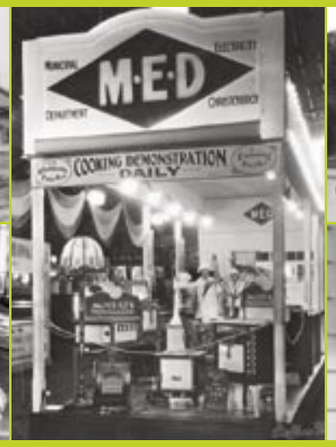
Orion Annual Report 2003 |100 years

100 years ago...
100 years from now.

Our past, our present... they all drive our commitment and shape the way we work.
After a century we look at the heritage we share, our vision for the way tomorrow will be,
and promise to do our very best, right here, right now.





Top to bottom, left to right: **1903** The Adams Star Cycle Company was the first customer of the Christchurch City Council's newly established Electricity Department (proprietor Frederick Adams at the wheel of his car) **1906** Christchurch International Exhibition in Hagley Park **1914** Early overhead electricity lines in Christchurch, corner Colombo and High Streets **1907** Electric tram excursion from the city out to Sumner **1920s** Changing of electric street lamps **1917** Cabling Christchurch city for electricity supply **1921** The entire electric vehicle fleet of Christchurch city, near Carlton Mill Bridge **1928** Jubilee Procession float contrasting 'old' with 'modern' technology **1930s** MED showroom **1928** Cooking demonstration at the Industrial Exhibition **1930s** MED 'range sales' campaign, using the Walker electric truck **1950s** External meter box and ripple control of water heating **1957** New fluorescent lamps in Cathedral Square **1968** Cabling of Coopers Road, Bromley

1903 1902 1903

Contents

Maude Clifton
'My name is Maude Clifton, and I am 100 years old.' Maude was born within months of the birth of public supply of electricity in Christchurch. She grew up in a family where the welfare of others was always a priority. Maude never married, but trained as a psychiatric nurse in her teens and she too spent her life serving others. The world has changed dramatically and people expect different things out of life, she says, but the need to care for others never changes.

Samuel Macmillan
As a newborn, Samuel's world revolves around his family and the comforts of home. Unlike Maude, he'll never know a world without the technologies of the 21st century. The use of electricity has revolutionised the world in the last century and we can only dream about what advances Samuel will experience in the next.

Orion's business is not only about keeping the lights on today – it's about long-term planning to ensure the electricity network is in good shape to keep the lights on next year, next decade, and longer. It's about thinking about future needs and planning the network so the expectations of the consumers of tomorrow are met. The professional and committed staff of the last 100 years created a reliable network for the people of today. Orion's dedicated staff are now stewards of that network, and are creating the reliable asset of the future.

Orion New Zealand 100 years on

When electricity was switched on to the first customer in Christchurch on 5 July 1903, who could have foreseen what a dramatic impact it would have on people's lives? While the memories of that day have been lost in time, we all have our own experiences of the benefits of electricity.

For the last 100 years, the electricity network that takes power to the homes and businesses of Christchurch has been owned and maintained by local councils. Over the years that organisation has grown in size, the technology used has changed, and so has its name.

Today it is Orion New Zealand – a company which is proud to have served the people of Christchurch and Canterbury for such a long time. Today it owns and operates the electricity network in Canterbury between the Waimakariri and Rakaia Rivers.

Orion transports electricity from nine Transpower grid exit points to more than 170,000 homes and businesses. Orion charges electricity retailers for this network delivery service, and the retailers in turn charge electricity users.

The Orion network covers a diverse area including Christchurch, the rural hinterland and high country within the Southern Alps. It covers 8,000 square kilometres, delivers 2,900 GWh of electricity each year and supplies a maximum demand of 565 MW.

Orion performs to high standards of network management, owns a substantial contracting business, and has investments in a number of technology companies.

The company is ultimately owned by:

- Christchurch City Council **87.625%**
- Selwyn District Council **10.725%**
- Banks Peninsula District Council **1.650%.**

Business highlights

Achieved a net surplus for the year of $29.9m. This was $6.6m (28%) ahead of the statement of corporate intent target.

Paid fully imputed ordinary dividends of $23.7m during the year.

Increased network asset valuation by $150m to $600m. This is in line with financial reporting requirements.

Continued to rank as one of the most reliable and efficient networks in the country.

Prices for residential and business customers did not increase for the fourth successive year.

Named ‘Energy Supplier of the Year’ at the Energy Efficiency and Conservation Authority’s Energy-Wise Awards.

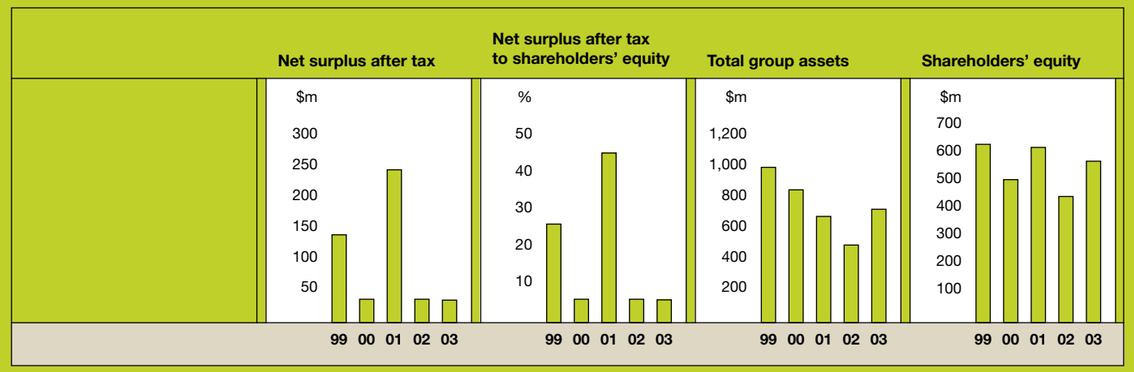
Invested $60m for a 15% shareholding in listed Australian company Energy Developments Limited.

Roger Sutton appointed chief executive following the departure of long serving managing director Chris Laurie.

Increased investment in technology companies 4RF, Whisper Tech and Pulse Data International.

Commerce Commission developed the principles of imposing control thresholds on line companies.
More detail on these thresholds is expected in the coming year.

1906 The Christchurch International Exhibition in Hagley Park – the exhibition building made a strong statement about the power of electricity, with some 300,000 candle power installed.



Suzanne Knapp's home in Akaroa becomes a bit of a neighbourhood focus when the rugby's on. If she's not at Jade Stadium soaking up the atmosphere and keeping up with the replays on the Orion-sponsored big screen, she's welcoming more than a dozen friends (and their dozen children) around to watch the action on Sky TV. Whether they're celebrating or commiserating – they need the electricity on so they can keep up with the action, minute by minute.

Our lifestyle depends on electricity and whether we're working or playing we take it largely for granted. The challenge facing New Zealand is to put a plan in place for a secure energy future. The short term solution must include a mix of energy efficiency and additional generation. But in deciding what kind of generation to build we must consider the costs and benefits associated with the options – hydro, coal, gas, solar energy, biomass and wind.

Chairman's review

On 5 July 2003, Orion celebrates 100 years as an electricity network provider in Christchurch. During that time electricity has become fundamental to almost everything we do.

Linda Constable
Chairman

Chairman's review

While we now depend on electricity and largely take it for granted, there are still many challenges ahead. For example, uppermost in the minds of many New Zealanders right now is whether the country has sufficient generation capacity to meet demand in coming winters.

It is only when a reliable supply of electricity is threatened that we realise just how much we depend on it. Planning ahead to ensure New Zealand can reliably provide sufficient energy from sustainable resources is one of the key challenges facing the electricity industry.

This is a significant problem and one which I want to address in the context of this year's annual report, following a brief overview of the company's performance during the year.

