



Western Power

WESTERN POWER CORPORATION 2002 Environmental/Social Review



**KEY RESULT
AREAS**

- 2 Valuing our Environment
- 16 Listening to our Community
- 28 Caring for our People



LOOKING FORWARD

33 The Future



GLOSSARY

36 Glossary



RESPONSIBLE

SUSTAINABLE

RIGOROUS

Cleaner production is the wise use of materials, energy, water and other natural resources in business.

Eco-efficiency is aimed at delivering products and services that satisfy human needs while progressively reducing the environmental impact of those products and services over their life cycle.

KEY RESULT AREAS

VALUING OUR ENVIRONMENT

WESTERN POWER RECOGNIZES THE VALUE OF THE ENVIRONMENT TO THE COMMUNITY AND FUTURE GENERATIONS. We will work towards sustainable development by the responsible production, distribution and use of energy.

ENVIRONMENTAL MANAGEMENT

Environmental Governance

Western Power's Environmental Governance framework is based on Western Power's organisational structure, policies, practices and responsibilities. We are committed to rigorous environmental management through community consultation, proactive planning, compliance, sustainable development and auditing for continuous improvement. We have an Environmental Policy that specifies our environmental responsibilities.

Environmental Management System

An environmental management system (EMS) is a structured approach to identifying and managing site environmental issues and impacts with a commitment to continual improvement of environmental performance.

To ensure that Western Power's EMS is operating effectively the system is monitored and maintained throughout the year.

Power stations certified to AS/NZS ISO 14001

Western Power's power stations have been progressing towards certification of their environmental management systems to AS/NZS ISO 14001.

Collie Power Station was the first Western Power power station certified, with certification received in June 2001. Muja Power Station was certified in June 2002 and the certification process is well underway for Pinjar Gas Turbine Power Station.

EMISWeb

EMISWeb is the electronic documentation system employed by Western Power to manage and record environmental activities and performance, legal compliance and continual improvement initiatives. The system is used in the prevention, control and abatement of pollution and environmental harm and to support the protection and management of the environment in which we operate.

Western Power manages more than 280 sites through EMISWeb including

power stations, depots, wind farms, communication sites, substations, decommissioned properties and more than 92,000 kilometres of line and cable.

Through the systematic use of EMISWeb, we have focused on bringing licence compliance and other environmental documentation to a high standard. EMISWeb has also been continually enhanced to enable scheduling of compliance reporting, monitoring of environmental management plan actions and monthly system reporting.

Ensuring our people are able to meet the challenges of environmental management

During the year, EMS Team Leaders attended environmental workshops that provided advice on improving the local implementation of EMS and the use of EMISWeb.

An environmental awareness kit was developed to clarify environmental management responsibilities across the company. Information on the tools and processes that are available to assist the discharge of management responsibilities was included in the kit along with an overview of legal requirements and the EMS.

Environmental workshops were conducted in November 2001 with the aim of improving and standardising environmental performance across the distribution and transmission networks.

Attendees at the workshop were asked to consider the current work practices undertaken by their group, any possible impacts that these practices may have on the environment and how these impacts can be controlled, minimised or planned for.

ENVIRONMENTAL MONITORING

DATE	ACTIVITY
October 2001	Internal environmental licence compliance follow up audit
November 2001	ESAA environmental code of practice audit
December 2001	Environmental Executive Committee meeting
April 2002	Internal EMS implementation audit
April 2002	Internal licence compliance close out audit
June 2002	External EMS audit
June 2002	Environmental Executive Committee meeting

KEY PERFORMANCE INDICATORS

	2001-2002		2000-2001	1999-2000
	ACTUAL	TARGET	ACTUAL	ACTUAL
Environmental Excellence	100	80	- *	- *
New renewable energy (GWh)	55.9	60.1	1.2	- *
Environmental Reputation				
Internal	72	80	- *	- *
External	42	70	35	- *

* In an effort to improve the usefulness of these indicators, the measurements have recently changed limiting comparable results.

Western Power's environmental management system underpins a culture that delivers environmental excellence.



WESTERN POWER ENVIRONMENTAL LICENCES

ENVIRONMENTAL LICENCE	TOTAL
Department of Environmental Protection Operating Licence	13
Department of Environmental Protection Petrol & Oil Trap Licence or Registration	6
Department of Minerals & Energy Licence to Store Dangerous Goods	35
Water & Rivers Commission Groundwater Well Licence	7
Water & Rivers Commission Underground Water Pollution Control Area Permit	3

Environmental Compliance

Western Power's operational sites are subject to a range of State and Federal environmental legislation. In addition some sites require State environmental licences. All performance obligations under these licences are monitored and reported and can be subject to Government agency audit or inspection. A summary of licences held by Western Power facilities is provided above.

A comprehensive internal evaluation of legal compliance and monitoring was undertaken in April 2001. Corrective actions were initiated to address issues identified in the evaluation and follow-up audits were scheduled.

The results of the close-out audit showed the majority of Western Power sites were in full compliance and had in place processes to monitor, report and review licence compliance. Operating areas were working with regulatory authorities to resolve instances of non-compliance.

ENVIRONMENTAL PERFORMANCE

Targets

Our customers expect us to achieve environmental excellence and lead the development of sustainable energy resources. Our environmental performance is tracked annually utilising a number of performance indicators in strategic result areas (SRAs). Measuring performance against targets is an integral element of our continuous improvement process, it assists with the efficient allocation of resources and helps identify areas of weakness.

Environmental Excellence

An effective environmental management system underpins a culture that delivers environmental excellence. The successful implementation of our EMS across all operating areas aims to ensure company-wide diligence to comply with regulations and continually improve management practices. We gauge our progress towards environmental excellence by auditing the implementation of our EMS and conformance with relevant Codes of Practice. The measurement of environmental excellence reflects the percentage of sites that have achieved more than 80% implementation of the EMS.

Identifying areas for improvement

An environmental audit is a "systematic, documented verification process for objectively obtaining and evaluating audit evidence to determine whether specified environmental activities, events, conditions, management systems or information about these matters conform with audit criteria and communicating the results of this process to the client". (AS/NZS ISO 14010:1996, *Guidelines for Environmental Auditing – General Principles*).

Since 30 June 2001 Western Power has conducted several environmental system and compliance audits. Audit results and recommendations are presented to our Board and Executive for review on a regular basis. Our people actively work to address audit recommendations.

Internal EMS Implementation Audit

Qualified internal auditors conducted an EMS implementation audit in April. The audit covered all of Western Power's operational areas, checking the compliance of each site's EMS documentation against a set of ISO 14001 compliant criteria including assignment of responsibilities, implementation of procedures and non-conformance reporting.

The audit was conducted to determine the percentage of sites that had achieved above 80% implementation of the EMS and to identify areas for improvement prior to an independent external audit in June 2002.

More than half the audited sites were able to demonstrate over 80% implementation of the EMS.



CODE OF ENVIRONMENTAL PRACTICE AUDIT SCORES BY POLICY

	OVERALL AVERAGE SCORE	WESTERN POWER SCORE
Policy A - Sustainable Development	3.8	4.0
Policy B - Social Responsibility	3.6	4.0
Policy C - Environmental Management	3.5	3.7
Policy D - Resource Management	3.5	3.9
All policies	3.6	3.9

VARIATION OF SCORES FOR ENERGY BUSINESSES WITH OR WITHOUT ISO 14001 CERTIFICATION

	MEAN SCORE
All businesses	3.6
Businesses with ISO 14001	3.8
Businesses without ISO 14001	3.4
Western Power	3.9

ENVIRONMENTAL REPUTATION

	2001-2002		2000-2001
	ACTUAL	TARGET	ACTUAL
Environmental management	42%	70%	35%
Renewable energy development	57%	70%	48%
Alternative energy research	78%	70%	68%

External EMS Implementation Audit

Our EMS was audited by an independent, registered environmental auditor in June 2002. The audit covered all operational areas, evaluating the structure and implementation of the system and verifying the results of previous internal audits.

The purpose of the audit was to determine our progress in achieving best practice (more than 80%) implementation of our environmental management system. Our target for 2002 was to have 80% of our sites achieve best practice.

The audit showed significant progress towards environmental excellence with all sites exceeding the target by achieving 90% implementation of our EMS.

While there are no direct comparisons to previous years due to changes in the measures, an internal implementation audit undertaken in April 2002 showed that only 58% of sites met the 80% target.

An opportunity for improvement lies in the development and local implementation

of environmental management programs. Environmental training and audit programs are being developed for 2002/03 to support this aspect of EMS and to assist in achieving 100% implementation across all sites.

ESAA Code Audit - Western Power above the benchmark

Western Power is a signatory to the Electricity Supply Association of Australia's (ESAA) Environmental Code of Practice, which promotes sustainable development, social responsibility and environmental and resource management in the production and delivery of electricity.

Internal auditors completed the audit of Western Power's application of the Code in November 2001. Our overall score was 3.9, based on a scale of 0 to 5. In general Western Power rated above average across all policies, exceeding the average score for all ESAA member companies.

