

A satellite image of New Zealand, showing the North and South Islands. The land is green with some brown patches, and the surrounding water is dark blue. White clouds are visible in the upper left and lower right corners.

# For New Zealand

Meridian Energy Report for the year ended June 2006



Meridian Energy

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## For New Zealand

### **Meridian Energy is in business for New Zealand and New Zealanders.**

We deliver the value of renewable energy to the nation's economy by providing hydro and wind power at costs that are among the most competitive worldwide.

We support customers across New Zealand by focusing on quality service and innovation.

We create value for our owners, the people of New Zealand, by operating profitably and paying substantial dividends.

We contribute to national debate on the major energy issues from the role of renewable fuels to the nature of industry regulation.

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## The Interactive CD

The printed component of the Meridian Energy Annual Report provides comprehensive financial information and a brief overview of our activities during the 2005/06 financial year. The CD component provides an extended review of our activities, including video interviews with staff, stakeholders and independent experts.

As well as providing new and better ways of reporting Meridian Energy's activities, the CD has allowed us to significantly reduce the amount of paper needed to print our Report, in line with our commitment to sustainable business principles. The 2006 Annual Report has 56 pages, compared to 79 in 2005 and 96 in 2004. The printed component of the Report uses chlorine-free paper sourced from sustainably-managed forests.





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## Executive Summary

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Achieved an excellent net profit after tax of \$856.8 million.

The Waitaki water allocation was finalised with significant flexibility preserved for existing and future generation.

The sale of our Southern Hydro assets in Australia was highly successful.

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Carefully managed the risks arising from poor hydrology in the Waitaki catchment, where inflows were the lowest on 70 year records between October 05 and March 06.

Participated in energy security and cost debates through submissions, speeches and publications on critical energy issues throughout the year.

Wind farm construction commenced at White Hill, Southland.

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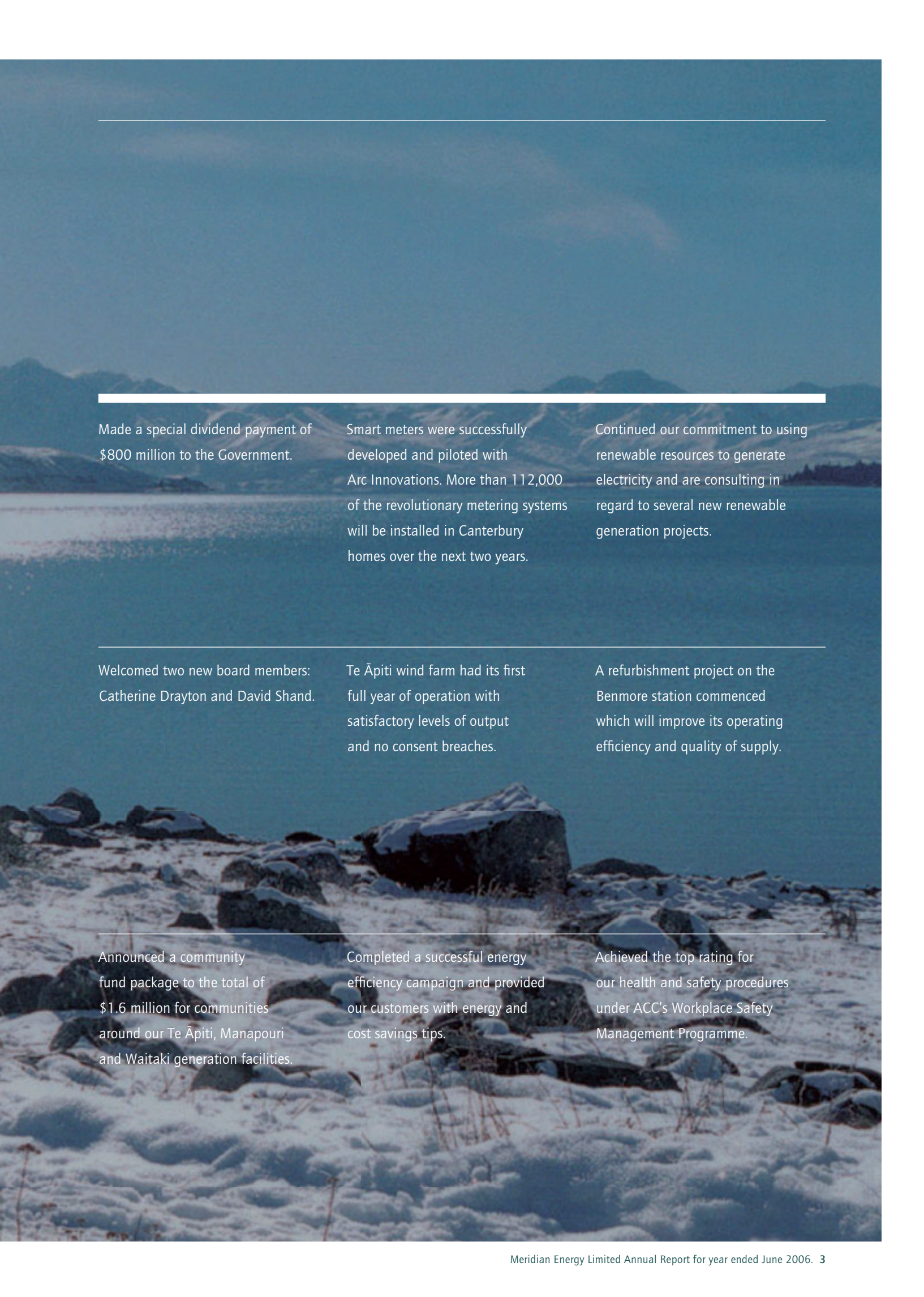
Resource consents for Project West Wind in Wellington were granted.

Expanded our products and services for our customers.

Revaluation of generation structures and plant increased the value of the Company's total assets by \$1.8 billion.



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Made a special dividend payment of \$800 million to the Government.

Smart meters were successfully developed and piloted with Arc Innovations. More than 112,000 of the revolutionary metering systems will be installed in Canterbury homes over the next two years.

Continued our commitment to using renewable resources to generate electricity and are consulting in regard to several new renewable generation projects.

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Welcomed two new board members: Catherine Drayton and David Shand.

Te Āpiti wind farm had its first full year of operation with satisfactory levels of output and no consent breaches.

A refurbishment project on the Benmore station commenced which will improve its operating efficiency and quality of supply.

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Announced a community fund package to the total of \$1.6 million for communities around our Te Āpiti, Manapouri and Waitaki generation facilities.

Completed a successful energy efficiency campaign and provided our customers with energy and cost savings tips.

Achieved the top rating for our health and safety procedures under ACC's Workplace Safety Management Programme.

## Our Operations

Meridian Energy is New Zealand's largest renewable energy generator.

Currently we operate nine hydro stations in the South Island, New Zealand's largest wind farm in the North Island, and a wind turbine in Wellington. Construction has begun on our White Hill wind farm west of Lumsden and consents for our West Wind farm in the south west corner of the North Island near Wellington have been granted.