Financial performance

Orion's net surplus for the year of $29.9m was $6.6m (or 28%) above the statement of corporate intent (SCI) forecast.

This excellent result was mostly due to:

- another above budget result from our contracting company Connetics
- increased revenues from the delivery of above budget volumes of electricity through the network
- below budget expenses
- increased capital contributions from new connections to the network.

The board has continued its prudent approach to equity investment valuations. This year:

- the $60m investment in Energy Developments Ltd (see commentary below) has been accounted for at cost (adjusted for movements in exchange rates to 31 March 2003)
- other investments have been expensed via systematic goodwill and other write downs of $9.5m.

Distributions to shareholders

In June and December of 2002 two fully imputed ordinary dividends, each of $11.85m, were paid to shareholders. This was in line with the SCI, bringing the total dividend for the year to $23.7m.

The SCI for 2004 forecasts the same level of dividends but based on the very positive results for 2003 the board will review this forecast.

Once the next dividend is paid in June 2003, total distributions to shareholders since corporatisation in 1993 will be $693m, with more than $700m being paid since the formation of the Southpower joint venture in 1989. These distributions have been effectively tax free.

Company valuation

Orion's fixed assets were independently revalued by Ernst & Young Corporate Finance as at 31 March 2003. This was part of Orion's three yearly revaluation cycle under the financial reporting standard FRS-3.

The old method of valuation, using the Ministry of Economic Development's Optimised Depreciation Valuation handbook, is no longer acceptable for FRS-3 purposes and our auditors and independent valuers advised us to adopt depreciated replacement cost (DRC). This methodology uses up to date replacement costs and economic lives of the network assets.

The revaluation resulted in an increase in fixed asset valuation of almost $150m (from $450m to $600m), of which $144m related to the network.

This demonstrates that the Ministry's ODV handbook is out of date and does not reflect current replacement costs. The inadequacy of the handbook is further illustrated by the fact that last year's network capital expenditure of $26m resulted in ODV 'credits' of only $19m. This has serious implications as an inaccurate ODV handbook will destroy incentives for investment in electricity networks. Orion will be making submissions to the Commerce Commission on this issue.

The impact of the increased valuation on Orion's future reported rates of return include:

- an increase of about $3m per annum in network depreciation (reducing net surplus)
- a $150m increase in reported net capital employed.

Commerce Commission

The new regulatory environment being developed by the Commerce Commission has the potential to have a significant impact on the value of Orion. The Commission's work is ongoing, and there is a huge amount of detail to work through.

The Commission must stick to its core objectives of establishing 'thresholds' for control of line companies. The basis for control must be performance outputs such as price and quality and if a company is within prescribed thresholds, it should be allowed to operate without heavy-handed regulation.

The regulatory system must ensure line companies have incentives to invest in their networks so reliability and security of supply are maintained to standards that meet the long term interests of customers. Incentives must also be in place to encourage innovation, for example Orion's cost-reflective pricing methodology. The regulations must also be forward, rather than backward, looking.

Orion will continue to work constructively with the Commission to ensure balanced outcomes are achieved. Further comment on Orion's work with the Commission is contained in later sections of this report.

Energy Developments Limited

Orion's major investment this year was purchasing a 15% shareholding in Energy Developments Limited (EDL), an Australian Stock Exchange listed company.

EDL has two main businesses:

- electricity generation. This is mainly from burning methane produced from landfill sites. This is a well understood, profitable and long standing business for the company. Recently a number of performance issues have been identified with a particular type of engine used in plants outside Australia. An extensive remediation programme is underway and while this will reduce company profitability in the short term, EDL is confident returns will recover in the longer term.
- solid waste and energy recycling facility (SWERF). EDL has spent more than A$100m on the research and development of this new line of business and it is now in an advanced stage of development. We expect EDL to announce further progress on commercialising this technology during 2003.

EDL has the potential for substantial long term value above Orion's entry price. Former Orion managing director Chris Laurie has now taken over as managing director of EDL and we look forward to the positive benefits of his experienced leadership.

Looking forward

With concern over low lake levels and dwindling supplies from the Maui gas field, we are more aware than ever of the importance of a sound energy policy that provides for New Zealand's future energy needs. The question of what this energy policy should be, and what is achievable, is a complicated one.

Combination of efficiency and generation

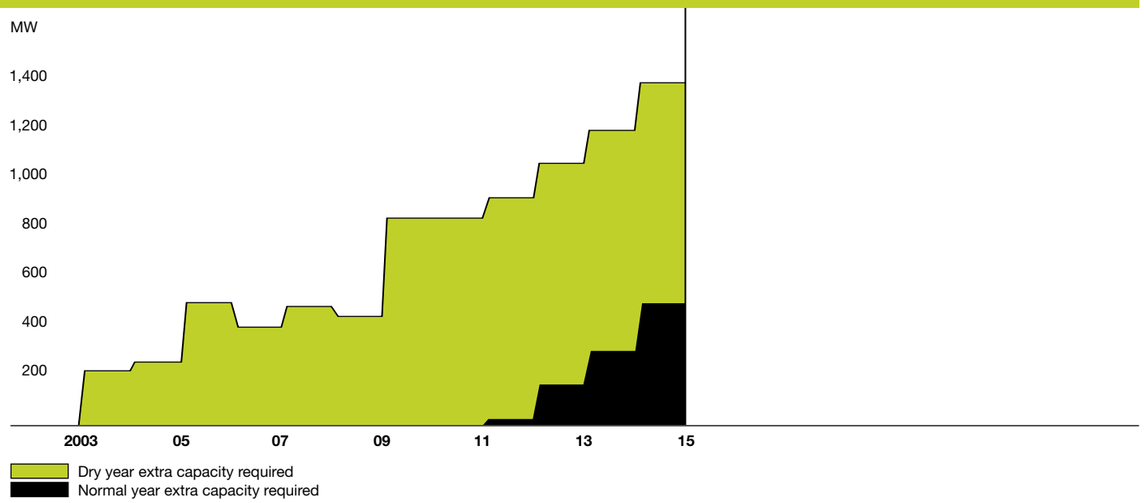
Some say energy efficiency is the answer to electricity shortages. While a lot can be done to improve energy efficiency in New Zealand, it does take time to get significant energy efficiency measures in place. Why?

- the limited scale of the energy efficiency industry in New Zealand means widespread and rapid uptake of energy efficiency is not possible. More resources must be made available by industry if the speed of uptake is to be increased. The government also has a role to play.
- in New Zealand power shortages are generally a winter problem when demand is highest and lake levels are lowest. For energy efficiency to be effective power must be saved in the cold winter months. This is more difficult than saving power in warm summer months when, for example, solar energy can be used as a viable alternative.

While implementing energy efficiency initiatives will minimise the need for generation in the long term, in the short term

Chairman's review

The projected gap between electricity supply and demand



Source: Sinclair Knight Merz and Centre for Advanced Engineering (May 2003)

the answer to New Zealand's energy shortage lies in a combination of both energy efficiency and new generation. Given that more generation is required, what are the options, and what are the trade-offs?

In New Zealand the options include a mix of generation from hydro, coal, gas, solar energy, biomass and wind. Other technologies are being developed, such as fuel cells and generation from waste, but these are still either at a developmental stage or at a stage where their cost-effectiveness in New Zealand is some way off.

All the options facing New Zealand have costs and benefits; the policy and cost trade-offs will have to be thought through by government, business and the community before informed choices can be made. But informed decisions must be made, as ongoing electricity shortages are simply not an option.

Factors such as price, long term sustainability, effect on the environment, speed of generation construction and reliability all need to be considered and weighed against each other.

Decisions about whether the environmental impact of a hydro dam is worse than the visual and auditory impact of hundreds of wind turbines, or whether the reliability of coal over other forms of generation outweighs CO_2 considerations, need to be made.