Environmental Reputation

Significant improvement in public perceptions

One of our key performance indicators relates to our environmental reputation. We believe if we actively seek excellence through practical environmental care this will be reflected in the perceptions of our customers and stakeholders.

Over the past six years, we have tracked customer perceptions of our environmental performance. To improve the accuracy and usefulness of our surveys, a new survey format was implemented in April 2001. This survey included a more detailed investigation of customer and stakeholder expectations. The survey format was repeated this year, with data for the past two years reported.

Overall, 31% of the sampled Western Australian residents believe our performance has improved during 2001/02, with only 3% believing our performance has declined.

Last year's survey identified awareness of Western Power's environmental activities as a measurement that could be improved. This year, there was a 5% improvement from 27% to 32% among residents in being able to recall a Western Power environmental activity or initiative. Though awareness is still low, NaturalPower and the Albany Wind Farm are seen as key factors in this increase, with a rise in awareness of Western Power's wind energy activities of 10%.

Other survey results were:

- The use of coal and the level of emissions from Western Power's operations continued to be an issue of top concern among customers. Significant increases were noted in concern about our operations in relation to EMF fields and renewable energy
- 52% of Western Australians have no concerns or cannot think of any with regard to Western Power's environmental performance, and
- renewable energy and energy efficiency continued to be the main areas of interest, with 68% of those surveyed preferring more information on these issues.

The SmartWays campaign, launched in June 2002 to provide customers with useful tips and advice on how to save energy, purchase energy efficient appliances and ultimately save money, should help to improve the results of future surveys.

OPERATIONAL ENVIRONMENTAL MANAGEMENT

Every Western Power site across Western Australia is unique when it comes to addressing environmental concerns. Their location, purpose, complexity and even the prevailing weather conditions can all play a part in determining their environmental management.

We recognise that practical environmental care, through innovative programs and on-going management, will protect the right of future generations to a sustainable and diverse natural environment. In all areas of our operation from the management of our networks to the generation of power we are very proud of the way we work with our local communities and regulatory authorities to achieve the best results for the environment and our communities.

Western Power is committed to reducing the impact of atmospheric emissions on the environment by the responsible use of resources

Electricity generation is a major source of atmospheric emissions. With the closure of old plant, commissioning of new efficient generating plant and increased development of renewable energy resources, we are reducing our atmospheric emissions.

The National Pollutant Inventory (NPI) is a national database designed to provide the community with information on types and amounts of specified pollutants emitted to the environment. Western Power submitted pollutant emissions information covering the 28 facilities that were required to report for 2000/01.

The following tables provide information on the main atmospheric emissions from our major power stations. These figures were determined using NPI methodology.



Practical environmental care of Western Power sites through innovative programs and ongoing management will protect the right of future generations to a diverse natural environment.

SULFUR DIOXIDE EMISSIONS

Kgs EMITTED PER MWh OF ELECTRICITY SENT OUT	2001-2002	2000-2001	1999-2000	1998-1999
Collie	5.3	6.1	6.0	-
Muja	6.0	6.9	6.8	7.0
Kwinana	1.4	1.6	2.0	1.8
Pinjar Gas Turbine	0.0	0.0	0.0	0.0
Mungarra Gas Turbine	0.0	0.0	0.0	0.0
Regional power stations	1.3	1.3	1.4	1.5

NITROGEN OXIDES EMISSIONS

Kgs EMITTED PER MWh OF ELECTRICITY SENT OUT	2001-2002	2000-2001	1999-2000	1998-1999
Collie	3.2	4.7	4.6	-
Muja	3.8	3.9	3.8	3.9
Kwinana	3.1	3.0	3.2	3.2
Pinjar Gas Turbine	2.1	2.9	2.9	2.8
Mungarra Gas Turbine	2.2	3.0	2.9	-
Regional power stations	15.9	15.0	15.7	13.7

PARTICULATE (COAL ONLY) EMISSIONS

Kgs EMITTED PER MWh OF ELECTRICITY SENT OUT	2001-2002	2000-2001	1999-2000	1998-1999
Collie	0.2	0.2	0.2	-
Muja*	6.9	7.1	6.5	8.0
Kwinana	0.0	0.0	0.1	0.1
Pinjar Gas Turbine	-	-	-	-
Mungarra Gas Turbine	-	-	-	-
Regional power stations	-	-	-	-

*These emissions are principally due to Muja AB which was commissioned in the 1960s; plans are in place to decommission these units in 2006.



Testing the outflow from the oil/water separator at Kwinana Power Station as part of standard environmental monitoring. Clean water from the separator is discharged onto disused land that is being rehabilitated at the power station.

River that may run dry during the summer months, remain full. This not only keeps the river healthy, but means the local Collie community has access to the river for recreational purposes when it may otherwise be too dry for fishing or swimming.

Western Power continues to investigate recycling opportunities for fly ash

We have continued our support of a study into the use of fly ash in agricultural applications by the University of Western Australia. The fly ash used in the study is supplied from Kwinana Power Station. A paper was released in late 2001 on the findings of the study, with strong indications that the use of fly ash in sandy soils may be a useful water management option for turf culture. The addition of fly ash to sandy soils assisted with the retention of water and provided increased levels of phosphorous for plants.

Curtin University has been investigating the use of fly ash as a stabilising substitute in construction projects. The research began three years ago, utilising fly ash from Muja, Collie and Kwinana Power Stations and has culminated with a trial of the cement-substitute process on the bus transit lane barriers on the Kwinana Freeway. The successful trial is now being commercialised.

Waste Minimisation on-line

In an effort to help Western Power people embrace the principles of waste minimisation, information was provided on PowerNet (Western Power's Intranet) in March 2002.

The waste minimisation page includes;

- **Reasons to minimise waste**
- **contact details for WA recycling contractors and what they recycle**
- **information on Western Power recycling programs such as**
 - the Head Office Recycling Program
 - mobile phone and battery recycling
 - laser printer cartridge recycling, and
- **guidance on buying environmentally friendly products.**

Responsible water management keeps our rivers healthy

Western Power needs and uses a lot of water in its Muja and Collie Power Stations. We are a party to the Collie Basin Water Management Program and have a licence issued by the Waters and Rivers Commission to use water. Most of the water we use is ground water from the de-watering of Collie Basin Mine Fields though some comes from our bore fields and the Harris River Dam.

In response to community concern about the lowering of water levels in the Collie River, Western Power pumps about six million litres of water into the river system each summer. The extra water means pools on the south branch of the Collie

Fauna and Flora Management

Working to safeguard Western Australia's unique environment

A key environmental objective is to protect the natural and cultural environment in all our operations in a socially responsible manner. Designated Environmentally Sensitive Areas (ESAs) identify operational sites and surrounding areas which are environmentally or culturally significant and require special consideration and care.

Rare flora (Declared Rare Flora and Priority Flora 1-4) is the most common environmental element protected by the ESA system. Other environmental issues include Threatened Ecological Communities, significant vegetation, noxious weeds and dieback protected areas.

Field trips to all ESAs near our transmission and distribution lines were undertaken to replace ESA signage, obtain current information on the rare flora populations and update work procedures for each site. A local Conservation and Land Management Officer provided on-site advice for each field trip. This information was then entered into the ESA database in EMISWeb to facilitate the future responsible management of these sites.

Biodiversity improvements continue around Muja Power Station

Muja Power Station has continued its program of rehabilitating disused gravel pits which have been unused since the construction of the power station. In 2001/02 a total of seven hectares was revegetated.

Powerline management and community consultation

People and the environment come first when we build new powerlines

Western Power's transmission and distribution network is the most visible aspect of the company across the State. With powerlines stretching over 90,000km working with local communities and government agencies to ensure that this system is well managed and has a minimal impact on the natural and social environment is of the highest importance to Western Power.

Western Power constantly monitors the growth in demand for electricity across the State and, with the help of computer modelling, makes long-term plans to ensure that demand can be met.

Proposed Pinjar to Cataby transmission line receives EPA approval

The proposed Pinjar to Cataby transmission line was subject to a formal environmental assessment in accordance with the *Environmental Protection Act 1986*. The Environmental Protection Authority (EPA) determined that the proposal was to be assessed at the level of Public Environmental Review (PER), the second highest level of assessment.

The PER examined specified environmental factors, indicating the potential impacts of the proposed transmission line and management strategies to ensure that the actual effects of the proposal on people and the natural environment meet and in

some instances exceed the EPA objectives. The EPA has recommended conditional approval for the Pinjar-Cataby transmission line. Conditions include the development and implementation of an approved environmental management plan for both the construction and maintenance phases of the project.

Working to improve supply to the Capel and Busselton areas

At present, two transmission lines supply electricity to the Capel and Busselton areas in the South West of WA. Our projections show that these lines will reach the limit of their capacity by the summer of 2003/04. Western Power plans to build a new 132kV line from Waterloo near Bunbury, to Busselton to provide sufficient capacity for the region until at least the end of this decade.

Over the past 18 months, Western Power has consulted extensively with Government agencies, individual property owners, landcare groups and other stakeholders in relation to this proposal. Through this consultation, many changes have been made to the proposed line route. Where possible we have chosen a line route which avoids any impact on farming activities. Special management techniques will be used to minimise the potential for damage to watercourses, wetlands and associated vegetation. Where the line passes through State Forest, it follows the perimeter of the forest where tracks already exist or where sand mining already occurs to minimise clearing in forest areas.

