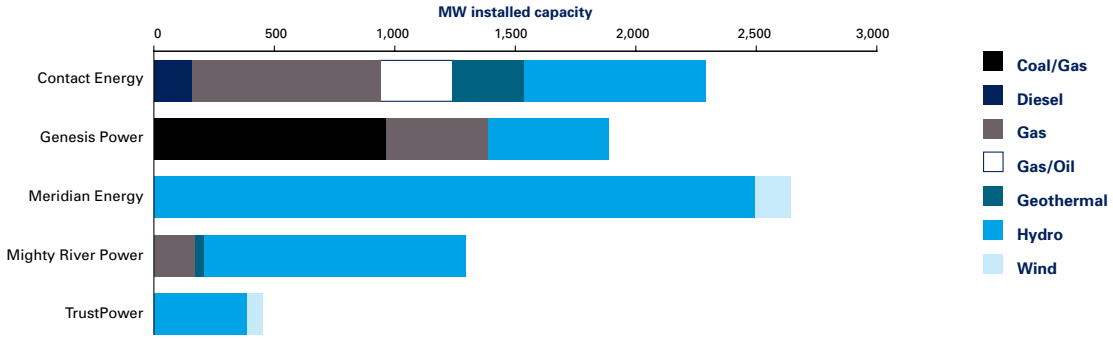
Generation capacity mix

The diversity of generation types is considered an indicator of security of supply, since diversity indicates reduced risk from reliance on individual energy sources. The graph below is based on 2006 capacity data for generation plant 10MW or greater.

The graph illustrates that New Zealand has several large generators and relatively diverse generation types. The large generating companies are all the product of dividing up the previous New Zealand Electricity Corporation. Smaller generators include industrial co-generation plant, micro-hydro, single wind turbines, and so on. Smaller generators take a proportion of load off the overall system and provides some additional flexibility in load management.

With the Government's preference for new generation capacity to be renewable, except where necessary to support security of supply, this indicator will be refined to better reflect the mix of intermittent and embedded generation.

Top five generators—capacity and type



Source: Ministry of Economic Development, Energy Data File, 2007

Estimated energy supply margins

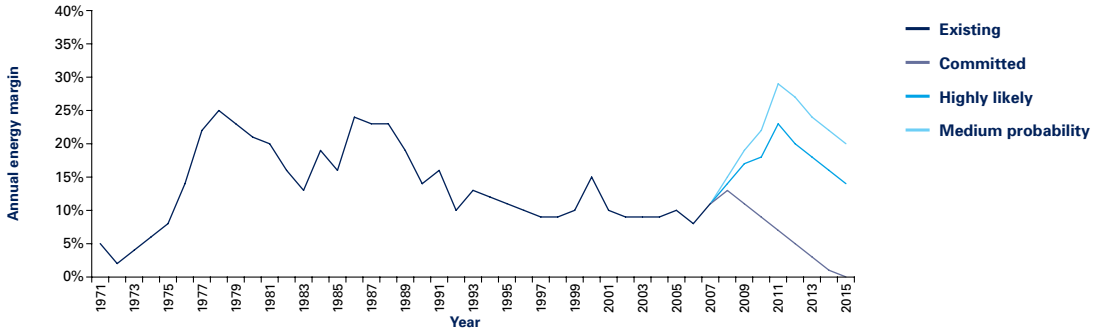
The proportion of available generation in excess of demand (energy supply margin) is a key indicator of the sufficient supply aspect of reliability. Because most of New Zealand's generation comes from hydro stations with relatively small storage capacity this supply margin is closely monitored by the Commission. Monitoring initially focussed on dry-year risk and is being extended to include peak security. The Commission contracts the Whirinaki power station to provide reserve energy and may take other actions as appropriate on security of supply risks.

The lead time involved in planning, consenting, procuring and constructing new power generation plant means that consideration must be given to supply margin several years in advance.

The graph below has two sets of related information:

- the historic information, which reflects actual supply margins over past years; and
- data on new generation projects several years out, categorised as either committed (including those being constructed), highly likely, or medium probability. This information, combined with projected demand, is used to project supply margins into the future.

Estimated dry year energy margins



Source: Electricity Commission, *Market Design Review Issues Paper*, May 2007

Wholesale market

Financial/institutional system

The wholesale electricity market includes the wholesale electricity spot market and the hedge market where participants trade financial products to manage spot-price risks. Nearly all electricity generated in New Zealand is sold in the wholesale electricity spot market. Generators offer their electricity into the market and compete to be dispatched (put onto the grid). Generators offering electricity at the lowest spot price are generally dispatched first. (Priority is given to generation that cannot be stored such as wind generation.)