Sustainable infrastructure investment

The shortage of generation in New Zealand certainly presents a challenge. However, as electricity demand grows so does the need for additional transmission and distribution infrastructure, and this too provides a challenge from a sustainability perspective.

The challenge for Transpower and line companies is to build and maintain infrastructure as sustainably as possible. The environmental impact can be minimised when assets are bought, during their life through proper maintenance, and when they reach the end of their useful life.

Responsible management of electricity networks is not something that can be effectively regulated; it is very hard to get the incentives right. The best way forward is for individual network companies to take on the challenge, as Orion has, to improve environmental performance.

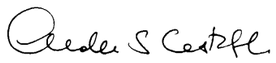
Acknowledgements

I thank all Orion staff for their commitment to the company over the last year. This July we celebrate a very proud 100 years as the local electricity network provider; professional and dedicated staff working year by year create that history.

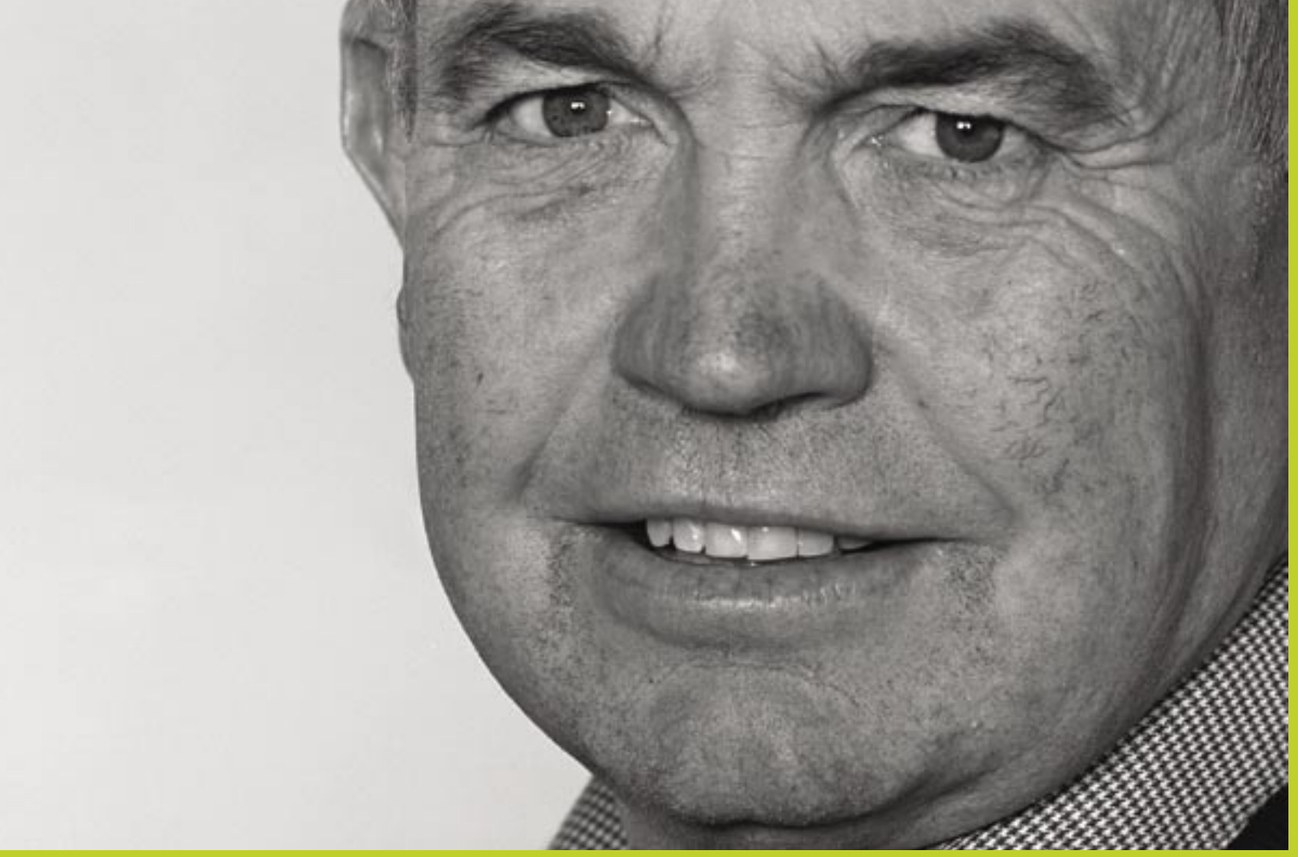
I offer my heartfelt thanks to Chris Laurie who has recently left Orion to run EDL. Chris has been managing director of this organisation since 1988, steering it through the tortuous energy reforms of the last decade and producing financial and performance results which are second to none in the New Zealand energy sector. We wish him all the best.

We also bid Philip Carter farewell from the board in August 2003. Philip has been with the organisation since 1989 and his business acumen and passion for Orion will be missed.

Our new chief executive, Roger Sutton, has been with Orion under Chris' leadership for many years and I look forward to working with him in the future. During the year we also welcomed new board member, Christchurch businessman Craig Boyce.



Linda Constable
Chairman



Murray Stephens' family has farmed his Irwell property for 103 years. He's the third generation on the land and says the advent of irrigation more than 30 years ago opened up new opportunities for his family. The dryland stud sheep flock of the early 1900's made way for mixed cropping, and then more than 20 years ago Murray moved into intensive horticulture. He now relies on electricity to pump water to irrigate his 65 ha block of blackcurrants.

It is essential that consumers have a reliable supply of electricity so Orion makes decisions about investment in the electricity network based on the long term interests of consumers. Discussions with electricity users help understand changing needs: patterns of electricity use continue to change.
In recent years a dramatic increase in irrigation has driven up demand for electricity in rural Canterbury and new substations and high voltage lines have been installed to keep pace with demand.

Chief executive's review

As a member of staff for nearly 15 years I have seen Orion develop into a company where industry best practice is embraced, environmental and community concerns are taken seriously, and staff are valued. I am proud to be given the opportunity to head Orion.

Roger Sutton
Chief executive

Chief executive's review

In this section I outline some key areas that are important as we take the company forward. The sections of this report which follow outline Orion's environmental commitment and provide an overview of our recent performance, the issues the company faces, and the priorities for the future.

Public perception of the industry

After a period of deregulation, the energy industry is now becoming more regulated. The public perception of the performance of the energy sector over the last decade or so has not been good and this has encouraged successive governments to place more controls on line companies. The power shortages of recent years have also eroded public confidence in the sector.

Improved public understanding of the role of the energy industry as a whole, and an enhanced reputation, is key to being trusted to run efficient and valuable businesses. As a sector we must be prepared to show leadership and rebuild public confidence.

Open relationships

Strong relationships have always been important to me: our business has an impact on a wide range of people and organisations. Open relationships must be maintained so Orion can anticipate the changing needs of its stakeholders, so we can help shape the environment in which we operate, and so we can adapt quickly to change.

A strong commercial focus

For line companies to be successful we must maintain a strong commercial focus. We must be able to make business decisions which are based on the best long term outcomes for the expensive assets of which we are stewards. To do this, regulators must provide incentives for innovative management and for increasing efficiencies.

To this end we want to continue to be closely involved with the Commerce Commission and other stakeholders as the regulatory regime is developed that may well affect Orion for decades.

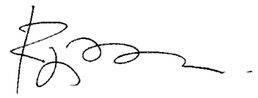
Business growth

Orion's demonstrated strengths in managing infrastructure assets make this an obvious area for expansion. Investment opportunities to increase the scale of the business will arise over the longer term and we must be prepared for them. We will be well positioned to take advantage of opportunities by maintaining a high level of competence, and pursuing relationships with others in both our industry and related industries.