We're helping to protect Perth's urban bush land

The Department of Conservation and Land Management and Western Power joined forces to save a threatened ecosystem in suburban Perth.

Our Forrestfield depot is surrounded by native woodland on heavy soil, with many marri trees and kingia (a grass tree). This ecosystem was once common in Perth's Hills region. However, due to extensive clearing, it has been listed as a critically endangered threatened ecological community.

To preserve this unique habitat, about 80 Victorian tea trees and Eastern States eucalyptus that were competing with the native plants were removed.

We believe if we have remnant bushland near our depots, we should do everything we can to protect it.

Integrating environmental considerations in line route planning

Enhancements are currently being made to "Intramaps" software in order to streamline the distribution line route selection process. This software will readily identify site specific environmental factors that should be taken into consideration during planning.

The enhanced "Intramaps" will have suitable line route drawing tools, centralised updating of information, multiple layers of environmental and infrastructure information and be able to produce land use constraint reports for each selected line route. Environmental layers include environmental factors such as conservation and environmental protection policy, wetlands, threatened ecological communities, declared rare flora, native title claims and Aboriginal and European heritage. Sources of this digital data include the Heritage Commission and the Departments of Environmental Protection, Land Administration, Minerals and Petroleum Resources, Agriculture, and Conservation and Land Management.

Site Stewardship

Demolition of Bunbury Power Station

Bunbury Power Station ceased operations in September 1999. Tenders were called and a contract awarded for asbestos and plant removal in July 2000, followed by a second contract for the demolition and disposal of structures in August 2001. This work was successfully completed in May 2002.

Since decommissioning, a number of potentially contaminated areas were identified on site. A detailed site investigation was undertaken and a program of remediation implemented to ensure all contaminated areas were identified and remediated to standards required by the Department of Environmental Protection (DEP).

Western Power concluded negotiations with the Bunbury Port Authority for the sale of the property, with ownership transferring in late June 2002.

Western Power is well advanced in identifying and providing for our future environmental care responsibilities

A Contaminated Sites Screening Assessment was undertaken to determine which Western Power properties may be required to report to the DEP under the requirements of the pending contaminated sites legislation.

Detailed site investigations were completed for the Bunbury, South Fremantle and East Perth Power Stations. The investigations included bore installations and soil and water sampling and analysis. We are working with the DEP to establish remediation and validation plans for each site.

We have developed a Remediation and Validation Plan for the Belmont Depot and have received agreement from the DEP to go ahead with this plan. Remediation of the Redbank Power Station was completed.

Environmental Incidents

Western Power's environmental management and emergency response procedures ensure that there is no long-term environmental damage from incidents.

Northern Terminal Oil Leak

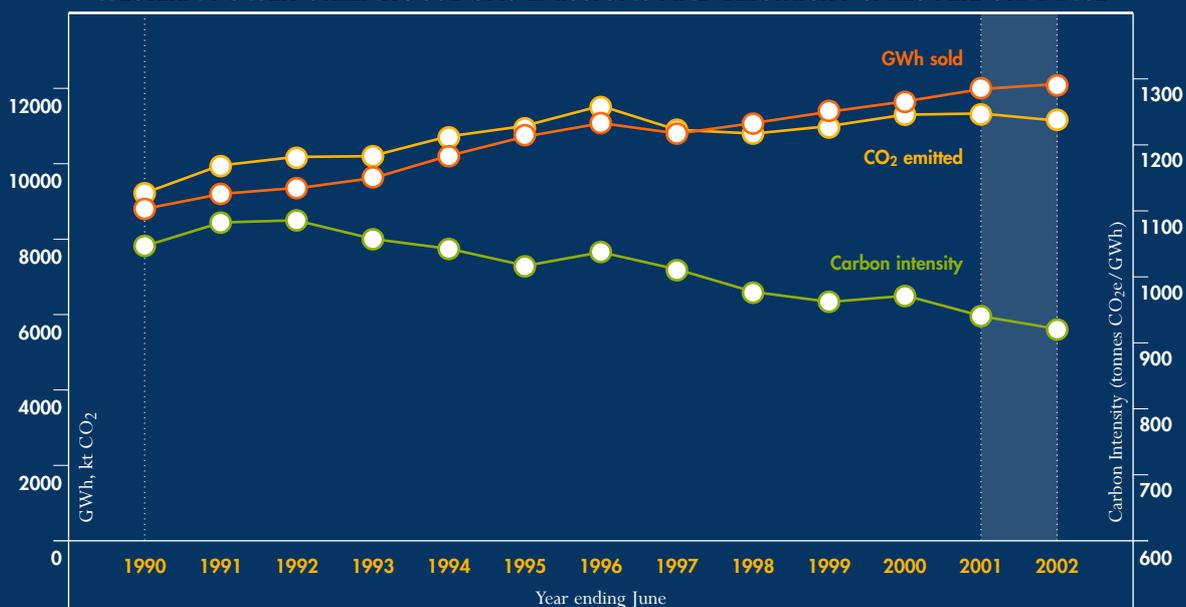
In October 2001 less than 100 litres of oil leaked from an oil circuit breaker at Northern Terminal in Malaga. Most of the oil leaked on to a hard stand area. An immediate response and the timely removal and replacement of the bitumen and soil in the affected area prevented any environmental damage.

Geraldton Depot Oil Spill

In April 2002, four 200 litre lubricating oil drums were damaged by thieves at the Geraldton Depot. Although the oil spill affected a significant area of the depot no environmental damage occurred. Gravel and soil in the affected area was removed and the area declared clean after sampling and analysis of remaining soil. The Geraldton City rubbish dump has accepted the contaminated soil for disposal.



WESTERN POWER GREENHOUSE GAS EMISSIONS AND ELECTRICITY SALES PERFORMANCE



GREENHOUSE RESPONSE

Western Power continues to constrain greenhouse gas emissions

Production and supply of electricity is a major source of greenhouse gas emissions. In 2001/02 we continued our commitment to greenhouse gas management in line with our plans under the Commonwealth Government's Greenhouse Challenge. Business activities in 2001/02 that improved our greenhouse gas emissions performance included:

- Commencement of construction of the Cockburn 1 high efficiency combined cycle gas turbine power station
- commissioning of the 22MW Albany Wind Farm
- finalising environmental approvals and design for the Integrated Wood Processing Plant to be constructed at Narrogin, and
- planning for new electricity generating facilities with significantly lower greenhouse gas impacts, including replacement of ageing generators with high efficiency combined cycle gas turbine plant and renewable energy projects.

Total greenhouse gas emissions produced from Western Power's operations in 2001/02 were estimated to be 10,894,000 CO₂ equivalent tonnes. Adding to this the estimated emissions associated with the electricity purchased by Western Power from others, and subtracting CO₂ estimated to be sequestered through the company's tree planting programs, the net emissions attributable to Western Power's sales in 2001/02 were 11,161,500 CO₂ equivalent tonnes.

Since 1996, 42 actions identified in Western Power's original Cooperative Agreement have been completed or are ongoing in the following areas:

- Gas fired co-generation projects delivering high efficiency in fuel utilisation
- development of renewable energy projects
- purchase of electricity from independent co-generation and renewable energy projects
- increased use of natural gas to replace coal and liquid fuels in electricity generation
- promotion and support of research and development in sustainable energy technologies

- initiatives with customers to promote end-user energy efficiency
- tree planting, and
- promotion and support of education on greenhouse and greenhouse related issues.

The overall effect of abatement actions has been a reduction in the carbon intensity of electricity sold by Western Power in 2001/02 to 0.92 kilograms CO₂ equivalent tonnes per kilowatt hour – down from a value of 1.05 in 1989/90. This translates to an avoidance of over 1.2 million tonnes of CO₂ emissions in 2001/02 compared to what would have been the case if the electricity sold in the year were produced at the same emissions efficiency as in 1989/90.

We remain committed to continued reduction of greenhouse gas emissions associated with the electricity we supply. We are in the advanced stages of planning for several renewable energy projects and a step change in carbon intensity improvement will be achieved in 2003/04 when the Cockburn combined cycle gas turbine enters service to replace ageing, less efficient generation plant.



RENEWABLE ENERGY

Western Power is a leader in the development of renewable energy generation using wind and bio-energy technologies.

Introduction of the Renewable Energy Policy

We formalised our approach towards renewable energy planning and established the Western Power Renewable Energy Policy in February 2002.

In the past 25 years Western Power has explored a wide range of renewable electricity applications, largely driven by the need to find sustainable alternatives to high-priced fossil-fuelled electricity generation in regional areas not connected to main grids. Greenhouse response has now overtaken high fuel prices as a general driver for renewable energy applications, but to have any significant

effect on greenhouse gas emissions requires their deployment on a main grid scale rather than the limited potential of isolated regional systems.

The pressure for accelerated renewable energy development comes from State and Federal Governments and the community and consequently is incorporated into Western Power's business drivers. The Renewable Energy Policy reflects these drivers.