Generators sell electricity into the wholesale electricity market, and large consumers and retailers purchase electricity at the spot price or hedge price.

The Commission is responsible for ensuring the effective day-to-day operation of electricity markets through the operation of market services in accordance with the Rules. The Commission contracts external parties to provide core services on its behalf to facilitate the market, such as the Wholesale Information and Trading System, Pricing Manager and Clearing Manager functions. See output class one in part three of this SOI.

The Commission is responsible for monitoring and enforcing wholesale market Rules. The Commission is also responsible for recommending changes to the Rules to the Minister of Energy.

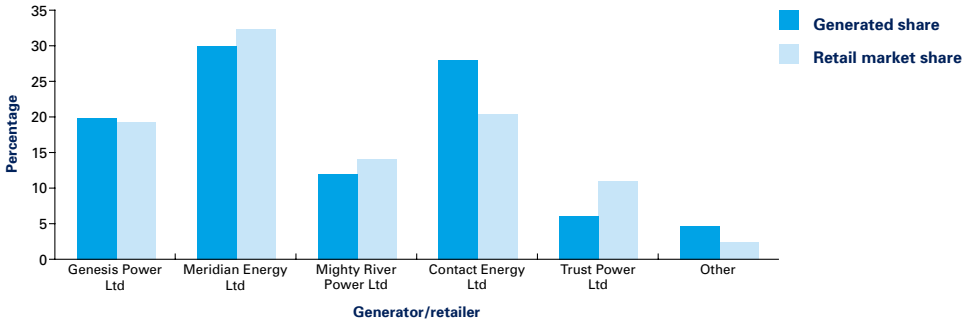
Electricity indicators

Generation and retailer diversity

The proportion of energy generated and purchased for supply is considered to be an indicator of the incentive for competition. First, competition is considered to be enhanced by multiple companies being active in these markets. Second, competition is considered to be enhanced if some separation remains between the generation and retail share owned by individual companies.

A balance of generation and sales for a generator–retailer represents a position of reduced trading risk, as all generation effectively becomes fixed-price sales. Such a balance also reduces the likelihood of the generator offering hedges, as all generation is committed to sales. A balance of generation and sales across all generator–retailers could therefore result in each company being able to achieve similar performance regardless of price.

Vertical Integration: percentages of market share (generation and retail) by vertically integrated electricity companies



Source: Clearing Manager, data for the 12 months to February 2008

Transmission

Physical system

The national high-voltage transmission system is commonly referred to as the 'national grid'. The grid comprises approximately 12,000 kilometres of transmission lines and transports electricity from some 40 power stations to connect with distribution networks at more than 200 grid exit points all over New Zealand.

Once the network is in place, it can absorb significant growth in usage with maintenance and improvement until it reaches the point where significant new investment is required. Transpower has commenced a phase of major investment in the grid to ensure its future capacity and ability to meet known and predicted generation investment and demand growth.

Financial/institutional system

The transmission network is owned by Transpower New Zealand Limited (Transpower), a state-owned company. Transpower is responsible for making the network available to grid users. Transpower is responsible for the operation, maintenance, and development of the grid, including all planning for grid enhancement and for meeting all related requirements (for example Resource Management Act 1991 requirements).

The Commerce Commission regulates Transpower's overall transmission charges and the distribution prices charged by local lines companies.

The Electricity Commission is responsible for ensuring that the rules for transmission investment and pricing are fair to all parties and that significant investments in transmission are justified on an economic basis.

The relationship between the Electricity Commission and Commerce Commission is addressed in paragraphs 114 to 119 of the GPS. The two commissions have developed a memorandum of understanding (MOU), which is available on the Commission's website.[23]

23 Available at: http://www.electricitycommission.govt.nz/opdev/mou (accessed 9 May 2008).

Electricity indicators

National grid reliability

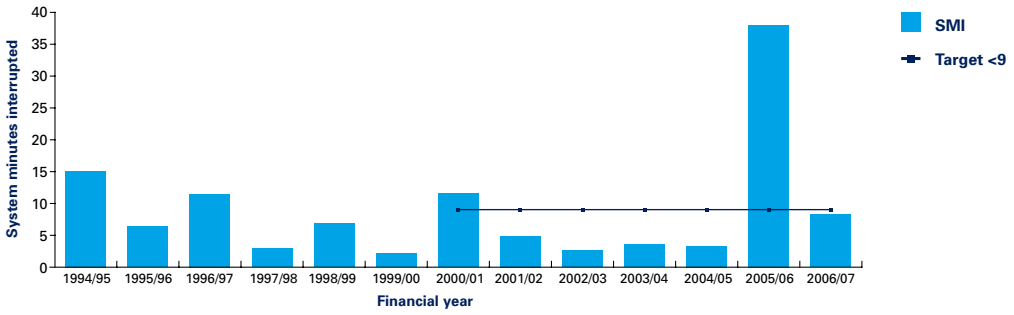
Reliability is influenced by both maintenance and investment. Transpower determines where and how much investment it considers appropriate. Transpower's grid planning obligations are specified in part F of the Rules.