We have ambitious plans for future development to meet the growing electricity demands of New Zealand's population and industries.

### PLANT CAPACITY AND PRODUCTION

	PLANT CAPACITY MW	TOTAL GWh PRODUCED 2005/06	TOTAL GWh PRODUCED 2004/05
Tekapo A	25	125.31	144.74
Tekapo B	160	742.12	802.62
Ohau A	264	1,014.18	1,158.87
Ohau B	212	849.98	974.55
Ohau C	212	845.04	971.14
Benmore	540	1,950.77	2,275.76
Aviemore	220	829.33	969.56
Waitaki	90	431.82	503.87
Manapouri	710	4,176.26	5,240.79
Brooklyn	0.23	0.68	0.18
Te Āpiti	90	290.66	272.63
Project White Hill (under construction)	58	-	-
<b>TOTAL</b>	<b>2,581.23</b>	<b>11,256.15</b>	<b>13,314.71</b>

### ENERGY FOR INDUSTRY CENTRES

	THERMAL MW CAPACITIES 2005/06
Auckland Hospital	5.4MW/4.0MW
Nelson Hospital	1.5MW
Winstone Pulp International, Ohakune	12MW
Dunedin Energy Centre	30MW

### PROPOSED DEVELOPMENTS AND MAX MW CAPACITY

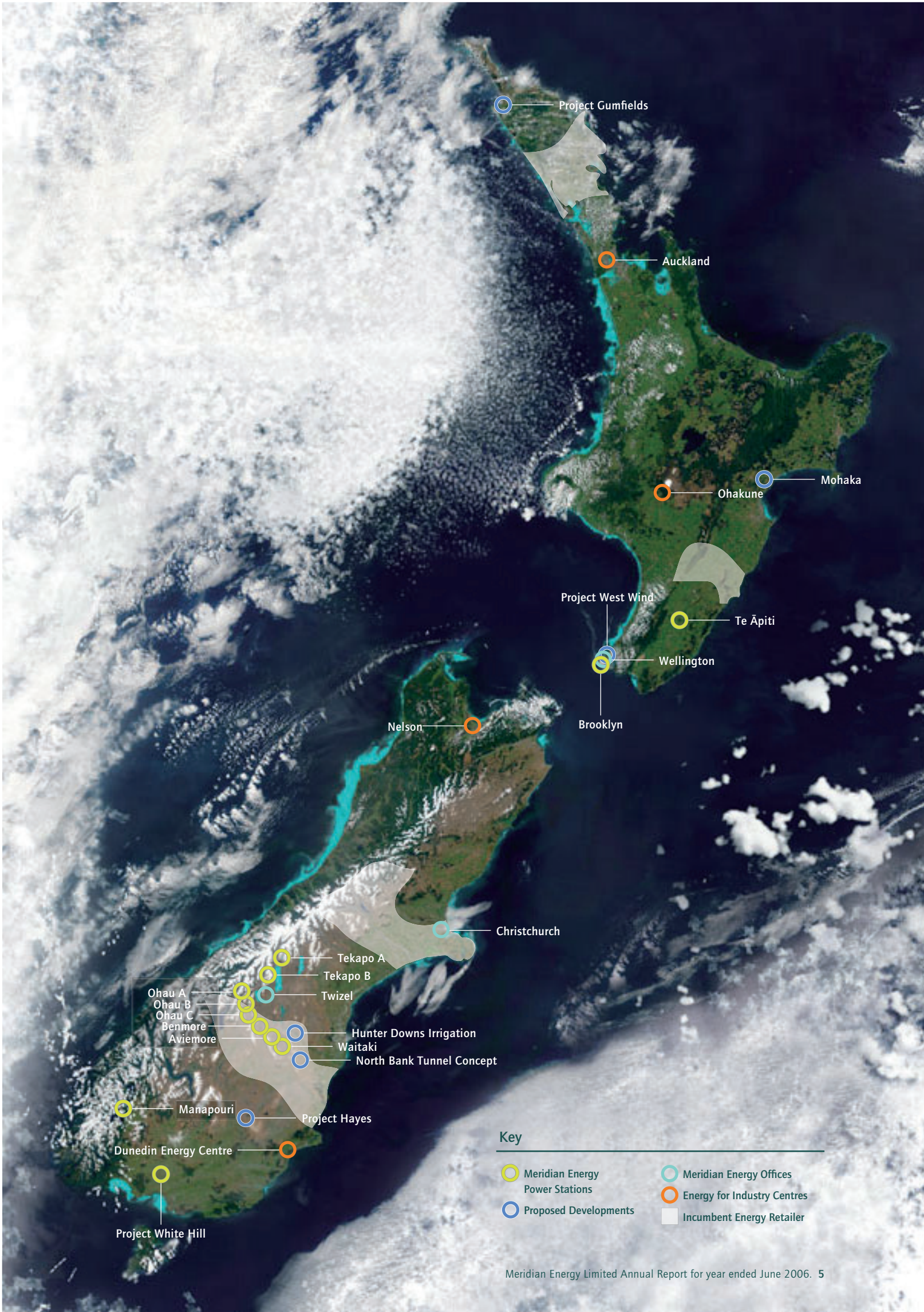
Project West Wind	140-210MW (awaiting Environment Court decision)
Project Hayes	150-630MW staged development (lodged consent application)
North Bank Tunnel Concept	210-280MW (consultation prior to lodging water use consents application)
Project Gumfields	60-70MW (DOC Concession application)
Hunter Downs Irrigation	up to 40,000 ha irrigated (consultation prior to lodging water use consents application)
Mohaka	44MW (nominal)



CD SEARCH >  
**4.0**

THE ENCLOSED CD PROVIDES AN EXTENDED REVIEW OF OUR ACTIVITIES. ENTER THIS CD SEARCH NUMBER ON THE CD HOME PAGE FOR MORE INFORMATION ON OUR PERFORMANCE.





Project Gumfields

Auckland

Ohakune

Mohaka

Project West Wind

Te Āpiti

Wellington

Brooklyn

Nelson

Christchurch

Tekapo A

Tekapo B

Twizel

Ohau A

Ohau B

Ohau C

Benmore

Aviemore

Hunter Downs Irrigation

Waitaki

North Bank Tunnel Concept

Manapouri

Project Hayes

Dunedin Energy Centre

Project White Hill

### Key

Meridian Energy Power Stations

Proposed Developments

Meridian Energy Offices

Energy for Industry Centres

Incumbent Energy Retailer



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## Our Performance

# 125,000

Discounted energy efficient light bulbs were taken up by New Zealand households in an energy efficiency promotion supported by Meridian Energy.

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# \$800 million

A special dividend payment to the Government following sale of Southern Hydro.

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# Corporate: 600 Business: 4,200 Residential: 177,500

Approximately the number of customers we supply throughout New Zealand.

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# 1,000

Smart meters installed. These revolutionary electricity meters were piloted in Central Hawkes Bay.

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# 50%

Proportion of Meridian Energy customers who will have a smart meter installed by 2009.