Western Power Renewable Energy Policy

Western Power recognises the role of renewable energy in progressing to sustainability in electricity supply and considers this as part of business decisions. Western Power will:

- Establish, monitor and review renewable energy targets
- maximise the performance and

contribution of Western Power renewable energy facilities

- maximise commercial opportunities to develop Western Power renewable energy projects to expand renewable energy production
- source commercial quantities of renewable energy from viable local independent renewable energy producers
- meet renewable energy legal obligations, codes of practice and industry agreements both in letter and in spirit
- provide opportunities for customers to participate in renewable energy developments
- participate in targeted renewable energy research and development, and
- support renewable energy education and community awareness of renewable energy issues.



Wind Energy

Australia's largest wind farm opened in Albany

The Albany Wind Farm, officially opened in October 2001, is a milestone in the history of Western Power and renewable energy in Western Australia. The wind farm can produce enough clean green electricity for about 15,000 Albany homes – or about 75% of the town's total electricity requirements - and reduces greenhouse gas emissions by about 77,000 tonnes a year. It is the biggest wind farm in Australia and through our work, Albany can lay claim to the title of "green capital" of WA.

After 10 years of planning, the \$43 million 22MW wind farm overlooking the Southern Ocean, was opened officially by Minister for Energy Hon Eric Ripper.

Approximately 50% of the content of the Albany Wind Farm was Australian sourced. Only the turbine blades and generators came from overseas as the type required cannot yet be manufactured in Australia. Approximately \$10 million was spent in the Albany area alone on local sub-contractors during the construction phase. With up to 400 vehicle visits each day during the tourist season the wind farm looks to continue to contribute to the Albany economy as a significant tourist attraction.

With a capacity factor of about 41%, the wind farm gives an exceptionally high energy return compared to the cost of construction. Clean sustainable energy solutions are no longer just appreciated, they are expected and Western Power will continue its quest to expand on renewable energy initiatives in Australia. It is important that we continue to discover, trial and implement innovative renewable energy technologies to keep pace with world trends and in some cases, like the Albany Wind Farm, lead the country.

The success of the Albany Wind Farm project was due, in no small part, to the local community's adoption of the farm as one of Albany's greatest man-made attractions. A comprehensive consultation program ensured the local community was well informed about the Albany Wind Farm and had an awareness of wind farms around Australia and the world.

The program identified practical methods to inform the community in the construction phase of the wind farm and ensured a strong feeling of community "ownership". Throughout the planning and construction of the wind farm we were able to maintain an open, positive and productive relationship with the local community.

Western Power is looking to wind energy as an answer for WA

Western Australia has few mature renewable projects that will provide sufficient RECs to meet Western Power's near-term requirements. Wind can fill the void.

With wind farms already in operation in Albany, Denham, Exmouth and Esperance, Western Power is looking at new sites and new ways of facilitating the commissioning of further wind farms.

Mumbida Wind Farm

Mumbida Wind Farm is currently undergoing a feasibility study through WindCo. WindCo is the 50:50 Australia-wide wind farm development vehicle (not an operator) for Western Power and ENERCON Power Corporation Australia. ENERCON Power Corporation Australia is the Australian subsidiary company of ENERCON GmbH from Germany, the third largest wind turbine manufacturer in the world. Western Power has developed a good working relationship with ENERCON after the company supplied and installed the wind turbines for the Denham and Albany Wind Farm projects. The Mumbida proposal is for a 30MW installation consisting of 50, 600kW wind turbines situated on a farming property approximately 25km south-east of Geraldton. Extensive community consultation has revealed widespread support for the project.

Government Legislation

Western Power has registered Renewable Energy Certificates (RECs) in compliance with the requirements of the *Renewable Energy (Electricity) Act 2000*, and has met 2001 RECs requirements. Three Western Power power stations (the Albany and Denham Wind Farms and Wellington Hydro-electricity Plant) have formal accreditation to produce RECs. The bulk of Western Power's RECs in 2001 were derived from the Albany and Denham Wind Farms.

Another source of RECs was opened in February 2002 with the launch of a scheme for Western Power to acquire the RECs that are created from the installation of new solar hot water systems. RECs from the wind farms and the solar hot water scheme are expected to meet Western Power's 2002 requirements.

Exmouth's mini-wind farm

The Exmouth Advanced Mini-Wind Farm was commissioned in June 2002. The wind farm is located near the tip of the North West Cape and consists of three, 20kW wind turbines. The project was jointly developed by Western Power and Westwind with funding support from the Australian Greenhouse Office through the Renewable Energy Commercialisation Program (RECP). Westwind is a local wind turbine manufacturer specialising in the manufacture of small wind turbines for remote areas. The company supplied and installed Western Power's first wind farm at Salmon Beach in Esperance. The turbines in Exmouth are engineered to be lowered for their protection ahead of an approaching cyclone.

Using wind energy to support diesel systems

Opportunities for the integration of wind energy into diesel electricity grids are being pursued between Western Power and Powercorp Pty Ltd. Powercorp assisted Western Power with the innovative Denham wind/diesel project which attracted funding under the Australian Greenhouse Office Renewable Energy Showcase Program.

The potential for the world-beating control and energy storage system technology being optimised in Denham is enormous. The Esperance Nine Mile Beach Wind Farm, currently undergoing a feasibility study, is one project where we hope to use some of these control systems.

Lord Howe Island in New South Wales is another possible application for this technology. Other sites in Western Australia such as Rottneest and Hopetoun as well as up to 25 sites nationally could also benefit. We are currently developing a business model in an attempt to help service these areas.

Bio-Energy

Planning for the Integrated Wood Processing Plant in Narrogin has been completed

Site works for the Integrated Wood Processing (IWP) demonstration plant commenced in June 2002 after the completion of an extensive planning and approval process.

The Wheatbelt town of Narrogin is home to this innovative project that addresses global warming and farmland salinity; two of Australia's most pressing environmental concerns. Western Power is building the IWP plant that will generate renewable electricity and produce activated carbon and eucalyptus oil from locally planted mallees. Producing three products at the one plant will ensure commercially competitive operation. The demonstration plant will generate enough renewable energy for 1,000 homes and provide farmers with a stable cash crop.

An extensive community communication program was undertaken from the early stages of the project, including meetings with key stakeholders and residents and displays at local events.

Co-firing trials continue at Muja Power Station

The initial stage of the biomass co-firing trial at Muja Power Station has been successfully completed. This part of the trial, limited to Stage A&B, was designed to determine the technical feasibility of co-firing at Muja. Muja Power Station is now continuing with the trial in Stage C&D.

Renewable Energy Promotion

Western Power is committed to the development and promotion of renewable energy technology. Through the sponsorship of research and the development of renewable energy-based products for our customers, we are helping to drive development of the industry and create customer demand for new products.

Australian Cooperative Research Centre for Renewable Energy (ACRE)

Western Power continued its membership of ACRE, providing the Centre with funding and some lecturing support. Wind turbine technology developed in the ACRE program is now being applied by Western Power in the 60kW wind farm at Exmouth.

Renewable Energy Engineering degree a first for Western Australia

The Western Power Chair of Renewable Energy Engineering at Murdoch University is sponsored by Western Power, with funding assistance from the Alternative Energy Development Board. 2002 was

a significant year for this initiative, with the launch of the degree course in Renewable Energy Engineering at the university. In addition to funding, Western Power also provided staff assistance in the development of the course content.

With our help, university students are discovering how they can meet the world's future energy needs. The degree is unique in Australia and encourages students to explore a wide range of renewable energy systems.

Providing our customers with choice

NaturalPower

NaturalPower gives customers the opportunity to choose power that has been generated with minimal impact on the environment and to contribute to the development of renewable energy in Western Australia. NaturalPower is available to all Western Power customers who are connected to the South West Interconnected System (SWIS).

Western Power currently has around 45GWh of renewable energy being supplied to the SWIS. We are using technologies such as hydro, wind, bio-energy and solar generation to produce electricity with minimal greenhouse gas emissions.

Currently there are more than 900 NaturalPower customers who are working with Western Power to increase the use of renewable energy resources.



ENERGY MANAGEMENT

Generator Efficiency Standards Program

The Generator Efficiency Standards program is an Australian Greenhouse Office initiative. The aim of the program is to reduce national greenhouse gas emissions by four million tonnes of CO₂ per annum through efficiency improvements in electricity generating plant. The program targets all electricity generators in Australia.

The idea behind the program is to have all electricity producing plant in Australia performing at best practice standards for the type, age and duty cycle of the plant. Efficiency improvements made on plant will lead to CO₂ abatement.

Electricity producers are required to follow strict technical guidelines in determining whether their generators are operating at best practice and to develop action plans to achieve and maintain best practice performance.

Western Power is developing a Deed of Agreement with the Australian Greenhouse Office to participate in the program.

Working with our customers to be more energy smart

Western Power launched the SmartWays Campaign in June 2002.

The thrust behind the campaign is to provide credible, information to our customers to help them manage their energy costs in and around their homes.