Valuing staff

We employ skilled staff in all areas of our business. Respect for others, team work and openness to change must be our hallmarks if we are to go forward and achieve our potential.

I look forward to meeting the challenges and working with everyone at Orion in the months and years ahead.



Roger Sutton
Chief Executive Officer

Right: Electricity supply is crucial to New Zealand's agriculture sector.

Environmental commitment

During the year Orion adopted a policy outlining our commitment to working towards a sustainable environment. The policy is outlined below.

Orion's environmental sustainability policy

1 Stakeholder consultation

We will actively consult with stakeholders in our decision making process where material trade-offs exist between environmental, social and financial issues. We recognise the need to be financially sustainable while at the same time meeting other stakeholder needs.

We will proactively meet our commitments under current legislation and agreements.

2 Protection of the biosphere

We will take all reasonable steps to minimise and will strive to eliminate the release of any pollutant that may cause environmental damage by designing and building our network in a manner that either avoids using harmful substances or incorporates systems to prevent their release.

3 Sustainable use of natural resources

We aim to use natural resources in a sustainable way. In planning and building our network we will take all reasonable steps to minimise the effects on local ecosystems. We will seek partnerships with suppliers that share the same environmental values. We will actively facilitate the connection of sources of renewable energy to our network.

4 Reduction and disposal of waste

We will minimise the creation of waste, especially hazardous waste, and wherever possible recycle materials. We will dispose of all wastes through safe and responsible methods. In purchasing network assets we will seek to use long life assets and assets that can be reused within our community.

5 Wise use of energy

We will take all reasonable steps to use environmentally safe and sustainable energy sources to meet our needs. We will invest in improved energy efficiency and conservation in our operations. In building and operating our network we will use best industry practice to minimise network losses. We will actively work with stakeholders to improve the energy efficiency of the community. We recognise the importance of warm homes to improve health and social outcomes in our community.

6 Risk reduction

We will take all reasonable steps to eliminate or minimise hazards to the environment within the communities in which we operate by employing safe technologies and operating procedures and by being constantly prepared for emergencies. We aim for continuous improvement in our environmental management performance.

7 Restoration of environment

Where we have directly caused harm to the environment through operating otherwise than in accordance with good industry practice we will take all reasonable steps to restore the environment to its previous unharmed state.

8 Disclosure

We will ensure that our employees are aware of all significant environmental risks within their area of work. We will disclose to the public annually our overall performance against environmental targets and any incidents that cause significant environmental harm.

9 Commitment of management resources

We will commit management resources to implement these principles, including training resources, to ensure that all staff share a commitment to meeting these principles.

10 Assessment and annual audit

We will work toward the timely creation of sustainable management procedures, which will be independently audited on an annual basis. The results of these annual audits will be made available to stakeholders.

Our targets

	2002/03 targets	Target date	Status	Comments
1	Develop a package that simplifies connection to the Orion network for generators using renewable sources of energy.	March 2003	Complete	Completed and released to the public in June 2003. Orion is the first line company to release a step-by-step guide for renewable energy generators to facilitate their connection to the network. This follows work completed last year which showed that Orion's pricing is the best in the country at encouraging such generators to connect. We anticipate other line companies will follow our lead and we will help where we can.
2	Facilitate the development of renewable generation in Canterbury through:			
	(a) analysing the relationship between renewable generation patterns in Canterbury, and hydro inflows and network demand. Is it windy in Canterbury when electricity spot prices are high?	March 2004	Complete	A University of Canterbury Masters student completed this study and it showed the potential for, and benefit of, more advanced work in this area. The National Institute of Water and Atmospheric Research (NIWA) has since secured $1.2m of funding from the Foundation for Research, Science and Technology for a research programme on climate variability and its effect on energy supply and demand. Orion is very supportive of NIWA's work, as is much of the wider energy industry.
	(b) developing a publicly available database of renewable energy resources in Canterbury.	March 2003	Complete	Environment Canterbury (ECan) examined this subject, with assistance from Orion, and its report is available on the ECan website (www.ecan.govt.nz).
3	Reduce peak demand on Orion's network through:			
	(a) undertaking two projects with energy retailers that reduce peak demand on Orion's network by 2MW in the winter of 2003 and an additional 0.5MW in the winter of 2004 (total 2.5MW)	September 2004	Ongoing	We are working with the Christchurch City Council on a project for 2003 that is specific to its assets. Energy retailers have not yet supported this project and the target is proving difficult to achieve.
	(b) completing the replacement of Orion's 66 kV ripple signal injection plant with 11 kV ripple injection plant at 17 sites on our network	March 2004	Ongoing	A replacement programme is continuing and is on target. It should be achieved before the target date.
	(c) reaching agreement with electricity retailers to stagger turning on night-only load to reduce localised peak demand.	March 2003	Complete	Agreement has been reached with retailers, with implementation scheduled for 1 November 2003.
4	Develop clean air plan incentive packages with ECan that encourage energy efficient heating appliances and home insulation.	March 2003	Complete	The Clean Heat Plan (CHP) incentive package has been introduced. The package recognises both the need to encourage energy efficient heating devices and home insulation. It provides subsidies for solid fuel burners that have emissions below a certain level, and for heat pumps and nightstore heaters but not plug in heaters. Subsidies are also provided for home insulation and all homes must be energy rated to qualify for subsidies.

Our targets

2002/03 targets		Target date	Status	Comments
5	Develop, with other stakeholders, a method of quantifying the level of energy efficiency in new homes. Stakeholders include the Christchurch City Council, ECan and the Energy Efficiency and Conservation Authority.	March 2003	Complete	Home owners seeking subsidies/assistance under the CHP (see 4 above) will receive a free five-star home energy rating for their house. The rating will also suggest cost-effective measures to improve energy efficiency in homes. The rating is available to other home owners at a cost. Orion would like to see it free or subsidised in the future.
6	Develop pricing options with retailers that reduce electricity prices by offering greater ripple control of hot water.	March 2003	Ongoing	A system is designed and ready to implement. Orion is disappointed retailers have not yet taken up the option as it better meets the needs of low income users. The target could prove difficult to achieve because of this lack of interest.
7	Contribute to a study with road controlling authorities to examine safety issues relating to utility poles, other structures and trees located on road reserves.	March 2003	Ongoing	Discussions have been held with road safety authorities and will shortly be held with local councils. Results are taking longer than anticipated and given the Government's decision to reallocate road funding to Auckland, it is likely any improvements will need to be driven by local organisations.

New targets for 2003/04		Target date	Comments
8	Evaluate Orion's existing control procedures for hazardous substances, including environmental response techniques and incidence response times.	March 2004	
9	Develop a process for assessing the sustainability practices of significant suppliers.	March 2004	Purchasing and contracting decisions should take account of costs and benefits for society and the environment arising from manufacture.
10	Investigate the impact on the environment of preservatives used in wooden power poles.	March 2005	
11	Identify opportunities to use recycled materials in network construction, and determine if more Orion equipment can be recycled	March 2005	

Solomon Timo is one of 18 apprentices with Orion's contracting company, Connetics. He's learning about electricity network construction and maintenance, working as part of a team which is on the road around Canterbury nearly every day. Wellington born, he moved to Christchurch keen to learn a trade. After working in the electricity industry as a labourer for a couple of years his supervisor suggested he seek an apprenticeship. After a pre-trade course he did work experience at Connetics – and he hasn't looked back since.

High standards of construction and maintenance are essential for maintaining high levels of network reliability. Orion demands high standards of the contracting companies which undertake work on its behalf, of which Connetics is one. The proof of Orion's success lies in statistics: based on average figures for the last three years, Orion's network was the most reliable in the country with the lowest number of interruptions per consumer.

Providing a reliable network now and in the future

In 2002 we were proud to be named 'Energy Supplier of the Year'. The award was made at the Energy Efficiency and Conservation Authority's Energy-Wise Awards in September in recognition of our efforts in promoting energy efficiency and conservation over more than a decade. Minister of Energy Pete Hodgson presented the award.