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# 1 Wedding

The Meridian Energy season of the Royal New Zealand Ballet's *The Wedding* written by Witi Ihimaera was attended by 22,267 people in six centres around New Zealand.

**"This is a ballet written by a New Zealander, choreographed and designed by New Zealanders and danced by New Zealanders and set here in New Zealand – that's about as home-grown as you can get". Keith Turner.**

# Online business system

Our corporate customers can now view their energy consumption, statistics and bills online.

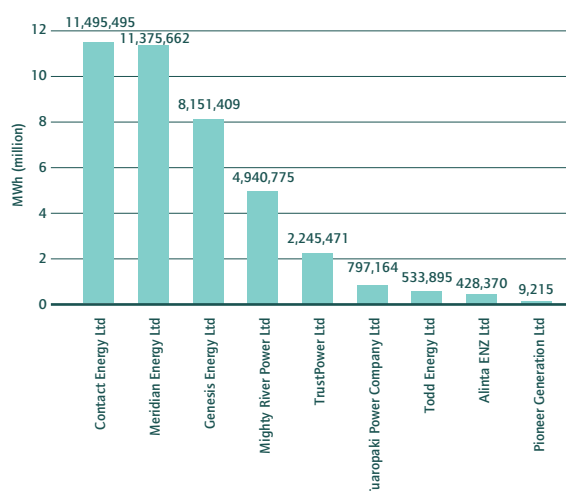
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# \$856.8 million

Net profit after tax including the gain on the highly successful Southern Hydro sale.

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TOTAL GENERATION BY COMPANY YEAR ENDED JUNE 06



Meter Data – Electricity Commission.

Note: Does not include minor generators that aren't metered or where the plant is less than 10MW in size.

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**"Given the high number of resource consents and associated conditions, the operation of the Waitaki Power Scheme to such a high degree of compliance shows very good management, operation and planning by Meridian Energy Ltd"**

From an independent compliance audit report prepared by OPUS International Consultants Ltd, August 2006.

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# 365

Full time equivalent Meridian Energy staff members as at 30 June 2006.

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# 4,363

Submissions received for Project West Wind, supported: 81%, opposed: 19%.

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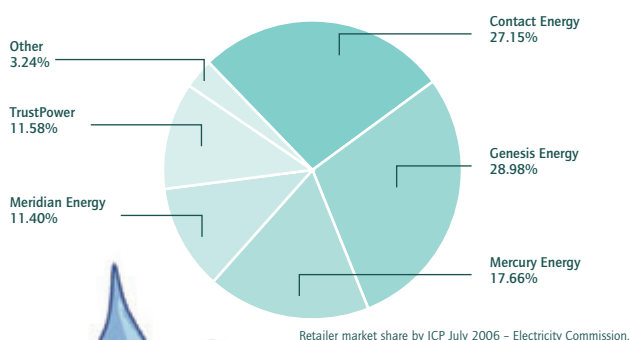
Te Āpiti: \$100,000  
Manapouri: \$500,000  
Waitaki: \$1 million

The amount of funding each of our generation communities will receive in the form of three community funds over the next three years.

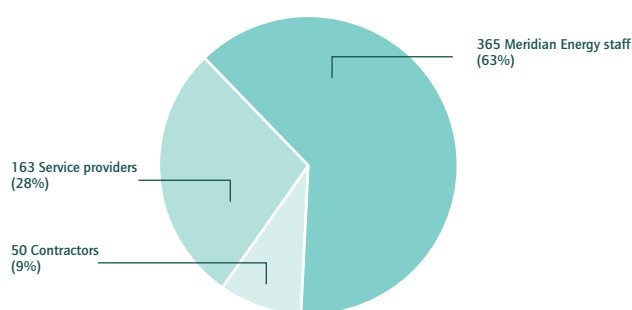
60% less energy  
70% less water

Than comparable buildings. New Zealand's first 'green' office building commenced construction this year. It will accommodate all Wellington based Meridian Energy staff.

#### TOTAL CUSTOMERS PER RETAILER



#### OUR STAFF



[www.generationisland.co.nz](http://www.generationisland.co.nz)

We launched an educational website about electricity generation and conservation for students and teachers.

#### STATEMENT OF CORPORATE INTENT PERFORMANCE COMPARISON TABLE

RATIO OF SHAREHOLDERS' FUNDS TO TOTAL ASSETS	TARGET	2005/2006	2004/2005	2003/2004
Equity to total assets (%)	56.2	79.4	56.8	57.9
FINANCIAL PERFORMANCE MEASURES	TARGET	2005/2006	2004/2005	2003/2004
EBITDA per MWh produced NZ(\$)	35.9	37.5	36.8	27
Return on average Equity including revaluation (%)	9.1	25.6	9.0	5.7
Net Debt to Net Debt plus Equity (%)	37.4	10.6	35.4	33.9
EBITDA Interest Cover (times)	5.2	31.5	6.1	5.1
NON FINANCIAL PERFORMANCE MEASURES	TARGET	2005/2006	2004/2005	2003/2004
Hydro Plant availability (%)	92.2	92.2	93.9	94.0
Hydro Forced outage factor (%)	0.45	0.36	0.14	0.21
Number of lost time incidents	0	4	3	2
Calls answered within 20 seconds (%)	80	80	83	81
Corporate customer satisfaction - excellent, very good (%)	57	45	52	-
Mass market customer satisfaction - excellent very good (%)	53	47	49	-
Number of complaints per 10,000 customers	40	30	53	68
Staff satisfaction - extremely satisfied, very satisfied (%)	80	70*	-	-

Note: Staff satisfaction was reported in 2004/05 and 2003/04 but the reporting measures have changed significantly since then and the figures offer no basis for comparison.

\* Actual research used to get this data used a different measure than the target stated in the 2005 SCI of "excellent, very good (%)". The 80% target is also based on the "excellent, very good (%)" measure. Future SCI measures and targets will be amended to reflect the new research methodology using extremely satisfied, very satisfied. If the 'satisfied' figures were added to the 2005/06 70% total then staff satisfaction for 2005/06 would be 95%

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## Chairman and Chief Executive's Review

The 2005–06 year has been momentous for Meridian Energy. We are pleased to report on the Company's performance and our approach to major issues facing the energy sector, and to outline our business strategies for the coming year.

### Year in Review

Meridian Energy achieved a net profit after tax of \$856.8 million for the year ended 30 June 2006. This included a substantial gain on the sale of Australian subsidiary Southern Hydro. Excluding that gain, the Company made a net profit after tax on continuing activities of \$243.1 million, which was up 1.6% from the previous year.

Operating results were impacted by extremely poor hydro conditions for most of 2005–06. Earnings before interest and tax (EBIT) on continuing activities were \$330.7 million\*, down 17% from the previous year. Meridian Energy saw its net energy revenue decline significantly as it bought electricity at high spot prices on the wholesale market to cover its contracted supply position for extended periods during 2005–06. Given the prevailing hydro conditions and wholesale market pressures, this EBIT number was an excellent result. The Company's total revenue for the year included interest income on the Southern Hydro sale proceeds and related foreign exchange gains.