The campaign is built around a series of television commercials providing realistic tips that will help people reduce their electricity use and, by default, limit their personal contribution to greenhouse emissions.

We're helping the City of Mandurah in the fight against Australia's rising greenhouse gas emissions.

While Mandurah's population continues to boom, the City is determined to protect its sparkling waterways, rare birdlife and diverse flora – the very reasons why people are choosing to live there.

Mandurah's population is expected to almost double from 49,420 people to more than 84,000 people by 2016. Despite the growing demand for services and facilities, the City has set itself the target to reduce Mandurah's greenhouse gas emissions by 20% of 1998 levels by 2010. To help achieve this target, the City has invested in NaturalPower, Western Power's renewable energy product.

NaturalPower will supply 100% of the energy needs for the City's new administration building reducing the City's greenhouse gas emissions by 298 tonnes a year.

Use solar hot water systems for lower energy bills and a greener environment

Western Power introduced the Renewable Energy Certificates (RECs) Program to our residential market this year. New purchasers of solar hot water systems may be able to earn RECs under the *Renewable Energy (Electricity) Act 2000*. Through this Western Power program, customers may be eligible for a discount on the purchase price of their solar hot water system in return for their RECs. The program is designed to encourage the use of renewable energy in all its forms and to help Western Power meet our renewable energy targets.



INVOLVED

SUPPORTIVE

PRODUCTIVE

The talented youth of today will become the brilliant minds of tomorrow. Western Power is committed to helping young people develop their talents and realise their dreams.

KEY RESULT AREAS

LISTENING TO OUR COMMUNITY

WESTERN POWER'S COMMITMENT TO THE WESTERN AUSTRALIAN ECONOMY CAN BE MEASURED IN DOLLAR TERMS – BUT OUR COMMITMENT TO THE SOCIAL FABRIC OF OUR STATE is measured in terms of our contribution to the endeavours of Western Australians in fields such as the arts, education, the environment and

Western Power has a proud history of contributing to the lives of the people who live in the communities in which we work. At Western Power, we don't see our communities just as customers, we believe they are our partners in building a better life for all Western Australians to enjoy.

We measure the success of our community and environmental programs against our performance in Corporate and Environmental Reputation Studies and through our own people's assessment of our performance. The success of our media and communications strategy – the way we go about communicating with our communities – is measured in terms of a balanced media report.

We are an active and enthusiastic member of communities the length and breadth of Western Australia.

EDUCATION

We believe the talented youth of today will become the brilliant minds of tomorrow who lead our State into a prosperous future. Western Power is committed to helping young people develop their talents and realise their dreams.

World of Energy provides hands-on learning fun for school children

Our diverse educational support programs start with the very young. Western Power's World of Energy education centre, based in Fremantle, is widely regarded as WA's premier facility for teaching school-aged children about the energy industry in WA, how energy is harnessed and shows them better, more sustainable ways of using energy in their homes and schools.

The centre has a strong focus on promoting awareness and understanding of a variety of energy and environmental issues.

Students are given the opportunity to learn through hands-on programs that are linked to their school curriculum. Many schools find excursions to the World of Energy are a fun way of giving practical meaning to theories learnt in the classroom.

Special events like the annual "Solar Cook-off" give students an opportunity to use their knowledge of renewable energy sources, like solar power, in a practical, enjoyable and importantly, edible science experiment.

This year, more than 16,000 students and teachers have enjoyed the sights and sounds of Western Power's World of Energy. Western Power is proud of the investment we have made in our children's future and in the multi-media, educational facility the company has built at the World of Energy.

Western Power helping to make junior weather forecasters

Teachers in classrooms all over the State are teaching children about weather with the use of multimedia teaching-aids provided by Western Power. The Weather Watch CD-ROM, an initiative of Western Power and Channel Nine, is available to every school in WA.

The Weather Watch CD-ROM takes students on an educational tour of how weather patterns are created, what makes rain and how clouds and strong winds form. The CD-ROM explains how weather forecasts are made from satellite maps and other information.

The program provides teachers with an educational aid that will capture the imagination of their students and bring to life the study of the weather and the environment.

Primary school students learn about solar power in the practical, enjoyable and edible, Solar Cook-off.



KEY PERFORMANCE INDICATORS

	2001-2002		2000-2001	1999-2000
	ACTUAL	TARGET	ACTUAL	ACTUAL
Corporate Image Index	68.8	66	71.2	64
Stakeholder Opinion Index	64.3	70	62.2	67
Balanced Media Report	81	71	82	75
Public Environmental Acceptance rating				
Internal	73	80	-	-
External	42	70	35	-

Kids' Club attracts more than 5,000 members

“Learning about energy and the environment is fun”, a statement more than 5,000 four to 12-year-old Western Australians can make since becoming members of our Power Kids' Club. The Kids' Club was formed to teach young Western Australians about electricity, natural resources and the environment in a fun and supportive atmosphere. This year, more than 130 members of the Kids' Club helped to plant more than 500 native trees and shrubs on an unused and degraded piece of land at the Kwinana Power Station. The Biodiversity Day was just one of the many activities hosted by the club throughout the year.



Western Power's Solar Model Car Challenge gives secondary school students a chance to learn more about the fantastic opportunities available in the field of renewable energy.

10th annual Solar Model Car Challenge an outstanding success

Solar cooking is not the only way Western Power is giving students an opportunity to harness Western Australia's most plentiful renewable energy source – this year saw the running of the tenth annual Western Power Solar Model Car Challenge.

The major theme behind the Challenge is teaching secondary students the possibilities available to them in the use of solar power. The Challenge is a fantastic opportunity for the engineers and scientists of tomorrow to get an understanding of the enormous potential in the field of renewable energy, particularly solar power.

This year, students from more than 50 WA secondary schools and colleges, some from as far away as Karratha and Jerramungup competed for the right to represent Western Australia at the Australian/International Model Solar Car Challenge held in Adelaide.

Hampton Senior High School won the Western Power sponsored competition in

a hard fought final against traditional rivals Christ Church Grammar School. Western Power took students and teachers from both schools to the Australian/International Challenge in Adelaide where the outcome was reversed – Christ Church Grammar won the International title while Hampton SHS followed them in second place. Western Australian secondary schools have won eight of the last ten Australian/International Challenges against schools from across Australia and as far away as Argentina, Canada and Vietnam.

Shockproof puts child safety first

Children throughout WA are learning to be safe with electricity through our Shockproof School Electrical Safety Program. Western Power presenters discussed electrical safety with more than 20,000 school children from Perth and many regional centres during the year. Shockproof has received positive feedback from teachers and principals who say the program works well with their schools' health and safety classes.





SCHOLARSHIPS AND AWARDS

Young people are encouraged to make their dreams a reality through our comprehensive scholarship and awards programs.

Supporting our Young Australians of the year

Western Power is the proud sponsor of the WA Young Australian of the Year for Science and Technology. This year, talented young scientist Emma Croager was recognised for her groundbreaking research into Hodgkin's Lymphoma, a liver cancer that mainly affects children and a relatively unexplored medical field. Emma began her PhD thesis in 1996 and after completing her PhD at the age of 25, Emma hopes her continued research will one day find a cure for the disease.

Western Power scholarships help with further education and training

Senior students in regional WA are also supported by Western Power. Each year since 1996 we have helped a young country student with the costs of studying at a Perth university. This year, Esperance student Kate Layman was presented with our Stuart Morgan Scholarship. The scholarship will help Kate to continue studying law and commerce at the University of Western Australia. Kate is determined to use her Western Power Scholarship to reach her full potential. Successful scholars like Kate will receive financial assistance for up to five years while they complete their undergraduate degree.

Since 1989, our Muja Power Station in Collie has been awarding a scholarship to a secondary school student from the local area.



Previous Stuart Morgan Scholar Sarah Mummé with this year's winner Kate Layman.



Wayne Pethick

Since 1993, we have awarded the Bruce Kirkwood Memorial Scholarship to an electrical engineering student who achieves excellence in an electrical power engineering course at a Perth university. The scholarship honours the distinguished engineer and leader, the late JB (Bruce) Kirkwood, Commissioner of the State Energy Commission from 1975 to 1987. This year the prize was awarded to mature age engineering student Wayne Pethick. Western Power is pleased to assist students like Wayne to graduate as electrical power engineers and help the community through their work, just as Bruce Kirkwood had.

Scholarship awarded to help children broaden their horizons

We encourage the children of Western Power people to discover and experience peoples and culture from all over the world through our AFS Scholarship Program. This year, Anthea Brescinini, daughter of Western Power Networks Issues Coordinator Lucy Bourne, left her home in Perth to discover another life in the Netherlands. Anthea will spend a year in the Netherlands, going to school and experiencing first hand a culture very different from the one she left in Perth.



Anthea Brescinini

THE ENVIRONMENT

Whether it is in the cool climes of WA's South West, the sultry tropics of the far North or the long dusty stretches of the interior, one of our top priorities is to protect the environment in which we operate.

Our commitment to the environment goes beyond a dedication to making sure the impacts of our work do not leave a permanent mark. It extends to assisting with the rehabilitation of degraded farmland, to restoring areas of remnant vegetation in our cities and to striving to find ways of increasing our reliance on energy generated from clean, green renewable sources.