Roger Sutton accepting the 'Energy Supplier of the Year' award from Minister of Energy Pete Hodgson.

Providing a reliable network now and in the future

Energy efficiency has been one of our central themes for many years and it was very gratifying for us to have those efforts recognised by a national award. The award followed on from 2001, when Orion received New Zealand's highest environmental award for business, the Green Ribbon 'Business Caring for the Environment' Award. And in 2000 we received the EECA Energy-Wise Award for Energy Efficiency.

It is critical for everyone who depends upon Orion's electricity network that it operates efficiently and reliably. Our asset planning process, which is set out in our asset management plan, aims to make sure network performance is of a high standard now, in 10 years' time and over the longer term.

Network reliability in 2002/03

In any one year, extreme weather (for example the snow storms of 1992 and 2002) can have a marked effect on reliability results. However, based on the latest three year average figures, Orion's network reliability is unequalled in New Zealand. We have the:

- best performance of any New Zealand line company in terms of the frequency of interruptions per customer (SAIFI)
- second best performance of any New Zealand line company in terms of the duration of interruptions (SAIDI).

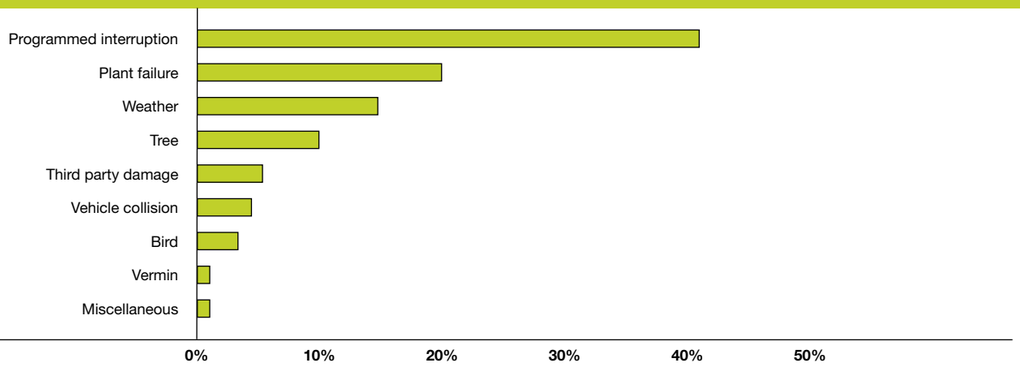
The reliability of the network over the last year was not quite up to that of previous years because of the severity of snow storms in 2002. When the affect of those storms are removed from the statistics, reliability is similar to that of previous years.

Because network reliability is a crucial aspect of Orion's performance, a comprehensive reliability report will be released in the coming year. We will be the first line company in New Zealand to produce such a report and it forms part of our commitment to make our performance transparent for stakeholders.

We are committed to maintaining a high level of reliability and we will continue to consult with stakeholders regarding desired levels of service.

We constantly face trade-offs between improving the reliability and performance of the network by investing in additional infrastructure, and the costs of those investments. We want to provide an electricity network which represents value for money.

Causes of interruptions on Orion's network (1999-2003 average)



8% of network interruptions from 1999-2003 had an unknown origin

Our prices reflect our investment decisions. Compared with the majority of New Zealand line companies we are very efficient, as demonstrated by our annual cash costs per customer. Our ability to efficiently manage expenditure and maintain reliability is one of our strengths.

Network enhancements

Over the last year we made a number of improvements to the electricity network. We:

- installed eight additional line circuit breakers as part of our programme to improve reliability in rural areas
- constructed a 66 kV line from Rolleston to the site of a new Highfield substation, which we will build in the coming year
- installed and livened the Halswell 66/11 kV transformer and 11 kV busbar
- installed ripple plants at nine locations as part of the 11 kV ripple project to improve load control
- completed replacement of 11 kV switchgear at the Armagh substation
- constructed a significant 15 kilometre 11 kV line in North Rakaia Road to improve supply to irrigation loads and back up the Hills Road substation
- completed a substation for the new Christchurch Art Gallery.

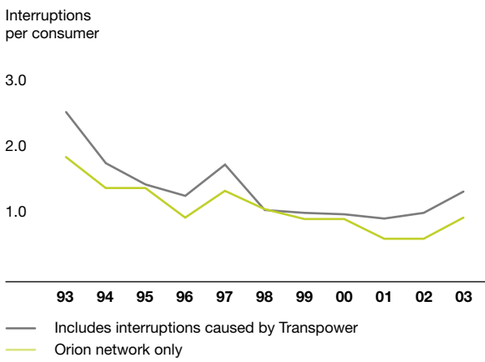
Over the next five years we forecast capital expenditure on the network will be some $135m. Expenditure priorities will continue to be investments which:

- anticipate and keep up with growth in demand in Christchurch city and surrounding rural areas
- replace aged equipment
- enhance network reliability.

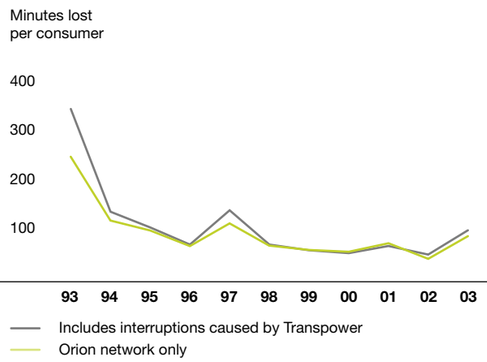
The regulatory environment

In 2000 a review of the electricity industry recommended changes to the Commerce Act to enable price control of line companies. The legislation was enacted in August 2001 and it has been the job of the Commerce Commission to consider how control 'thresholds' should be implemented.

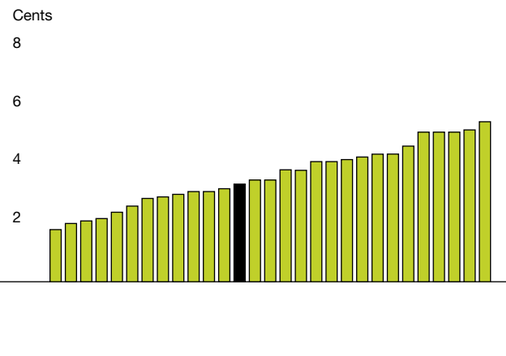
Orion's 10 year SAIFI trend



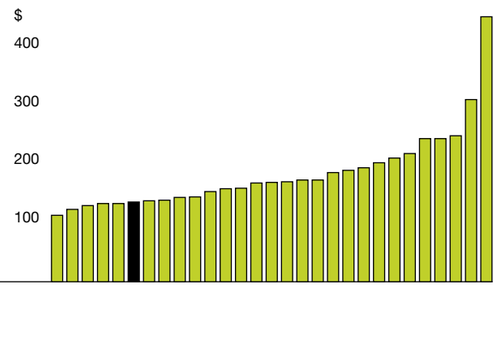
Orion's 10 year SAIDI trend



Orion's position relative to other New Zealand network companies – line revenue per unit (kWh) 2002



Orion's position relative to other New Zealand network companies – annual cash costs per consumer 2002



Since 2001 the Commerce Commission has undertaken a significant amount of work to develop a sensible and workable approach.

Key information on the 'thresholds' scheme was released by the Commerce Commission in March 2003. This includes:

- an interim price cap set at no increase in average nominal prices from 8 August 2001 to 31 March 2004
- a price reset may be applied to (some) line companies on 1 April 2004
- prices charged by line companies must not increase by any more than CPI-X for five years from 1 April 2004
- there will be a quality threshold based on no material deterioration in reliability measures. Line companies will also be required to talk openly with end-consumers about their network quality needs.