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\* Excluding interest income from proceeds of Southern Hydro sale and foreign exchange gains made on repatriating proceeds.





Keith Turner, Chief Executive  
Wayne Boyd, Chairman.

## Southern Hydro

The sale of Southern Hydro contributed a \$652.5 million gain, before sale related costs, to Meridian Energy. Our decision to sell this investment in 2005 was based on a strategic assessment of renewable energy asset values in Australia and globally.

The sale price of A\$1.46 billion reflected the quality of the Southern Hydro assets and operations as developed by Meridian Energy since our initial acquisitions in 2001. At the time of purchase in 2001 and 2003, there was some concern about a state owned enterprise making overseas investments totalling A\$681.5 million. We applied our engineering knowledge and experience to the portfolio of 11 hydro stations in New South Wales and Victoria, and to the development of Australia's largest wind farm at Wattle Point, to realise a significant profit three years later.

The sale timing reflected global renewable energy market trends. We entered an international sale process in June 2005 and The Australian Gas Light Company acquired the assets on 30 November at a price above independent valuations. The value gained underscored Meridian Energy's strategic capability and it was an extremely pleasing outcome for New Zealand.

## Dividend

The Company returned the Southern Hydro sale proceeds to the shareholder through an interim dividend of \$800 million in May 2006. This brought our total contribution in dividends to the Crown to \$879 million during 2005-06.

## Operating Conditions

Hydro inflows to the Waitaki generation scheme were the lowest on 70-year records during the October-March period of 2005-06. For the full year, inflows were 84% of the annual average. From early last spring, we anticipated a heightened risk of a dry year ahead and managed hydro resources on this basis. Meridian Energy consistently conserved water through summer. Hydro conditions improved when rain came in late April and risks of a dry winter in 2006 receded. However the Company's total production for the year was down 15% to 11,267 GWh. Our market share of generation nationwide slipped to 28%.

Meridian Energy's prudent use of water assisted the supply situation through 2005-06. In addition, the nation was fortunate to have no significant unplanned thermal generation or transmission outages over the critical months. On the demand side, Comalco, which is New Zealand's single largest power consumer, assisted by voluntarily reducing its autumn loads by 10%. General moderation in New Zealand's level of economic activity held back growth in electricity demand for much of the year. However, severe winter weather saw it jump 2.5% during May-June compared with the same months in 2005. The nation set new records for daily production and peak demand, which fully stretched supply.

## Milestones

In addition to the Southern Hydro success, Meridian Energy achieved strategic milestones that reflected our commitment to renewable energy for New Zealand. Among these:

- The Waitaki Water Allocation Plan was finalised without disruption to existing hydro generation on the Waitaki chain while also preserving options for future power development. We provided scientific input and consulted with other stakeholders towards achieving this outcome.
- The Te Āpiti wind farm had its first full year of operation, with satisfactory levels of output and no breaches of consent conditions. Te Āpiti is a valuable addition to New Zealand's electricity supply.

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## For New Zealand: Twizel saves the nation

Heavy snow in South Canterbury could have meant cold showers for New Zealanders everywhere in mid June 2006. Meridian Energy staff and contractors struggled through the big freeze to keep the Waitaki system generating and avoid the potential of a large hole in the nation's electricity supply.

The storm on 12 June knocked down power lines that support vital monitoring and control points on the Upper Waitaki canals and generating stations. Without power, intake gates start closing and water flow through the stations slows. Within half an hour, the Waitaki system's output to the national grid can be reduced drastically.

When the lines came down, emergency diesel generators automatically fired up to maintain

power to the canal gates and power stations to keep the system in operation. But solar-powered water level gauges, essential for remote monitoring of the canals, and lakes, threatened to fail after an extended time without charging and of course, generators need refuelling.

With snow lying waist deep in many places, heavy fog and temperatures frequently below zero, Meridian Energy staff and contractors in the Waitaki Valley set to work. On 12 June and the following four days, they repeatedly visited all monitoring and control points to check their functioning and refuel the emergency generators.

This often meant wading through the snow with cans of diesel when four-wheel drive vehicles could get no closer to particular sites.

One staff member trekked through the snow for 10km while checking on the Tekapo A station.

*"Our people saw what needed to be done and got stuck in. For them, it was just part of the job," says Meridian Energy's Twizel Asset Manager, Paul Lloyd. "Conditions were shocking but no one was about to let the system wind down."*

And the impact on national electricity supply? *"Not a single megawatt was lost... we captured everything that could be generated from the water that was available to the system from lakes Tekapo and Pukaki," says Paul. Just as well – national demand spiked in the two weeks from 12 June (up 5% on the same fortnight in 2005).*

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- Other wind farm projects moved ahead, demonstrating the Company's public consultation and development capabilities, particularly in regard to Project West Wind near Wellington.
- The electricity market met the challenge posed by poor hydrology. Appropriate price signals occurred early enough to ensure hydro resources were managed through the summer and autumn.

New Zealand is fortunate to have an abundance of renewable resources, primarily wind, geothermal and hydro, as alternatives to fossil fuels.

## Energy Sector Issues

### Future Supply

Fuel supply security, climate change and energy costs are increasingly critical issues for the global economy. New Zealand is fortunate to have an abundance of renewable resources, primarily wind, geothermal and hydro, as alternatives to fossil fuels. The world's developed nations are moving to identify and share the costs of carbon emissions on fossil fuel usage, further increasing the cost of these fuels. New Zealand, like other countries, faces fundamental choices about its energy future, and in particular the extent to which renewable resources will be harnessed ahead of imported gas or yet-to-be extracted indigenous stocks of gas or coal. Meridian Energy will continue to contribute analysis and factual commentary on the nation's future supply options.

### Carbon Charging

New Zealand is considering policy options in respect of climate change, including economic mechanisms to internalise the cost of carbon emissions in operational and investment decision making. Meridian Energy believes this country needs to evaluate the impact of carbon on the climate, and the resulting consequences for New Zealand's economy. To do so effectively it must consider pricing the cost of carbon. Mechanisms that would accomplish this are an emissions trading system or a carbon tax on emissions. In making any decision it is critical that the cost of emissions is reflected in pricing so the energy sector has incentives to manage emissions efficiently. Emissions trading could provide incentives for replacing thermal generation with renewables, and it should be as open, fluid and internationally compatible as possible. A climate change policy for New Zealand should add to a stable environment for long term investing, particularly in renewables.



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## Water Allocation

Hydro generation requires certainty of water-use rights. Under current resource management law and practice, such certainty is lacking for prospective new projects and even existing generation. This represents a strong disincentive in the current investment environment, given the long term nature of the assets involved. Meridian Energy has secured some certainty on water allocation in the upper Waitaki, but in our opinion the flow regime now imposed on the lower river is unnecessarily restrictive and has been set without scientific basis.