Community consultation is an integral part of any successful project. We believe we have a responsibility, not only to tread softly on our environment, but also to be totally transparent in all our actions and operational decisions. By maintaining open two-way communication with our stakeholders and the communities in which we operate, we have been fortunate to receive our stakeholders' permission to work with them and for them in the communities in which they live.

Kids' Club kicks-off environmental discovery area at Kwinana Power Station

It isn't too hard to pick the odd one out; frogs, birds, native plants, power station – but a band of pint-sized environmental activists brought the whole lot together to create an environmental discovery area at our Kwinana Power Station.

As part of activities for Biodiversity Month, Western Power Kids' Club members aged between four and 12, planted 500 native seedlings to create the first stage of a native garden habitat at the Kwinana Power Station.

About 200 children and parents created the basis for the demonstration garden, forming a mini-habitat for native fauna and providing an excellent example of what people can do in their own gardens to look after their local environment.

The planting is the first stage of a five-year program we are undertaking to transform a vacant piece of land at the power station site into an oasis for local plants, animals, insects and birds.

We engaged the services of an environmental consultant to design a garden that includes plants native to the Kwinana coastal area, mini-habitats for fauna (including lizards, insects, frogs and birds) such as a frog pond, bird nesting areas and seating for visitors.

The garden will also incorporate recycling features such as using waste products from the power station including fly ash, bio-remediation for waste oil, worm farms and composting for food scraps.

Western Power was the major sponsor of the State Landcare Awards 2001

The Landcare Awards are one of the highlights of the Western Australian environmental calendar. Held biennially since 1989, the awards provide an opportunity for the State's natural resource management community to pay tribute to the individuals, landcare groups, schools and other organisations that have shown outstanding commitment to landcare over the past two years.

As a founding member of the WA Landcare Trust, Western Power was offered the opportunity to be the inaugural major sponsor for the State Landcare Awards in 2001. Having been a previous State Landcare Award winner and holding the Awards in high regard, we decided to sponsor the Awards. This support meant that for the first time, national category winners received a cash prize with their award. The award itself was also improved to recognise the efforts of the winners with individualised awards created for each category.

The 2001 Awards had the highest number of entries to date, with 53 national award entrants and 21 State award entrants.

Hotham - Williams
Western Power Greening
Challenge helping to save
the environment

The Western Power Hotham-Williams Greening Challenge is Australia's most successful community-based tree planting program, with more than 3.25 million trees planted in the past six years.

By the end of the project in August 2002, volunteers will have planted four million native trees and shrubs on



degraded farmland in the Hotham-Williams Catchment.

The Challenge has achieved a number of outstanding results.

Over 80 different types of native trees and shrubs have been planted. More than 85% have survived.

Following on from the mix of native plants, are birds and animals that haven't been seen for generations.

However, the most outstanding aspect of the Challenge is the rewarding partnerships established between country, city, community and business.

Since the Challenge began in 1996 Challenge volunteers have won the 1996 John Tonkin Greening Award, the 1997 National Banksia Award, the 1998 and 1999 National Landcare Awards and in 1999 the big one - the Prime Minister's Award for Community Partnerships.

The Greening Challenge is of national significance and a role model that could be followed around the country. The program shows large organisations, landcare groups, agriculture groups, government agencies and the community can work together to do something substantial for the environment.

The success of the Hotham - Williams Western Power Greening Challenge could be the catalyst needed for similar programs to begin in other degraded areas of Australia.

National spokesman for Landcare Australia, singer/songwriter James Blundell was in WA in August 2001 to celebrate six years of the award winning Hotham - Williams Western Power Greening Challenge.

Mr Blundell, who grew up on a farm in Stanthorpe in south-east Queensland said Australia could reverse its situation and repair the damage caused by humankind.



COMMUNITY ASSISTANCE

As a large integrated utility, Western Power has the ability to have an enormous positive influence on a wide range of community activities.

Our assistance helps the underprivileged to stay connected

This year, we continued the successful Western Power Assist Scheme. We understand that sometimes, through no fault of their own, some people will find it difficult to find the money to pay their electricity account. We have provided an emergency relief fund, administered by the Western Australian Council of Social Services, which can be accessed by charitable organisations and relief agencies to help fund people facing disconnection of their electricity supply. This is the seventh consecutive year that we have been able to support the scheme.

Up to five different rebates are available to eligible customers such as pensioners, veterans, senior citizens, people with a Department of Social Security-issued health care card and air-conditioning rebates for seniors in the North West of the State. Western Power manages these rebates which were worth almost \$31 million in this financial year and were granted to more than 318,000 customers.

Safe staff donate funds for volunteer ambulance officers

Western Power's over-riding principle is safety. After working safely for two years without a single lost time injury, our Pilbara Branch decided it was time for a celebration. Pilbara Branch Manager Ziggy Wilk gave \$1000 to staff in both the Karratha and Port Hedland Depots and told them they could spend it as they wished. Both groups donated the entire \$1000 cheque to the St John Ambulance sub-centre in their town. The donations followed similar donations last year for 12-months injury free. The donations, celebrating a year free of injury was especially appropriate in 2001, the International Year of the Volunteer, because the Karratha sub-centre is run wholly by volunteers.

Safety Watchit Van provides invaluable community service

Western Power's Safety Watchit Van is a free community service, designed to promote safety and to provide a free safety check for most electrical appliances. The van visits shopping centres in the metropolitan area and major country towns throughout the State. The van also visits retirement villages in the metropolitan area taking its valuable service to a group of customers who are often unable to come to the van. This service includes safety testing of portable electrical appliances like electric blankets, kettles, irons, toasters, lights, fry pans, sandwich makers, vacuums, drills and extension cords. The van's operators provide labour for repairs to the electric cords and plugs of hundreds of appliances and referral to an appropriate electrical appliance repairer if an item can't be fixed at the van.

Head Office Staff go casual for a charitable cause

Every month, staff in Western Power's Head Office building in Perth swap their ties for t-shirts and their business suits for their weekend casuals all in the name of charity. Casual dress days are held on the last Friday of every month and money collected from Western Power people during a three-month period is donated to various charities. This year we've had the privilege of being able to assist, the Cleft Palate and Lip Society, the Association for the Advancement of Brain Injured Children, Camp Quality and the Independent Living Centre with their valuable community work.

We light up Christmas across Western Australia

With operations across the State, Western Power has an enviable relationship with communities from all over WA. In 2001, we took our ever-popular Christmas Lights Competition to 28 rural and regional centres all over WA. Similar competitions to find the homes and businesses with the brightest display of Christmas cheer have been sponsored by Western Power in Perth and the Pilbara for a number of years.

Local shires and community groups helped us to coordinate the competition and to bring the competition to their local communities. Shires also coordinated the judging of winners. The competition was a great success and managed to bring a smile to many people throughout the regional towns.



Our Christmas Lights competition builds community spirit right across the State.



The Arthur Fairall Playground has been one of Perth's favourite family attractions. Thanks to a Western Power sponsorship the playground is set to receive a facelift. Some of the favourite elements of the playground will remain as will the opportunity for children of a technological age to play in a natural environment.

The Western Power Parkland – a project for the people of Perth

This year work began on one of our largest projects designed specially for the people of Western Australia. For 36 years the Arthur Fairall Playground and the Lakeside Picnic Area have been two of the most popular of Kings Park's playgrounds and picnic areas – but now the areas are in need of a facelift. A multi-million dollar Western Power sponsorship will produce an inspiring environmental and community area ensuring the playground remains one of Perth's most popular venues.

The Western Power Parkland is a truly unique initiative, one that builds on the proactive and innovative approach Western Power takes in all of our environmental initiatives. The key element of the redevelopment is a respect for the natural beauty of the area and through a close partnership with the Kings Park and Botanic Gardens Board we have gone to great lengths to ensure that the Western Power Parkland will complement its surroundings.

Existing trees and plant life will not be disturbed and careful thought has been given to the choice of building materials, including reclaimed timber and native plants. The two most obvious existing features of the area, the wooden

playground and the island in the middle of the lake, will remain the central elements of the park, the theme of which will become "Energy and Biodiversity". The Western Power Parkland will incorporate new playgrounds and water play areas, environmental learning opportunities and renewable energy facilities like solar lighting.

Staying true to the original vision for the playground, it will offer children of a technological age a chance to learn and play in a natural environment.



Western Power's sponsorship of the West Australian Symphony is our flagship arts and culture program. We have been a proud sponsor for almost 10 years.



to present their work in a forum for the enjoyment and cultural enrichment of the local community. Open to artists Australia-wide, the Cossack Art Awards began in 1993. The most isolated art exhibition in the world, the awards attracted over 3000 visitors during the two-week public viewing period. Pilbara artist Kylie McLennan won the Western Power sponsored award category of Painting, Any Medium, Any Theme (18-25yrs).

We took Opera to the bush in 2001

OzOpera is the development arm of Opera Australia and works to bring opera to spaces and places very different to normal venues and for audiences in regions far removed from Australia's capital cities. Major operatic productions such as Rigoletto are being specifically devised and designed for touring and to be presented in non-theatrical spaces such as warehouses, woolsheds, gymnasiums and town halls.