There is significant detail yet to be developed by the Commission and so the final form of control is still uncertain.

The scheme has the potential to have a significant impact on the value of the company and our service to customers. We do not yet know whether Orion will be required to reset prices – we should know by the end of 2003. The value of 'X' in the CPI-X equation has still to be determined.

Given our excellent performance regarding reliability, efficiency and meeting customer needs, we hope the 'X' value for Orion will be small and prices will not need to be reset.

The quality of the final form of regulation will be defined by the incentives it provides, whether intentional or not. A poorly defined regime could create perverse incentives for industry and this could lead to such things as encouraging capital expenditure over sound maintenance, or sacrificing cost efficiency because of an unnecessary focus on profit levels.

The Commerce Commission is also examining the way in which line companies are valued. Currently, all line companies use an Optimised Deprival Value (ODV) approach for regulatory purposes. This was put in place in 1995 but is no longer acceptable for financial reporting purposes. We believe, based on advice from our auditors and independent valuers, that a move to depreciated replacement cost is required.

As building work on the Westfield Riccarton mall site progresses, Orion's 66,000 volt cables in the area needed protecting. A concrete tunnel to provide service access to the cables has been installed.

Network pricing

Orion's demand side management pricing will continue to be one of the fundamental planks of our energy efficiency policy. Last year, IPART (a regulator in New South Wales, Australia) used Orion's pricing as an example of how efficient pricing can work. It issued a report encouraging demand side management pricing and we understand the principles Orion employs are gaining acceptance in Australia.

Over the last year we have worked, particularly with major customers, to provide information on how they can take advantage of our pricing to make efficiencies. This will continue in the coming year.

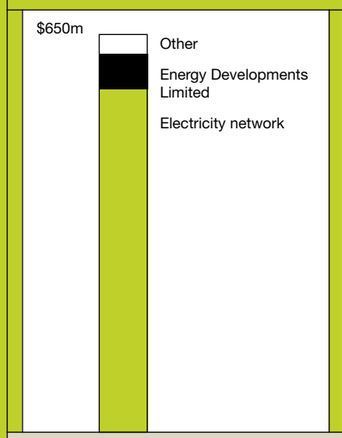
Dean Jackson is ideally qualified for his job with Pulse Data International, the successful Canterbury company in which Orion has a 17% holding. He is blind, and he's a technical analyst working with people around the world who are beta testing the company's latest product release for the visually impaired. Fluent Braille was preferable for the job. Pulse Data's BrailleNote, together with its new internet browser, KeyWeb, opens up the world wide web to the blind.

When electricity became more widely available at the beginning of the 20th century it provided the enabling power to do what had previously just been dreamed about. In the 100 years since then, equipment, appliances and new technologies which rely on that enabling power have been developed which enhance our lives in many ways. Orion supports growth in Canterbury through investment in developing technology companies and support for the Canterbury Innovation Incubator.

Business investments

Orion's major investment is in the Canterbury electricity network. To add further value to the company, and hence to our shareholders, we have a number of related investments. Together these investments comprise just under 15% of the value of Orion.

Orion's investment portfolio



Net carrying value as at 31 March 2003

Business investments

The company's most recent investment has been in the listed Australian renewable energy company, Energy Developments Limited. We also have a number of investments in companies which aim to reduce overall energy use, fitting with Orion's commitment to the efficient use of energy. Orion's most significant non-network investments are profiled in this section.

Energy Developments Limited

www.edl.com.au

Energy Developments Limited (EDL) is a leading global supplier of energy from renewable sources and is listed on the Australian Stock Exchange.

Orion first acquired a 10% shareholding in EDL in July 2002 and in February 2003 increased its shareholding to 15%, bringing the total investment in the company to about $60m. Most of the acquisition has been funded by Australian dollar loans. This provides a hedge against exchange rate movements.

EDL has two main businesses:

- electricity generation. This is mainly from burning methane produced from landfill sites. The company owns almost 400MW of power generation in both Australia and overseas and more than 90% of current revenues are secured by long term power purchase agreements. A priority for the company is resolving performance issues identified with landfill gas engines in operation outside Australia. The engine remediation programme which is underway will reduce company profitability in the short term, but EDL is confident returns will recover in the longer term. A portfolio of projects is under development to increase generating capacity over the next few years.
- solid waste and energy recycling facility (SWERF). EDL has spent more than A$100m on the research and development of this new line of business and it is now in an advanced stage of development. If successful, this process will provide a cost competitive solution for minimising landfill volumes. European markets for this technology are considered to be particularly significant. We expect EDL to announce further progress on commercialising this technology during 2003.

Orion has a 15% holding in EDL.

Two projects by Energy Developments Limited (left to right): Coal mine waste methane gas processing prior to use in engines at Appin Power Plant, Australia; and a well station at one of the company's landfill gas power generation facilities.

Connetics cable jointer Jack O'Malley celebrated 40 years service in 2002, along with three other Connetics employees.

Connetics Limited

www.connetics.co.nz

Connetics constructs and maintains overhead and underground lines and associated equipment provided for the delivery of utility services. It also operates a material supply and distribution business and provides engineering design and consultancy.

Connetics exceeded its financial targets for the year. The result is partly attributed to proactive company restructuring and repositioning following TelstraClear's decision to halt its Christchurch cable network build programme. The operational group was also restructured to improve performance and increase flexibility.

Staff training has been an ongoing focus; Connetics now has 18 apprentices under the government's new modern apprenticeship scheme. One staff member received the Electrical Supply Industry Training Organisation's Retail Award and was highly commended under the new entrant category. In terms of safety management, the company received a merit award, for the third consecutive year, from the Electricity Engineers Association. It also received a highly commended for its workplace literacy programme in the Human Resource Institute of New Zealand's HR initiative of the year award.

Connetics completed a significant number of projects for Orion during the year, including major line construction in the Coleridge area and on Banks Peninsula. Significant switchgear replacement projects and ripple plant installations have also been awarded to Connetics.

The company has also been successful in gaining subdivision and street lighting projects with other customers.

Connetics is wholly owned by Orion.

4RF Communications Limited

www.4rf.com

4RF Communications engineers high-performance point-to-point wireless technologies for rural, private network and mobile radio telecommunications.

Orion first invested in 4RF in early 2001 and further investments have since been made, to a total of $17m.

The company has successfully achieved revenue, international distribution and technical milestones.

4RF's first product, the Aprisa™ radio, was released for sale during 2002. It uses microwave wireless technologies to deliver high-speed internet, voice and data transport in rural telephony and low capacity mobile radio and cellular base station linking. Aprisa™ radios are now exported to 15 countries.

A recent major project undertaken by 4RF was the rollout of high-speed internet and telephone services to more than 37 islands in Fiji.

Orion has a 38% holding in 4RF.

Enertech Capital Partners

www.enertechcapital.com

Enertech Capital Partners is a US-based US$265m venture capital fund focused on investing internationally in energy, communications and related technologies.

Orion has a commitment to invest up to US$5m in an Enertech fund. At the end of the financial year 47% of this had been invested. Enertech has made a number of new investments and consolidated others over the past year. It currently has 18 active investments of which six are EBIT positive and two are cash flow positive.

Business investments

Whisper Tech Limited
www.whispertech.co.nz

Whisper Tech designs, manufactures and distributes small-scale co-generation systems. Co-generation is the simultaneous generation of both usable heat and electricity.

Whisper Tech has continued to increase sales of its DC units into both Japan and Europe. In these regions significant sales contracts have been agreed with established distributors. In the future there are strong prospects for sales of the DC units for remote applications (for example houses and research stations) and for mobile applications (for example luxury yachts and trailers).