Because Transpower is a monopoly, and the costs of investment are passed on, the Commission has the role of assessing and approving or declining investment proposals to ensure market efficiency. The Commission does not plan for or initiate investment by Transpower.

While Transpower is required to include its asset management plan in any Grid Upgrade Plan (GUP), the Commission has no oversight role for Transpower's maintenance work. Assuming appropriate maintenance is carried out, additional investment in the grid is expected to improve reliability over the longer term.

System minutes interrupted (SMI) is an internationally used indicator of transmission system reliability. This information is reported by Transpower in its annual reports. Transpower has an SMI target of less than nine minutes. SMI is calculated by dividing the MW minutes actually interrupted by the total instantaneous demand in MW. The breach of the target for 2005/06 is attributed to a single maintenance-related outage at Otahuhu, which disrupted power to parts of Auckland for five hours on 12 June 2006 (resulting in 29.8 SMI).

Transmission system minutes interrupted (SMI) (underlying + significant)



Source: Transpower Ltd annual reports

Distribution

Physical system

Distribution takes the power from the major grid exit points (commonly referred to as substations) to the consumers using the local lines. The distribution function includes maintenance of lines, dealing with outages (for example, when storms bring lines down) and addressing local environmental issues, such as undergrounding of lines in urban areas.

Financial/institutional system

There are 28 distribution companies. Three of these distribution companies (Vector, Powerco and Orion) jointly service 60 per cent of New Zealand consumers. Distribution companies are usually owned by community trusts or local authorities, although some distributors are privately owned (for example, Powerco).

The Commerce Commission is responsible for ensuring that distributors operate within acceptable market models.

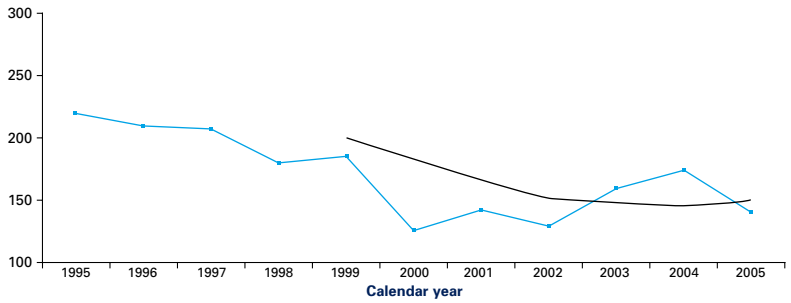
Electricity indicators

Distribution network reliability

Distribution network outages are those most likely to directly impact consumers. Reliability in this area is therefore significant to consumers. However, these indicators are most likely to be impacted by the local distribution networks, which are primarily come under the regulatory oversight of the Commerce Commission.

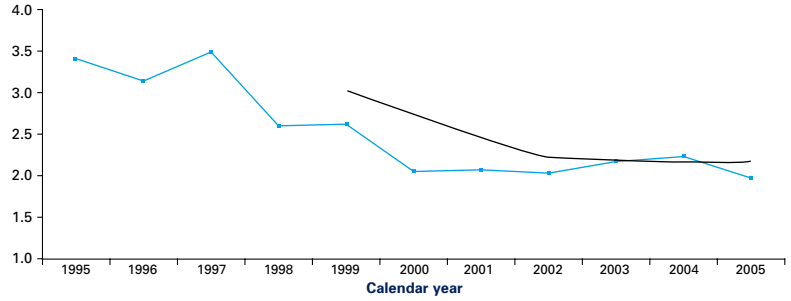
There are three commonly used indicators of distribution network reliability, referred to as SAIDI, SAIFI and CAIFI. Distributors are required to provide this information to the Commerce Commission, and the data is subsequently published and included in the Ministry of Economic Development's *New Zealand Energy Indicators* publication.