With our help, OzOpera's production of Verdi's Rigoletto appeared at the "John Holland Opera House" (John Holland's Industrial Shed) in the Karratha Industrial Estate, for a one-night-only formal event featuring a cast and crew of 32 and a 12-piece orchestra. The production provided an outstanding opportunity for us to support a unique cultural experience for the local community. Western Power recognises the diverse nature of regional communities throughout Western Australia and is pleased to support community events that reflect this diversity.

For many regional people who attended the event, it was their first experience in seeing opera performed live.

Western Power supported a number of community and arts activities including the:

- The Handzon Theatre Company's "Lunchtime Theatre" in Perth
- the Pilbara Festival of Lights in Karratha and Port Hedland
- the Kings Park Lights
- the Bunbury Regional Entertainment Centre, and
- the Christmas Lights Competition in conjunction with The West Australian and Channel 7.

THE ARTS

Western Power has a strong history of helping Western Australia's arts community to flourish.

We are proud supporters of the West Australian Symphony

There is no doubt that our association with the West Australian Symphony is our flagship arts and culture program. Western Power has been a proud supporter of the West Australian Symphony for almost a decade, most recently as the principal sponsor of "Symphony Under the Stars" concerts. "Symphony Under the Stars" is a firmly established event within Perth's cultural events calendar – a testament to the tremendous musical talent in the West Australian Symphony – one of the State's premier arts companies.

Supporting the world's most isolated art awards

Western Power proudly supported the Cossack Art Awards, which offer regional artists the opportunity to view the work of other Australian artists and the opportunity

SPORTS

We are proud to be involved with many of Western Australia's enormously talented sports people. Perhaps the most significant of our sporting partnerships is our role as the principal sponsor of our State cricket team, the Western Warriors but of particular pleasure is our involvement with junior sports people from all over the State.



Western Power Netball Talent Identification Clinics find the stars of tomorrow

Our Netball Talent Identification Program puts groups of netballers from across the State through their paces in an attempt to discover the stars of the future.

In its seventh year, the Western Power-sponsored program has helped uncover some of today's stars and some of tomorrow's champions.

Already seven athletes who have taken part in the talent identification clinics have represented Western Australia. A number, including Mt Barker's Kirby Bentley have also been accepted into the Western Australian Institute of Sport's Power Program.

Through the program Netball WA has been able to monitor the development of netball in Western Australia and to foster the development of future champions.

Warriors recharge powerful sponsorship

In May 2002 we renewed our sponsorship of 15-time national cricket champions, the Western Warriors and Australia's largest regional junior cricket program with the WA Cricket Association (WACA).

One partnership with the WACA has spanned more than four years and brings together two successful, high profile WA-based organisations capable of delivering world class performance.

The sponsorship gives Western Power access to the Western Warriors team and naming rights to the regional junior cricket program which benefits tens of thousands of children across regional WA. The sponsorship also ensures a WA company continues to support one of the State's leading ambassadors.

We are the major supporters of Regional Junior Cricket

The summer of 2001/02 saw the continuation of the hugely successful Western Power Regional Junior Cricket Program - the fifth year of Western Power-sponsored coaching clinics in towns covering the Great Southern, Mid West, South West, Central Districts, Wheatbelt and the Goldfields.

We help to foster regional cricket associations with the high-level development of junior cricketers and coaches essential to keep cricket alive and flourishing in regional areas.

We believe if you keep cricket healthy in the bush, it's healthy in the towns and it's healthy at the WACA. We are very proud to partner the WA Cricket Association in giving children in country areas access to coaching at a level equal to their city counterparts.

Western Power is a proud supporter of regional junior sport.

We have also supported the following sports associations and events:

- The Western Power Goldfields Football League
- the Eastern Goldfields Cricket Association
- the Chas Egan Memorial Bike Race from Menzies to Kalgoorlie
- the North West Games in Karratha, and
- the 2002 Blackrock Stakes in Port Hedland.

OUR COMMITMENT TO OUR COMMUNITY

Western Power continues to support every sector of our community from regional junior sports people to industry groups and we actively seek applications for sponsorship from individuals and community groups from all over Western Australia every year.

In selecting community partnership programs, Western Power looks to provide a balanced suite of programs across the State in the areas of arts and culture, sports, environment and community/education.

As one of Western Australia's largest and most active companies, we are privileged to be able to work with the communities in which we operate to help improve the lives of all Western Australians.





ACHIEVE

INFLUENCE

EMPOWER

The measure of the success of our safety and health programs is simple – a reduction in the number of accidents and injuries suffered by our people. Our people are too important for us to lose sight of safety and health issues right across the company.



CARING FOR OUR PEOPLE

ONE OF WESTERN POWER'S GREATEST STRENGTHS IS ITS PEOPLE. WE WILL CONTINUE TO INVEST IN OUR PEOPLE, GIVING ALL EMPLOYEES ACCESS TO TRAINING IN LEADERSHIP AND WORK SKILLS OVER THE COMING YEAR. Our goal is to encourage an environment where Western Power people contribute to the running of the business in a rewarding and challenging environment.

Complementing this, we will continue to drive programs to improve the quality of working life

SAFETY – A WAY OF LIFE

Safety is our overriding value and the company has placed significant focus on improving safety performance following the establishment of Western Power. Since 1995, the company's Lost Time Injury Frequency Rate has improved from 11.5 to 6.2. While this result remains above the target of 5.0, it represents a significant improvement.

Executive Sub-Committee on Occupational Safety and Health formed in 2002

An Executive Sub-Committee on Occupational Safety and Health (OSH) was formed in February 2002 to review existing strategic OSH policies and initiatives, to lead the development of new policies and initiatives for our company and to champion their implementation.

The Executive Sub-Committee initiated a Safety Strategy Review, which involved a cross-boundary team in a series of workshops to design a high-level safety strategy and to identify resources and skills required for implementation of the strategy.

The Sub-Committee will consider a number of initiatives over the coming year including:

- A review of the effectiveness of the Safety and Health Audit System
- the use of a behaviour-based safety program, and
- initiatives to enhance safety awareness and the sharing of safety knowledge throughout the company.

New OSH Management System launched

A new Western Power Safety and Health Policy and Management System was launched in April 2002. Key features of the system include a new framework for business units to develop their own safety management plans, a safety and health web page and a revised safety and health manual.

We believe sound planning is critical to achieving consistently high standards of safety and health management. The Safety and Health Plan is the primary means for Western Power people within any work unit to define and meet their own safety

improvement objectives. All work units, no matter how small, will soon have a Safety and Health Plan.

While there has been no discernible decrease in the number of medical treatment cases, there has been a slight decrease in the severity of injuries as reflected by the reduction of the Lost Time Injury Frequency Rate.

Improved results in the Western Power Safety and Health Audit Program (ratings up 5% on average) are serving to strengthen our commitment to achieve a working environment free of accidents and injury - where safety is a way of life.



KEY PERFORMANCE INDICATORS

	2001-2002		2000-2001	1999-2000
	ACTUAL	TARGET	ACTUAL	ACTUAL
Lost Time Injury Frequency Rate	6.2	<5.0	8.0	8.2
Safety Audits – Operational Business Units				
Overall audit average (%)	75.0	78.0	72.0	-
Audit compliance (%)	100.0	100.0	100.0	-
Safety Audits – Non Operational Business Units				
Overall audit average (%)	60.0	75.0	70.0	-
Audit compliance (%)	100.0	75.0	100.0	-
Organisational Culture	4.7	5.0	4.7	4.7



Workplace Stress Program caring for staff

Western Power cares for the wellbeing of our people and acknowledges that the current uncertainty of the electricity industry in WA can have an unsettling effect.

Stress is a natural reaction to any change, sudden threat or long term frustration. Our reactions are involuntary and involve both psychological and physical responses. We all react differently to stress.

A training and education program has been developed to address a growing need for employees to become better educated and to develop a broader range of coping mechanisms for dealing with stress.

Also, workplace intervention involving profiling groups of employees using the Occupation Stress Inventory (Osipow, 1998), gives Western Power leaders strategies to manage workplace pressures so that people vulnerable to stress-related problems are able to manage stress in a healthy way.

Ergonomic Workstation Program is promoting healthy habits

Workstations are now the working environment of many Western Power people. Managing these environments requires an understanding of office ergonomics and a knowledge of what behaviours are required to promote healthy habits and prevent sprain or strain injuries. The sudden shift to computer-based work activities some 15 years ago resulted in a spiralling of the overuse syndrome which through increased knowledge and work practices can now be a "thing of the past".

A training and education session provides employees with the knowledge to correctly maintain an ergonomically safe workstation. Strategies are implemented so employees can engage in preventative behaviour and reduce the likelihood of musculoskeletal injuries. Also, a handbook containing information on a range of relevant topics such as back and neck anatomy, posture, stretching and reducing muscle tension is available in a user-friendly package. With this program employees are able to manage their working environments safely with appropriate risk reduction for any associated injuries.