Development of Whisper Tech's AC system (the WhisperGen) has continued and successful in-home trials have been undertaken in Europe. The company has a joint development agreement with Powergen, the UK's largest electricity retailer. Powergen has recently ordered 400 units to install in homes before the end of 2003 and Whisper Tech is now gearing up production in Christchurch to meet that order. The WhisperGen is targeted for full commercial launch in the European market within two years. The potential for the WhisperGen in Europe is significant.

During the year Orion, together with other existing shareholders, increased its investment in Whisper Tech to help fund the company's growth.

Orion has a 47% holding in Whisper Tech.

A WhisperGen unit installed.

Pulse Data International Limited
www.pulsedata.com

Pulse Data International (PDI) is a Christchurch based company that designs and manufactures products for the visually impaired.

In the last year PDI continued to increase sales rapidly. In the year to 30 September 2002, sales increased by 30%. This arose from a combination of restructuring overseas operations to establish a stronger market position, increased market awareness and the introduction of further products to PDI's range.

Recent product innovations have included further BrailleNote enhancements such as GPS accessories and a multilingual version. Also introduced was KeyWeb, a revolutionary internet browser for the BrailleNote.

During the year PDI's achievements were recognised when it received Trade New Zealand's Hi Tech Exporter of the Year Award.

Orion has a 17% holding in PDI.

IO Fund

In October 2002 Orion entered into a $60m co-investment agreement with the New Zealand Government's Venture Investment Fund and listed company Infratil Limited. The co-investment agreement, called the IO Fund, committed each party to contributing up to $20m to investment in companies that are at the seed, establishment or early expansion stages.

The IO Fund made its first investment in October 2002 when it took a cornerstone shareholding in Compudigm International Limited. Compudigm specialises in data visualisation software which is marketed in the United States and Europe. IO Fund's investment in Compudigm was $4.4m.

In May 2003 the joint venture partners agreed to review the future of the fund.

Accelerating growth: Canterbury Innovation Incubator
www.cii.co.nz

As a founding partner of the three-year-old Canterbury Innovation Incubator (Cii), Orion is proud of Cii's achievements. Nine promising local companies, both from the private sector and spin-outs from the University of Canterbury, receive business support, mentoring and facilities from Cii. One of its companies, DataCol, was ranked third fastest growing company in New Zealand in 2002 in the Deloittes Fast 50 list.

This year Cii extended its services, winning $146,000 of funding from the Canterbury Economic Development Fund. This funding allows Cii to provide support services to people with a good business idea, so the idea can be developed into a business plan for fund raising purposes.

Not only does Orion provide Cii with valuable business support – there is an Orion representative on the board of directors and it makes its business networks available to Cii tenants – but it makes great use of the historic substation building on the Orion site. The wonderful old building provides a networking hub for many of the city's new business entrepreneurs.

Above: Hawick Inkster is a director of One Glass Eye, a Cii-based company which specialises in 3D animation and special effects. The company is developing its business with the help of Cii.

Staff

As an employer committed to developing the potential of its staff Orion believes it is important to understand staff concerns. For the last two years we have conducted a staff survey to understand the views of staff.

The staff survey seeks staff views on the working environment: what do they value about working at Orion? What needs improving? The survey is undertaken independently and anonymously.

It is pleasing to note that, compared with the previous year, the rating which measures level of satisfaction was up slightly from 3.62, to 3.75. The scale used is 1 (very dissatisfied) to 5 (very satisfied). Last year people were least satisfied with recognition, communication, and training and development.

This year improvements were reported in most dimensions, and by most work areas.

Following last year's survey, a programme was implemented to address concerns in the work areas reporting lowest satisfaction, and these improved in the latest survey. Changes from this year's survey will be a focus on improving communication within the organisation, and the development of a more formal staff development programme.

Staff satisfaction is very important. The Orion workforce is getting progressively older, with an average age of 46 years, and with students being wooed into other fields, the industry is facing an imminent skills shortage.

As a way of helping reverse the trend, in 2002 the University of Canterbury's Engineering School established an Electric Power Engineering Centre to provide education for power industry engineers. Orion is an enthusiastic supporter of the centre, both in time and money. The centre aims to increase the number of students choosing power engineering through such things as scholarships, and helping arrange practical work experience and employment.

In terms of on-the-job training and safety, during the year we extended our Sparks Road training site to include a lecture room and cable jointing facilities. The improvements were made with the assistance of the Electricity Supply Industry Training Association.

There is heavy demand for the training site which is used both by staff and contractors working on Orion's network, and by power industry workers from throughout the South Island.

Orion has a very good safety record and there were no serious harm accidents to anyone working on our network in the last year.

This pleasing record is a measure of the importance Orion staff and contractors place on health and safety. On-site safety auditing is undertaken regularly and sub-standard practices addressed with the contractor concerned. Follow-up audits are performed.

While our safety record is very good, we are continually reviewing our practices and looking for ways to further improve.

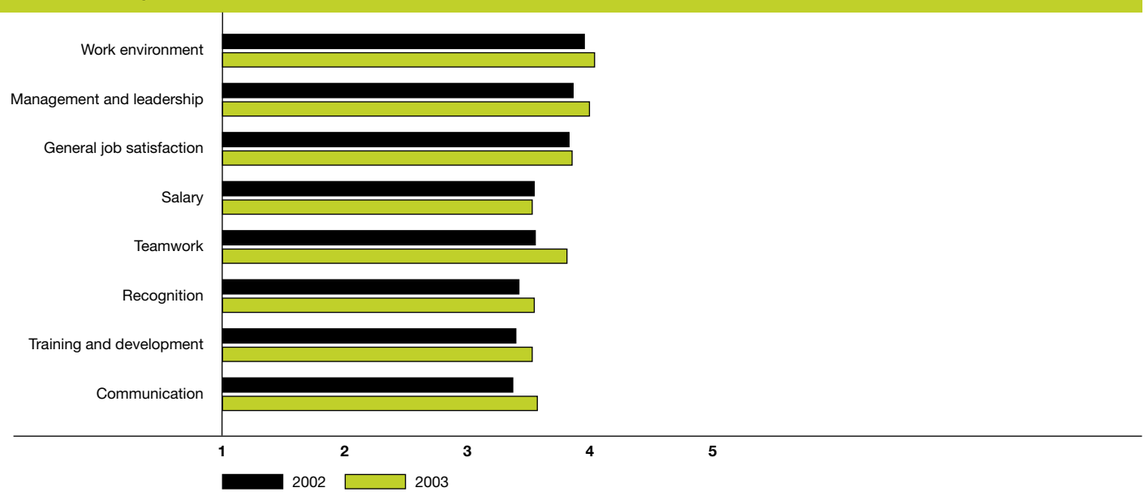
For instance, a new safety management system implemented in the last year has improved reporting, monitoring and auditing of results. This enables trends to be analysed better so more targeted training programmes and reviews can be undertaken.

Orion's health and safety systems were also independently reviewed during the year. As a result of the review's recommendations, improvements are now being made. These include improved centralisation and control of health and safety documentation, and rewriting policies so they recognise the responsibility of staff for health and safety.

The enactment of amendments to the Health and Safety Act in the coming months will lead to further adjustments, particularly concerning the need to agree health and safety systems with staff and union representatives.

Above: Orion's Ev Redway (left) and Anne Wooldridge are part of the team at the customer front line in the call centre.

Orion staff survey



Adeline Chang's project for her Masters of Engineering Management brought her right up-to-date with the potential for renewable sources of electricity generation in New Zealand. Orion commissioned the University of Canterbury electrical engineering graduate to look at the options, including wind power, solar and wave energy. In particular, it considered what renewable resources had production patterns that are counter cyclical with existing hydro inflow patterns. In other words, where it is especially windy or sunny when it's not raining in the hydro catchments.

Orion's commitment to promoting sustainable generation options has included providing advice and equipment to the region's first major wind turbine, in Gebbies Pass on the Port Hills. We also set network prices that encourage distributed generation such as wind power and solar panels. In fact, our prices provide more incentives to distributed generation than any other major network in the country. Orion has also recently produced a step-by-step guide to make it easier for distributed generation to connect to our network.