System average interruption duration index (SAIDI) (national weighted average)



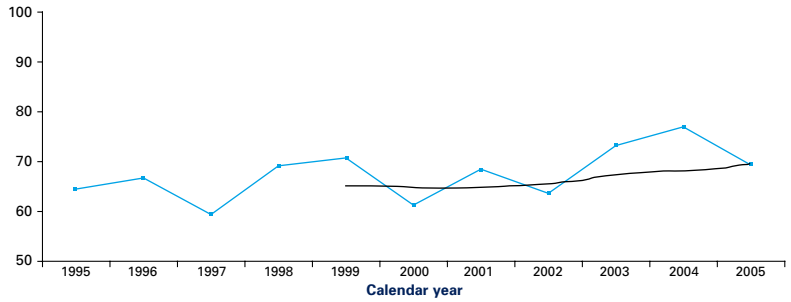
SAIDI indicates the total amount of time (in minutes) the average customer is without supply over the course of a year.

System average interruption frequency index (SAIFI) (national weighted average)



SAIFI indicates how often a customer, on average, experiences an outage during the course of a year.

Customer average interruption duration index (CAIDI) (national weighted average)



CAIDI indicates the average duration of a single outage (in minutes).

Source: Ministry of Economic Development, *New Zealand Energy Indicators, 2006*

Retail market

Physical system

Electricity retailers are generally the organisations responsible for reading the meters and billing consumers for the electricity that they use. In the case of some larger electricity users, a distributor or generation company may read the meter and bill the consumer.

Financial/institutional system

When the retail market was created, the initial (incumbent) retailers received the accounts of all consumers in their area as a starting point. Full consumer switching became available in 1999, giving electricity consumers the choice between competing retailers. Electricity retailers purchase electricity from the wholesale electricity spot market and sell it to consumers.

Most consumers pay a fixed rate for power. This means that the retailer is exposed to the differences between the fixed price they sell electricity for, and the variable price at which they buy it on the wholesale electricity spot market.

Retailers use two mechanisms to manage these risks. They commonly have hedge contracts that are like an insurance policy against price changes. The other risk protection is that most retailers are also generators—if they are paying more for electricity on the spot market, they are likely to also be making more from the electricity they are generating and selling into the market, thus reducing the impact.

In New Zealand, the five biggest retailers are the same companies as the five biggest generators. There is a high degree of alignment, or vertical integration, between generation and retail market share (see graph on page 82).

The Electricity Commission is responsible for monitoring and enforcing retail market rules embodied in the Rules. The Commission is also responsible for recommending changes to the Rules to the Minister of Energy.

The Commerce Commission is responsible for ensuring that retailers operate within acceptable market models.

Electricity indicators

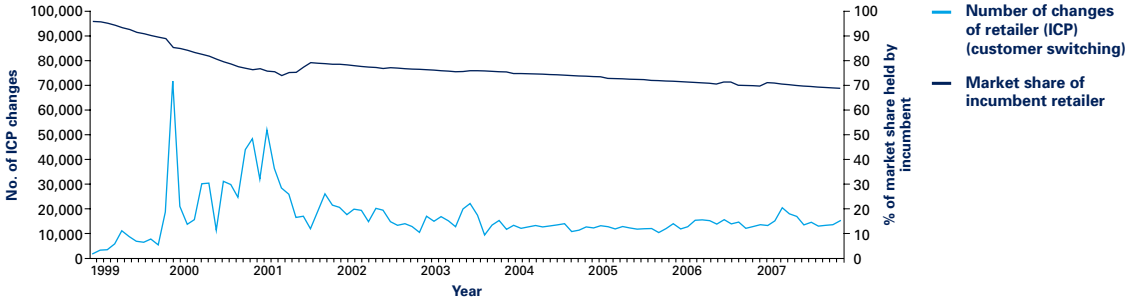
Consumer switching

At the time of deregulation all retail customers within a given region were supplied by a single retailer (the incumbent retailer). Since deregulation other retailers have been able to compete for that custom, and for new custom within those regions. The following graph shows two statistics that provide insight into customer switching behaviour.

- **Incumbent market share**—the percentage of the market that is retained by the retailer that was in place before deregulation. The steady decline indicates the penetration of competition into each region.
- **ICP changes**—this statistic includes a customer changing retailer and a customer moving house and account. The overall trend is for a fairly constant volume of changes.

The level of incumbent market share is declining slowly, but is still considered high. ICP changes in 2000/01 included significant changes as a result of a retail company exiting the retail market. Since then the level of switching has remained relatively low and constant. This trend suggests that either the level of pricing and service for customers is relatively consistent between retailers or consumers are unwilling to change.