Meridian Energy is contributing to the development of the Government's sustainable water policy which will, we hope, address uncertainties in the allocation of water, the long term holding of water-use rights and mechanisms for the transfer of those rights. We recognise the diversity of perspectives that can apply to water as a natural resource. We also encourage a nationwide appreciation of its critical importance if New Zealand is to have a renewable energy future. For necessary investment to occur, the energy sector requires understanding and certainty from policy makers and local authorities.

The national electricity market requires a robust national grid that enables supply from locations and technologies which are the most economic for New Zealand.

## Transmission

The national electricity market requires a robust national grid that enables supply from locations and technologies which are the most economic for New Zealand. This requirement has been recognised by the Government which amended the Government Policy Statement on Electricity Governance to clarify the national priority placed on transmission investment and the roles of both Transpower and the Electricity Commission when considering grid upgrades. These changes should also improve certainty for those considering investment in supply or demand side technologies that connect to the transmission grid and are timely given the urgent need for grid upgrading, especially to support supply into Auckland and the upper regions of both the South and North Islands. Transmission constraints and the aged and outdated design of our grid make more supply failures a real possibility in the medium term and will undermine the operation of an effective national market in electricity. Renewable generation projects are particularly reliant on a viable national grid, given that they are usually sited away from centres of demand. Meridian Energy supports a strategic investment programme by Transpower that will restore a level of robustness to New Zealand's transmission.

## Industry Regulation

The revised Government Policy Statement (August 2006) has established industry priorities in the best interests of all New Zealanders and clarified the role of the Electricity Commission. The Statement recognises the need for a strong national grid and the importance of renewables in this country's electricity supply. We look forward to a new era of decision making by the industry regulator. In our experience, the Electricity Commission has failed to secure full industry confidence over the past two years and its decisions have often been based on a narrow view of its governing policy and rules.

One such issue is the allocation of high voltage direct current (HVDC) charges. For charging purposes, the Electricity Commission holds this to be a "connection" asset that should be paid for by South Island generators, who must also fund 100% of the planned HVDC upgrading. Meridian Energy joined others in seeking judicial review of this decision and the Electricity Commission was directed to re-assess its position. In April 2006, the Electricity Commission ruled again that allocation should be entirely on the South Island. In the 12 months to June 2006, it is interesting to note that more power flowed south than north, showing the truly national nature of this core part of the national grid.

The Electricity Commission, however, is inconsistent in its application as it has also treated the HVDC link as an "interconnection asset" for its benchmark contracts. On the one hand it charges its cost as though it is a connection asset but on the other it contracts it as an integral part of the national grid and national electricity market.

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## For New Zealand: High purity metal for the world

New Zealand Aluminium Smelters Limited (NZAS) at Tiwai Point, owned by Comalco New Zealand and Sumitomo Chemicals, produces the world's purest aluminium. It ends up in mobile phones, computers and the aerospace industry the world over. It is an export success story for New Zealand.

Since 1971, NZAS has produced more than 8 million tonnes of aluminium. Technical improvements over the years have enhanced the smelter's operating efficiency, environmental standards, and the volume and quality of its output. For 2005, NZAS reported record

production of 351,449 tonnes, a third of this in high purity aluminium. The latter is valued by the electronics industries of Japan and is used in electrical capacitors and memory discs for data storage.

Last year aluminium exports by Comalco were close to \$1.1 billion, representing 3.5% of New Zealand's total export trade. The smelter also produces for the local market.

Worldwide, aluminium smelters require a reliable electricity supply. Alumina is reduced to molten

metal through a chemical reaction triggered by electric current – a process that involves extreme heat and careful timing. Since 1971, NZAS has been supplied from the Manapouri power station. Today, Comalco New Zealand is Meridian Energy's largest customer (and New Zealand's largest single power consumer). The two companies work together so the smelter can continue performing for the New Zealand economy – and producing valuable metal for the appliances we use every day.

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## Competition Investigation

Meridian Energy has provided the Commerce Commission with a substantial amount of information in connection with its investigation of competition in the wholesale and retail electricity markets in New Zealand. This has imposed substantial costs and division of resources. The Commission's broadly and imprecisely framed investigation is just one of a number of significant regulatory interventions over the past year, and Meridian Energy is concerned that these interventions are contributing to an environment of increasing regulatory uncertainty in the electricity sector. This uncertainty is a barrier to the significant investment in electricity infrastructure that New Zealand urgently needs.

## Comalco Contract

Existing contracts for supply to Comalco's Tiwai Point aluminium smelter expire at the end of 2012. The outcomes of current negotiations on contract renewal are of major significance to the energy sector. The negotiations have made good progress to this point.

## Strategies

### Business Direction

In recent years, Meridian Energy has developed and delivered on strategies to grow value for the shareholder and ensure the nation's need for secure energy supply is met at competitive prices. Our success at investing in Australia has demonstrated Meridian Energy's proficiency with those strategies. The Government's policy drives state owned enterprises towards enhanced productivity gains by extending their intellectual property and core competencies into activities and investments that stimulate innovation and benefit other businesses. We see this as a strong endorsement of Meridian Energy's direction and of our role as a major New Zealand company with opportunities to grow and develop, while at the same time creating opportunities for other businesses.

The Company plans a significant increase in capital expenditure, concentrating on new generation and retail initiatives in New Zealand with a programme of approximately \$3 billion over the period 2006 – 2016.

## Balance Sheet

Meridian Energy will maintain a balance sheet that supports its business direction. Recent revaluation of generation structures and plant increased the value of the Company's total assets by \$1.8 billion, to \$5.3 billion at 30 June 2006. We took a prudent approach to the revaluation, which was based on views of the future growth in electricity pricing.

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Following the review of the balance sheet and \$800 million dividend Meridian Energy has retained the capacity to fund growth and development, while targeting an ongoing dividend payout policy at 65% of annual net profit after tax. The Company plans a significant increase in capital expenditure, concentrating on new generation and retail initiatives in New Zealand with a programme of approximately \$3 billion over the period 2006 – 2016. The Company expects to retain its current BBB+ credit rating.

### Optimisation

Meridian Energy's first operating priority is to optimise electricity supply and business performance from existing assets. This entails the strategic upgrading of generation plant and the deployment of new technologies and practices for more efficient use of plant and effective participation in the national electricity market.

#### Plant Refurbishment

The Company has begun a half-life refurbishment project on the 40-year-old Benmore station. The refurbishment includes the mechanical overhaul of all six generating units, the upgrade and replacement of local services and the reconfiguration of the connection between the station and the national grid to improve flexibility and quality of supply. When the project is completed, Benmore is expected to operate with improved efficiency, reduced risk and lower maintenance costs. Installation of new runners is expected to lift the station's output by approximately 3%.

The \$98 million mid-life refurbishment project at Manapouri is on track for completion in August 2007. Four of Manapouri's seven generating units have been successfully refurbished with efficiency greater than set out in the business case. The refurbished machines have been rated upwards from 105MW to 121MW. The project so far has involved over 300,000 work hours with just two lost time injuries recorded, both minor.

The Company will further enhance the management of Meridian Energy's generating assets by using a 'predictive asset maintenance' system installed during 2005–06.