Community health

Smog is a problem which has plagued Christchurch for decades. As the city addresses the problem and people move from open fires and solid fuel burners to cleaner fuels such as electricity in their homes, the demand on the electricity network increases.

Christchurch city from the Port Hills.

Community health

Environment Canterbury's (ECan's) proposed Air Plan covers the next 20 years and includes strategies to clean up Christchurch smog. We estimate the increased load on the network over those 20 years will require reinforcement work costing around $45m.

We want to make sure our network is able to cope with the increased demand caused by ECan's proposals. By working closely with ECan staff we can find out where our network will need reinforcement. While the Air Plan is being implemented, we will receive information on the number and location of households converting to electrical heating. This information will be used to plan for growth on our network.

ECan released its proposed Air Plan for public submission in 2002. While Orion supports the Air Plan in principle, we have submitted that low emission burners should continue to be allowed in new homes. Banning them is an uneconomic way of reducing air pollution.

Also of concern to us is ECan's intention to tighten the rules regarding industry's use of, and ability to obtain consents for, emergency standby generation.

Together with many Canterbury businesses we have argued that any tightening of the requirements for standby generators is unnecessary and poorly thought through. These generators have little environmental impact, but are important to the community because they:

- provide additional electricity during shortages
- contribute to the region's ability to cope with any disaster affecting the distribution network
- help reduce the need for additional electrical infrastructure.

Emergency standby generators are often used at times of peak loading on the network and, on average, their use coincides with periods of high emissions only 25% of the time. We continue to discuss the issues with ECan and look forward to the outcome of its consultation phase.

Health and home insulation – a link?

Some 116 Christchurch families are taking part in a nation-wide study on the link between respiratory illness and home insulation. Orion is one of the study's principal sponsors.

The project by the Wellington School of Medicine and Health Sciences is the largest of its kind ever undertaken and will help determine whether insulating homes improves an occupant's health, well-being and comfort. It also considers the cost/benefit of improving insulation in homes where people suffer from respiratory problems.

We've installed equipment in the Christchurch homes taking part so we can measure the difference insulation makes to the home's peak demand. Detailed analysis was done last winter and will be repeated this winter.

Insulation services supported

Demand continued to grow for the services of Community Energy Action, the charitable trust dedicated to providing energy efficiency services for people on low incomes. We've supported the trust since it was formed in 1992 and last year we were pleased to welcome Meridian Energy as a fellow supporter of the trust. Our long term relationship with Community Energy Action has proved invaluable to both the trust and Orion – with significant benefits for both parties.

This year the Minister of Energy, Pete Hodgson, visited and congratulated Community Energy Action staff on helping 6,000 homes in the 10 years since the trust was set up. During the year another 1,000 homes benefited from the trust's work, including 250 homes which received recycled curtains from the curtain bank.

Community Energy Action assisted 250 homes with recycled curtains during the year. The trust, which assists low income households with energy efficiency measures, provides recycled curtains so heat loss through windows in winter is reduced.

Environmental health

Installing lines and cable to the first wind turbine on Banks Peninsula, at Gebbies Pass.

Orion remains committed to promoting environmental sustainability. Environmental performance is important to us both internally (in terms of our environmental footprint), and with regard to the environmental impact of the business on the community.

Focus on a better environment

Our commitment to promoting the availability of sustainable sources of energy was advanced during the year by commissioning a University of Canterbury Masters student to produce a report on the commercial feasibility of renewable energy in New Zealand. The project demonstrated the potential for, and benefit of, further work in this area.

The National Institute of Water and Atmospheric Research (NIWA) has since secured $1.2m of funding from the Foundation for Research, Science and Technology for a research programme on climate variability and its effect on energy supply and demand. Orion is very supportive of NIWA's work in this area.

During the year we helped progress the development of wind power in Canterbury by assisting Windflow Technology, the company installing a 500 kW wind turbine in Gebbies Pass. High voltage cable and lines were provided to connect Windflow Technology's transformer to our high voltage lines in the area.

We also developed a package to make it easier for distributed generation, such as wind power and generators using other renewable energy sources, to connect to our network. Orion is the first line company in New Zealand to provide such a step-by-step guide to facilitate the connection of distributed generation. It follows on from independent work completed last year which showed that Orion's pricing offers the greatest incentives for connection by this type of generation, compared with the pricing offered by the five other largest network companies in New Zealand.

While Orion is the first to take this approach to distributed generation, other line companies are examining their policies and we hope they will adopt a similar approach. Such a trickle-on effect in the industry would really benefit distributed generation. We look forward to helping where we can.

In addition to looking at more sustainable sources of generation, we are also keen to assist with other environmental issues, the impact of irrigation being one example. The amount of irrigation in Canterbury has continued to increase. Because electricity is used to pump irrigation water, efficiency of electricity use is directly related to the efficiency of irrigation.

During the year we co-sponsored a study to determine ways of increasing the efficiency of irrigation. Conducted by AgFirst Consultants, the study covered 10 dairy farms and found that soil monitoring, as opposed to simply tracking rainfall, was key to reducing irrigation use in a typical season.

Savings in energy and water of up to 30% could be achieved through soil monitoring in a season which was wetter than usual (as occurred last year). In a dry year, the water and energy savings achieved by correctly timing the start and end of the irrigation season would also be significant.

Canterbury has the highest demand for water for irrigation in the country. Managing it efficiently on-farm is important for conserving the resource. Water overuse contributes to such things as nutrient leaching and effluent management problems, so the irrigation study was also important in helping develop efficient water management practices.

In terms of environmental contamination from Orion equipment, the greatest potential source of pollution is the oil in transformers, particularly in rural areas where the transformers are more exposed. The only significant environmental incident of the year occurred when the work of vandals caused an oil spill in a country area: all contaminated soil was removed and treated.

The environmental focus within our workplace

We turned our eyes on our home patch during the year with an independent energy audit of the main office building. As a result we've changed some relatively simple things and made savings of more than 7%: we've improved the efficiency of the boiler, lights in toilets and storerooms are now on sensors, and staff have increased their efforts to turn off unused PCs and lights. Orion has always been conscious of the need to be energy efficient in its buildings, so the audit shows that further opportunities for savings can always be identified.

Our rubbish also came under scrutiny. The Christchurch City Council's Target Zero team sorted through a sample of office waste and found almost 50% of waste was able to be recycled. Apparently this is a fairly typical percentage for an office environment. We have been recycling office waste for a number of years but the Target Zero project served to remind us of the importance of using the paper recycling bins which are placed by the desks of all staff. Bins for cans, glass and plastic are also distributed around the building.

Our activities as an electricity network provider also produce carbon dioxide emissions. To reduce CO_2 emissions our main focus is on reducing electrical losses as they are responsible for 30 times the emissions from our office activities. The CO_2 footprint of our office activities during the last year was 590 tonnes.

Orion's assistant custodian Brandon Dudley keeps an eye on materials for recycling.

Sources of information

Other sources of information about Orion and the electricity industry

A range of information about Orion's policies and operations is available on the website (www.oriongroup.co.nz). Information includes:

- Orion's asset management plan
- The effect of air pollution control measures on Orion's network
- Information on electromagnetic fields (EMFs)
- A life cycle analysis of copper and aluminium and its use in electricity networks
- The costs and trade-offs associated with underground electricity reticulation
- Safety guidelines for working on Orion's network.

Other websites which contain information of interest include:

- Environment Canterbury, including a database of renewable energy resources (www.ecan.govt.nz)
- Consumer electricity information (www.consumer.org.nz/powerswitch)
- Electricity Complaints Commission (www.electricitycomplaints.co.nz)
- Commerce Commission (www.comcom.govt.nz).