Customer switching and percentage of the customers (ICPs) retained by the incumbent retailer



Source: Electricity Commission, ICP statistics

Consumers

Physical system

The term 'consumers' includes all electricity users—from large industrial users to residential customers. Consumers can make choices about the extent to which their energy needs are met from electricity or other sources (for example, gas, solid fuel, solar). Consumers can choose how much electricity they use by making choices about energy efficiency (for example, installing insulation and compact fluorescent lamps (CFLs)), and by making choices over usage behaviour (for example, turning off unused equipment or appliances).

The electrical wiring from the property boundary to the meter in a consumer's premise is owned by the consumer in most cases. Any wiring and equipment beyond the meter in a consumer's premises is owned by the building owner.

Financial/institutional system

All consumers, except some very-high-user industries, have supply contracts with retailers. These contracts typically include fixed and variable supply charges and fixed and variable rates for electricity used. A small number of consumers purchase electricity from the wholesale electricity spot market and use hedge contracts to manage their price risk.

Consumers can choose their retailer, based on which retailer operating in their area has the plan that best fits their needs—similar to the telecommunications industry.

The Commission has some consumer protection responsibilities, including:

- developing model contracts between retailers and consumers;
- approving and overseeing one or more consumer complaints schemes;
- developing protocols for low-income and vulnerable consumers;
- ensuring appropriate regulations and rules are in place; and
- developing and managing electricity efficiency programmes.

The Energy Efficiency and Conservation Authority (EECA) has a wider energy efficiency role (including gas and transport). The Commission has a memorandum of understanding with EECA and works closely with EECA to co-ordinate electricity efficiency initiatives and to design and implement programmes that promote and encourage the uptake of electricity efficiency measures among consumers.[24]

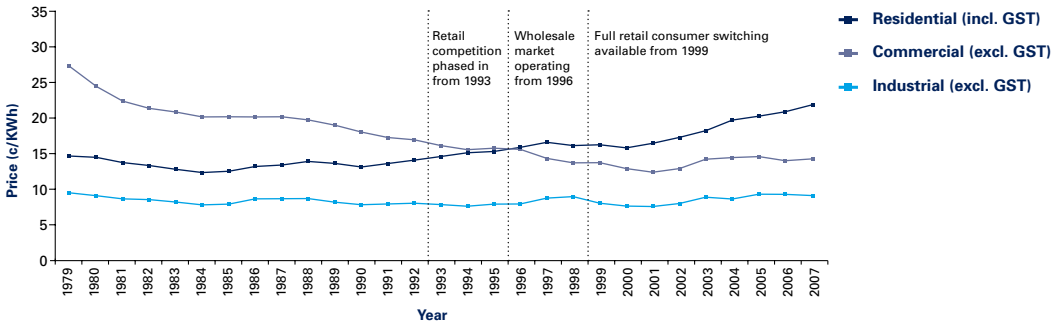
Electricity indicator

Real electricity prices

Real prices indicate the amount of price change over and above inflation.[25] From the mid 1980's to 1990's a significant rebalancing in prices occurred between the residential and commercial sectors, at a time when commercial use was also growing considerably faster than residential use. The real price increase for residential customers has been 26.8 per cent between 2002 and 2007. This increase is significantly higher than the increases for industrial and commercial users.

The *Market Design Review Issues Paper* noted that residential prices are around the middle of the range for IEA members in 2005, while industrial prices were in the lower range. One explanation for this may be that the market is passing on the spot price risk of residential demand.

Electricity Consumer Prices (Real 2007 Prices)



Source: Ministry of Economic Development website: http://www.med.govt.nz/templates/MultipageDocumentTOC____21628.aspx (accessed 18 April 2008).

24 The MOU is available at: http://www.electricitycommission.govt.nz/opdev/mou (accessed 9 May 2008).

25 The current Energy Data File method of adjustment for inflation uses the consumer price index (CPI) for residential prices, and uses the producers price index (PPI) for commercial and industrial prices. In presenting this data the Commission has followed the Energy Data File convention, which presents residential prices including GST and commercial and industrial prices excluding GST.

Directory

Electricity Commission
Te Komihana Hiko
Level 7, ASB Bank Tower, 2 Hunter Street
PO Box 10041, Wellington 6143, New Zealand
Telephone + 64 4 460 8860
Facsimile + 64 4 460 8879
www.electricitycommission.govt.nz

Electricity Commission
www.electricitycommission.govt.nz

New Zealand Government

The paper used to print this document is manufactured from 50% recycled pulp and 50% New Zealand virgin pulp.

The manufacturing process is chlorine-free. The ink used to print this document is vegetable based.