A smaller project to enhance seismic performance of Aviemore dam at a cost of \$8.7 million is now nearing completion.

The Company will further enhance the management of Meridian Energy's generating assets by using a 'predictive asset maintenance' system installed during 2005–06. This system delivers a regular flow of data on the performance and status of critical plant components, and predicts "remnant life" which enables the optimisation of both maintenance effort and the timing for replacement or refurbishment.

#### Manapouri Generation Capacity

The Company is exploring the potential for further raising output at Manapouri. We undertook a three-day high flow trial this winter, with analysis now under way on the environmental impact, if any, of increased fresh water discharge into Doubtful Sound. The increased flow through Manapouri could raise generation capacity to 840MW at times. The decision to apply for an increase will be made after further consultation and effects studies.

#### Management Processes

Meridian Energy has strengthened its processes for managing production and trading to optimise each in an environment of lower hydro reserves and higher volatility in electricity prices. Trading decisions reflect regular and close analysis of hydrology and all available market information.

### Growth and Development

Meridian Energy will continue with a substantial programme of renewable energy projects that help meet electricity demand growth over the long term. We are looking at a range of wind and hydro projects representing approximately 2,500MW of additional generation capacity for New Zealand over the next 20 years. The focus is principally on wind, supported by new hydro stations at sites where development is cost competitive and environmentally responsible.



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## For New Zealand: Kiwi love story in ballet

A ballet for New Zealanders who have never been to the ballet before – that was the goal of Witi Ihimaera when he sat down to write *The Wedding*. He came up with a distinctly Kiwi love story, involving local girl Angie who is torn between American fiancé Brad and high school sweetheart Charles. The settings include a rugby club, hotel and church. With music, choreography and art direction from some of the nation's top creative talents, *The Wedding* certainly did break new ground for both ballet and Kiwis during 2006!

More than 22,260 people clapped and laughed their way through performances by the Royal New Zealand Ballet (RNZB) during March and April.

*The Meridian Energy Season of The Wedding* opened at the Aotea Centre in Auckland and toured to five other centres. For Meridian Energy, National Sponsor of RNZB, *The Wedding* was a great opportunity to contribute something classical yet new to the cultural lives of Kiwis.

*The Wedding* was a unique marriage between the literary genius of Witi Ihimaera – poet, novelist and playwright – and the extraordinary talents of choreographer Mark Baldwin, composer Gareth Farr, director Raymond Hawthorne and designer Tracy Grant. And then there was the dance performance of New Zealand's professional ballet company. But what did the critics say?

- *"Truly a national treasure... the RNZB has given us an authentic homegrown ballet that New Zealanders from all walks of life will enjoy... This wedding is a match made in heaven."* – Marianne Schultz, in the Sunday Star-Times.
- *"The Wedding is a winner. Fresh and flirty, frivolous, farcical and funny, how could it not be, with all that creative nous behind it?"* – Bernadette Rae, in the New Zealand Herald.

Meridian Energy is proud to sponsor the Royal New Zealand Ballet and to have helped bring *The Wedding* to so many New Zealanders.

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### Wind Projects

Meridian Energy is moving to develop New Zealand's wind power potential. Depending on the site, the economics of wind compare very favourably with all other generation types. We look forward to a series of world-class wind farm developments in the immediate future.

Project White Hill, Southland, is on track to produce first power in early 2007. Construction began in March after resource consents were granted in late 2004. The 58MW wind farm will supply power to Southland's distribution network. Project West Wind, Wellington, received consent in December 2005, which has since been the subject of appeal to the Environment Court. The West Wind proposal is for a 210MW wind farm on a site that is ideal for generating power from wind.

## We look forward to a series of world-class wind farm developments in the immediate future.

Meridian Energy recently applied for consents to build a wind farm up to 630MW on the Lammermoor Range, Central Otago. Public consultation on Project Hayes began earlier in 2006, with general support in the region, but with pockets of opposition, indicated to date. Project Hayes could make a particularly significant contribution to meeting the growth in demand in the South Island. In addition to these three projects, we are investigating the wind farm potential at more than 10 other sites around New Zealand.

### Hydro Projects

Meridian Energy sees real potential for a tunnel based hydro scheme on the north bank of the Waitaki River. The North Bank Tunnel Concept would take water from behind the existing Waitaki Dam and discharge back into the river 34km downstream. Up to six times more electricity could be generated from the same volume in comparison with the existing Waitaki station. Public consultation on the project is under way and the Company is preparing an application for water consents for the scheme.

Consultation with stakeholders is under way on two other hydro projects. In northern Westland, we are investigating a low dam on the Mokihinui River, with generation of up to 60MW in an area under Department of Conservation stewardship. The station would be well located for electricity supply to the West Coast. Likewise, harnessing the lower Mohaka River would be particularly beneficial to security of supply in the eastern North Island. The Company is consulting on a dam proposal here that would support 44MW of capacity. Resource consent applications on both projects may follow in 2007.

### Irrigation Projects

Meridian Energy is keen to integrate its use of water with other water users. The Company has underwritten 2,320 ha of the North Otago Irrigation Company, developer of a scheme

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covering 20,000 ha in two 10,000 ha stages to the south of the lower Waitaki River. The scheme helps to achieve a long-held community goal of providing a reliable water source to the drought-prone area of North Otago. As planned, Meridian Energy will continue to on-sell shares acquired in the initial capital underwrite. To date, more than 30% of the 2,320 shares acquired have been sold or leased.

Meridian Energy is keen to integrate its use of water with other water users. The Company has underwritten 2,320 ha of the North Otago Irrigation Company, developer of a scheme covering 20,000 ha to the south of the lower Waitaki River.

The Company has also invested in feasibility work in the Hunter Downs Irrigation proposal, with a potential to irrigate 40,000 ha north of the Waitaki. Meridian Energy and the South Canterbury Irrigation Trust (convened by three district councils) have formed the Hunter Downs working group to determine interest in developing the scheme. To date, the group has interest in relation to over 71% of the irrigable area. The scheme is contingent on consents to take water from the lower Waitaki. To proceed, the scheme will require sufficient water to meet farmer expectations of irrigation reliability.

Over the past year, Meridian Energy has worked successfully with the Mackenzie Irrigation Company on an allocation of water for in-catchment irrigation in the upper Waitaki. The details have been incorporated in the Waitaki allocation plan.

### Customer Value

Meridian recognises that meeting our customers' needs is paramount to our success, just as electricity is a key factor in their success. We offer a full service to our customers in all 44 pricing network areas of New Zealand. Many of our corporate customers operate in all areas of the country and we're there to support them. We have approximately 600 corporate customers, including many of the nation's largest industrial and institutional energy users on half hourly-metered supply; 4,200 account managed medium business customers and 177,500 residential customers, including small businesses and households. We also supply Comalco in Southland under specific arrangements inherited from ECNZ that require close co-operation with the smelter as New Zealand's major user of electricity, and with Transpower who deliver the power to the smelter.

Providing accurate and timely information that enables customers to monitor and manage their energy usage is central to our marketing strategy.

### Service Quality

We support our corporate business customers with account management and have a help desk service for business and residential customers. Providing accurate and timely information that enables customers to monitor and manage their energy usage is central to our customer proposition. During 2005–06, our Business Online system was further enhanced as a web-based tool for corporates and businesses to track their usage and cost. Meridian Energy has a range of publications and communications to keep customers updated on market developments, including immediate email alerts for tracking volatility in spot prices.

### Smart Metering

Meridian Energy is leading the introduction of smart metering services. This technology is potentially of huge value to customers. The ability to track and control energy use in real time can revolutionise choice and allow consumers to manage their energy spend. We believe that keeping customers informed of their consumption will help track and manage their energy costs. The ongoing opportunities to provide innovative products and services via smart meters are very exciting. Subsidiary company Arc Innovations is a leader in smart metering technology. Advanced Meter Management (AMM) has been piloted in 1,000 Central Hawkes Bay households to date and will be deployed to 112,000 Christchurch and South Canterbury households over the next two years. It is the first initiative of its kind in the New Zealand market.

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## For New Zealand: Landfill gas benefits Nelson

The air over Nelson is clearer, thanks to the foresight of local authorities and the innovation of Energy for Industry, a Meridian Energy business unit. The former saw potential in gas extracted from a landfill near the city, and the latter turned this into a fuel substitute for coal at Nelson Hospital. The result: an annual reduction of 4,500 tonnes of carbon dioxide emissions over the next 15 years and significant cost savings at the hospital.

Energy for Industry takes gas from decomposing refuse at the York Valley landfill to fire a 1.5MW boiler on the hospital site. Steam from the boiler is used for space and water heating, sterilisation, and some laundry. The scheme – a collaboration

between Nelson City Council, Nelson–Marlborough District Health Board and Energy for Industry – will avoid the burning of around 2,000 tonnes of coal at the hospital each year.

Energy for Industry's use of landfill gas to fire a boiler is a first for New Zealand. It began when the business unit responded to an invitation from Nelson City, which called for alternatives to flaring off the gas. *"We already had some ideas of what we could do with the resources,"* says Fraser Galloway, the Council's Division Manager – Infrastructure.

*"The scheme has considerable strategic value by allowing the hospital to cut energy costs and reduce environmental impacts in the wider region."*

Energy for Industry built and owns the boiler plant, along with a gas treatment plant at York Valley and a 2km pipeline to the hospital. It has a 15 year contract for gas supply and a matching contract with the District Health Board to buy steam.

The benefits flow in all directions. Nelson City has turned the gas into a valuable resource while making progress with its clean air guidelines. The District Health Board expects energy cost savings of at least \$25,000 a year.

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### Energy Efficiency

Customers can gain value from more efficient use of energy. Meridian Energy and partners (Orion New Zealand Ltd and the Electricity Commission) promoted the take-up of energy efficient light bulbs for household lighting through a special offer in Christchurch during late 2005. The bulbs last 10 times longer than standard bulbs and use about 20% of the energy of a standard bulb. Customers responded positively to a discounted offer on initial purchases and subsequent market research indicated 45% of them are extremely likely and 37% very likely to re-purchase the bulbs in the future. Meridian Energy will continue to deliver initiatives that encourage energy efficiency, benefiting our customers and the market overall.

### Rural Initiatives

Meridian Energy continues to promote greater efficiency and management of energy usage on dairy farms, building on the Farm Solutions programme that began in 2004.

### Pricing

Meridian Energy appreciates that the price of electricity has risen significantly over recent years, and that consumers are feeling the effect of those increases. Meridian Energy strives to be an efficient, low cost producer, and deliver competitive prices and services to its customers. Our prices reflect our costs, the changing forces of supply and demand, and the competitive market in electricity retailing. Corporate customers can have the option of taking on some direct exposure to spot prices. Meridian Energy offers term contracts that facilitate this, allowing customers to benefit significantly from low spot prices while sharing some risk of price volatility. Analysis of our 'Business Online' tool for our corporate customers tells us New Zealand's larger energy users are increasingly sophisticated in their management of consumption in response to market signals.

### Innovation

Meridian Energy is committed to the development and commercialisation of technologies and services that will benefit customers and the New Zealand economy.

### Arc Innovations

We have recently launched Arc Innovations Limited as a stand-alone subsidiary with proprietary technology that has potential application by energy companies in New Zealand and overseas. We have supported the development of Advanced Meter Management (AMM), which has the potential to take metering far beyond its current limitations for energy retailers and customers.

### WhisperGen

During the year Meridian Energy continued to invest in the Whisper Tech joint venture, which continues to develop and market micro-combined heat and power systems for domestic and small scale commercial applications. As of 3 July 2006 Meridian Energy acquired Orion New Zealand Ltd's interests in the Whisper Tech joint venture and the majority of Orion's interests in Whisper Tech Limited.



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## For New Zealand: Smart metering revolution

There's a revolution ahead in electricity retailing – and Meridian Energy customers in Central Hawkes Bay are first in seeing the benefits. Their up to 50-year-old meters are being replaced with an innovative technology that delivers bills based on actual usage every month and will, over time, revolutionise the level of service from their energy retailer. The pilot of new smart meters in the Central Hawkes Bay is a Meridian Energy first for New Zealand.

Mr Apple New Zealand Limited can certainly see the benefits of smart meter installation at its seven orchards in the Waipukurau district. *"It'll be a huge help to receive accounts based on actual power usage each month,"* says Cheryl Larwood, Mr Apple's Administration Officer. *"In the past, we've had great*

*problems with meter readers not being able to find meters on pumping sheds or posts in remote parts of a property, or arriving to find they cannot actually go on because of spraying in the orchard."*

Smart meters include two-way communication between each site and "back office" systems at Meridian Energy via an Arc Innovations platform. Meters can be read remotely at any time, and connection or disconnection of supply can also be done remotely, whenever requested. For Mr Apple, there are immediate advantages in not having to worry about manual meter readers and in replacing estimated usage with actual usage. Orchard pumping and irrigation systems can use significant and varying amounts of power through the year.

Meridian Energy is working with Centralines, the local distribution company, and qualified electricians to install smart meters in more than 6,000 businesses and households in mainly rural Central Hawkes Bay. Canterbury is next – we plan a roll-out to around 112,000 homes and businesses over the next two years.

The technology has been developed by subsidiary company Arc Innovations for open use by energy and utility companies generally. And remote reading is just the start – in future, customers may be able to track their energy usage and spend in detail, to switch on household appliances remotely and much more.

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WhisperGen Limited (100% owned by Meridian Energy) is now the operating entity and is about to fulfil a large supply agreement for WhisperGen units to E.ON (UK). The Company continues to sell smaller volumes of AC and DC units to customers globally.

Meridian Energy is considering investment in the next stage of evolution of the business, the transition to mass manufacture. This is required to achieve necessary economies of scale manufacture to break through into many offshore markets. The carrying value of our investment in Whisper Tech has been written down reflecting the acquisition of Orion New Zealand Ltd's interests on 3 July 2006.

### Hedge Offer

Meridian Energy has taken the lead in designing a financial instrument for long term hedging of electricity supply contracts. We see significant value for large users and suppliers of energy, and expect to offer hedge contracts from early 2007.

### Energy for Industry

Business unit Energy for Industry (EFI) continues to service the needs of large industrial and institutional sites with greater efficiency in energy usage and reduced carbon emissions. A new landfill gas project in Nelson was commissioned during the year.

### People

Meridian Energy takes a strategic approach to promoting the wellness, health and safety of its people and to developing their professional and personal capabilities. During 2005–06, the Company was awarded "tertiary status" by the ACC in relation to particular areas of the business (this is the highest rating in ACC's Workplace Management Safety Programme). We remain focused on a commitment among all employees on health, safety and wellness in their own work circumstances. In the year, we had a high level of safety reporting and only four lost time injuries.

### People Development

We have further developed the "Meridian Way" as a core set of behaviours for our people. Meridian Energy places particular importance on the induction of new employees and on ongoing training to maintain and build capability. Employee satisfaction, as measured twice yearly, remains above target.

### People Reward

In recognition of how all employees contributed directly and indirectly to the great success of the Southern Hydro investment from 2001 onwards, Meridian Energy made a one-off payment to each employee in December 2005. The total cost to the Company was \$3.8 million, in the context of the \$652.5 million gain on the sale. The exceptional outcome owes much to the expertise, long hours and hard work invested by employees throughout Meridian Energy.

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## Outlook

Meridian Energy has a clear business direction and strong strategies for 2006–07 and beyond. We are in business to deliver the value of renewable energy to New Zealand in every way. We are beginning to roll out a wide range of new value propositions for our customers, such as smart metering, with more to follow.

We are in business to deliver the value of renewable energy to New Zealand in every way.

We are exploring and developing many options for additional electricity supply. Our particular challenge is to unlock more of the value of renewables for customers. New Zealand energy users have yet to fully experience the benefits of a deregulated, competitive electricity market and of the nation's abundance of renewable resources.

Meridian Energy has skilled and dedicated employees. We acknowledge their major contribution to the Company's performance in 2005–06. We look to the future with strong purpose and confidence.



**Wayne Boyd** Chairman



**Keith Turner** Chief Executive

## Board of Directors



**Top Line:** Wayne Boyd,  
Ray Watson, Anne Blackburn,  
Tim Lusk.

**Bottom Line:** Anne Urlwin, David  
Shand, Catherine Drayton.



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**Wayne Boyd** (Chairman) has established himself as a professional director after careers in law and investment banking.

Current directorships include Telecom Corporation of New Zealand Limited, Auckland International Airport Limited, Freightways Limited, Vulcan Steel Limited, Forsyth Barr Limited and Landco Limited.

**Ray Watson** (Deputy Chairman) is the managing director of Ray Watson Associates Limited and also a principal and director of the sustainable advancement consultancy Omni Consulting 2005 Limited. Ray was appointed Deputy Chair of Meridian Energy Limited in April 2006.

Ray was Chief Executive of the Ngāi Tahu Development Corporation from 2001 until early 2005 and prior to that held the position of Chief Executive of Lakeland Health Limited from 1996. Ray also has an extensive professional, clinical and management background in New Zealand's mental health services.

Ray currently chairs Te Rūnaka o Arowhenua which is one of Ngāi Tahu's Papatipu Rūnanga and also the Ngāi Tahu health and social service arm – He Oranga Pounamu.

Ray has previously held ministerial appointments to the New Zealand Maori Arts and Crafts Institute (Te Puia), the National Advisory Committee on Health and Disability Services, the Mental Health Commission Advisory Board and the Otago District Health Board.

**Anne Blackburn** Following a twenty-year career in banking in New York, London and New Zealand, Anne now holds a portfolio of directorships and consulting roles. She is currently a member of the Boards of the Export Credit Office, Wellington Regional Holdings and its subsidiaries, the Centre for Clinical Research and effective practice, the Royal New Zealand Ballet, Footnote Dance Company and the Chinese Language Foundation. She is also the Executive Director of Investments of PKW Incorporation.

**Tim Lusk** was an executive in Telecom New Zealand Limited from 2002 until August 2006. Prior to Telecom, he held executive positions in Transpower New Zealand Limited and Power New Zealand Limited.

His accountabilities ranged from engineering development, network pricing, system operations, marketing, customer relations and electricity market development.

Tim has had extensive experience in public and private sector energy projects at project directorship level.

**Anne Urlwin** is a professional director, chartered accountant and business consultant.

She is Chair of New Zealand Domain Name Registry Limited, and Deputy Chair of Airways Corporation of

New Zealand Limited and of Landcare Research New Zealand Limited. She is a director of New Zealand Cricket and a member of the board of New Zealand Blood Service and the Council of the Christchurch College of Education.

Anne is a former Chair of Red Bus Limited and Brackenridge Estate Limited and Deputy Chair of Timberlands West Coast Limited. Other former directorships include membership of the New Zealand Racing Board and the position of director of Trust Bank Canterbury Limited.

**David Shand** has recently returned to New Zealand after a number of years living overseas. He has worked for three international organisations, most recently for over eight years as a public financial management specialist at both the World Bank and the IMF in Washington DC. This followed four years working with the OECD in Paris on public sector reform issues.

After joining the Treasury in the mid 1960s David taught accounting and public finance at Victoria University before moving to Australia in 1977. David left the Australian National University in 1981 to start a career in the Australian public sector and held a number of senior positions in state and federal government, including Deputy Secretary of the Victorian Treasury and Queensland Public Service Commissioner.

In the 1970s David spent six successful years in local politics as a Wellington City Councillor. His association with the electricity industry includes six years as a member of Wellington City Council's Electricity Committee, which oversaw the then Municipal Electricity Department.

**Catherine Drayton** is a chartered accountant and angel investor, with a passion for coaching. She is the former partner in charge of the Assurance and Advisory practice of PricewaterhouseCoopers for Central and Eastern Europe (PwC CEE). She held this position from 2001 to late 2004: from the Russian crisis through to the accession of the first Central European Countries to the European Union.

Prior to this executive management role, she was responsible for Transaction Services for PwC CEE.

As a consequence of these two roles, Catherine has significant multi-cultural, multi-jurisdictional managerial and transactional experience, supplemented by five years prior work experience for PwC in both New York and London.

Her sectorial areas of interest are heavy engineering, manufacturing and utilities. Catherine's transactional experience includes buy-side privatisation involvement for electricity generators and distributors, as well as Greenfield investments, in CEE.



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## Management Team



**From Left: Jason McDonald**  
Executive Advisor to the  
Chief Executive

**Dr Keith Turner**  
Chief Executive

**Grenville Gaskell**  
New Zealand Operations Director

**James Hay**  
General Counsel



**From Left: Ari Sargent**  
Strategy Director

**Chris Jones**  
People & Performance Director

**Ken Smales**  
Growth & Development Director

**Paul Smart**  
Chief Financial Officer

**Matthew Jansen**  
Corporate Affairs Director