Caring for Western Power people

Western Power's Wellness Program addresses the complementary goals of improving quality of working life and improving business performance, by providing assessments of health risks to reduce illness and injury. The specific program objectives are to:

- Promote self responsibility for personal health
- measure current levels of fitness and sources of stress
- provide health and fitness screening
- educate on health lifestyle factors, and
- provide personal health care plans to assist participants to achieve a healthy lifestyle.

To ensure Western Power's continued growth and success we need to attract the best people but more importantly, we must retain them by creating a supportive environment in which everyone can contribute, work to their fullest potential and find work a satisfying, enjoyable experience.

Managerial Leadership Initiative shaping our corporate culture

Significant advances have been achieved in employee and organisational development through the implementation of the Managerial Leadership Initiative (MLI). The initiative is designed to build a culture of excellence in leadership across all levels of the company and to strengthen the individual relationship leaders have with their people.

This investment in our people will continue, giving all front line employees access to the MLI program for training in leadership and work skills over the coming year. Our goal is to encourage an environment in which front line people can take more autonomy and contribute more strongly to the running of the business in a rewarding and challenging environment.

The initiative has seen significant improvements made to Western Power's people systems. These systems cover areas such as performance management, fair treatment, employee development, employment agreements and recruitment.

Western Power's recruitment process has been aligned with the MLI to clarify the accountabilities and authorities of roles. Most of the roles advertised since April 2002 have incorporated these new aspects and role agreements are now being used as part of the appointment process to assist integration with other people systems.

Listening to our people the best way to improve our workplace

The fifth annual organisational culture employee opinion survey was conducted this year to provide a measure of our workplace culture. Ten of the 22 cultural areas covered in the 2001 survey provided the opportunity to benchmark our results against 270 companies across Australia, including 18 energy utilities in both the public and private sector. Comparison shows that Western Power is the highest performer in four areas: customer awareness, customer focus, continuous improvement and employee skills. The report also indicated that Western Power is in the top 25% in four other areas: safety and wellbeing, support for innovation, positive confrontation and celebration.

Improvements were recorded in most areas covered in the survey. This reflects a positive trend over four consecutive years.

We are committed to developing our apprentices and trainees

Our commitment to developing the skills of our employees continues. During the year Western Power employed 54 trade apprentices and 52 trainees, including 32 Western Power employee trade apprentices, 22 group-training trade apprentices hired in and 45 Trainee Distribution Workers.

Western Power employed three mature aged trade apprentices at Muja Power Station. A notable development late in 2001 was Western Power's development and registration with the WA Training Accreditation Council of the Generation Technician Traineeship. This traineeship has been developed to cater for the Generation Business Unit's need for increasingly skilled technical staff. Six trainees were recruited in an exhaustive selection process in early 2002.

Certified Agreement

Western Power's Certified Agreement expires in September 2002. Over its three-year term, the agreement will have delivered Western Power people wage and salary increases totalling 12.85%. In March 2002, Western Power and the two unions that are party to the Certified Agreement, the Australian Services Union and Communications Electrical and Plumbing Union, began meeting to negotiate the next Certified Agreement.

Our outstanding apprentices.



THE FUTURE

OUR VISION FOR THE FUTURE IS SIMPLE AND HONEST; TO BE THE SUPPLIER OF CHOICE FOR ENERGY AND COMPLEMENTARY SERVICES, PROVIDING VALUE TO OUR CUSTOMERS AND COMMUNITIES AND INCREASED RETURNS TO OUR SHAREHOLDER.

In a market undergoing sustained deregulation, there is increasing pressure on prices and on Western Power's performance to continue to provide the level of service our customers demand.

In recent times we have worked under the microscope of proposed reform, we have tried to steer the reform process in the direction that we believe will best serve Western Australia.

We will maintain our commitment to the communities with whose consent we operate and to the environment that we all share.

People

We will continue our commitment to a safe working environment. From the highest levels of the company to our front line staff, we will push ahead with programs and protocols that are designed to deliver a truly safe working environment where safety is a way of life.

We are working in an era where the word reform may seem to have taken on a derogatory meaning. Our people will be our greatest strength as we embrace the challenge of reform and work to provide a better future for the industry, our company and the State.

We will continue to evolve as an organisation and we will nurture our corporate culture. Through programs like our Managerial Leadership Initiative we will mature as an organisation and continue to attract and retain people of the highest quality.

The challenge of the future

The State Government's Electricity Reform Task Force (ERTF) is considering the structure of the electricity market and measures for encouraging vigorous competition in the energy industry.

Our people have worked tirelessly to ensure the benefits flowing from a vertically integrated Western Power, as well as the unique features of the Western Australian energy market, have been considered by those individuals charged with managing the reform process.

We will continue to work with the ERTF to ensure the end result of reform is a stable, reliable and affordable energy market.

Continued market deregulation from 1 January 2003, lowering the contestability threshold from 230kW to 34kW, will increase the challenges we face and bring greater choice for our customers.

We look forward to the challenge of this lower threshold with the knowledge that competition will bring with it innovation in the way we do business that will bring benefits to customers in this tranche of the market.

The electricity industry in Western Australia while small in terms of gigawatt hours sold is expansive in terms of complexity. Without any interconnection to other systems and with a relatively small consumer base, even the slightest change will be felt across the most sensitive sectors of the market.

We advocate thorough consideration of the next phase of deregulation to ensure customers in the residential market are not disadvantaged. The residential sector of the market is perhaps the most sensitive to change and we believe should be shielded from the potential negative effects of deregulation. We believe solid financial modelling must prove, beyond any doubt, that positive outcomes can be achieved.

The hurdles that have accompanied industry reform elsewhere in Australia demonstrate the need for a thorough, impartial analysis of market and structural reform before making sweeping changes.

We are confident the reform process in Western Australia will not be rushed and will deliver significant, long term and sustainable benefits for every sector of the market.

Growth

We expect to increase returns to our shareholder through growth and cost management strategies.

We will continue to pursue initiatives to diversify our revenue streams through innovative use of technology.

eBusiness, the use of Internet technologies to improve and transform key business processes, is the way of the future. Like most companies Western Power understands this and we have begun the evolution from traditional business practices to eBusiness. Our focus is to "Web-enable" core business processes to strengthen customer service operations and management, streamline supply chains and improve efficiencies in managing our large asset base.

Over the next 12 months our plans are to:

- Investigate and evaluate Mobile Workforce Solutions to automate and streamline our field business processes and to provide remote access to some of our key applications
- in the area of procurement and logistics we plan to focus on eBusiness core transactions, from Purchasing to Accounts Payable and better inventory management, and
- implement electronic bill payment and presentation.

As we enter 2002/03 we do so from the solid platform of an excellent financial position. Our customers will find comfort in the knowledge we are in good shape to meet the challenges of the future.

Our excellent results in a competitive and demanding environment show we are well placed to maintain our position as the leader of the energy market in Western Australia.

Our ability to retain market-share and win back customers lost in the early days of deregulation is proof of the value Western Power can deliver to customers all over Western Australia.

Our success in the past and the commitments we have made for the future demonstrate clearly that Western Power, as an integrated generator and supplier of energy, is the benchmark performer and we welcome change that will deliver lower prices to customers and improved services to our communities.

Community Partnerships

Western Power makes an invaluable contribution to Western Australia's social fabric. We are able to use our position of strength to underwrite many programs and initiatives that would otherwise fail without our support.

Part of the informal contract we have with the Western Australian public to provide our products and services, is the expectation that we will support communities through sponsorships and partnerships.

Western Power's commitment to the Western Australian economy can be measured in dollar terms – but our commitment to the social fabric of our State can be measured in terms of our contribution to the endeavours of Western Australians in fields such as the arts, education, sport and the environment.

Western Power has a proud history of contributing to the everyday lives of the people who live in the communities in which we operate. At Western Power, we don't see our communities just as customers, we believe they are our partners in building a better life for all Western Australians to enjoy.

We will build on our reputation for open communication, with programs to provide

timely information to stakeholders about our operations. We will encourage dialogue and be accessible to community groups, welcoming and acting on their feedback to guide our operations.

We are continuing to work hard in regional and rural Western Australia. Successes have come through listening to our customers and working with them to provide solutions to their individual needs, however we acknowledge the fact we need to maintain our focus on this often neglected segment of the community.

Sustainable energy and environmental excellence

We pride ourselves on being the leader in the development of sustainable energy sources in Western Australia. We are committed to achieving the targets set for us by the *Renewable Energy (Electricity) Act 2000* and our goal is to meet our target in a way that delivers maximum benefits to our customers. We have sourced Renewable Energy Certificates from our Albany Wind Farm, Australia's largest grid-connected wind farm, and through innovative programs like our RECs Program.

Work has begun on the approvals process for the expansion of our wind farm at Nine Mile Lagoon at Esperance and by the end of 2002 a small state-of-the-art wind turbine will be operating in Exmouth on the State's north west coast.

Work has begun on a study into the feasibility of the proposed Mumbida Wind Farm. With an installed capacity of 30MW, the wind farm could generate 105GWh hours of clean green electricity, enough for almost 20,000 average homes, and could save almost 100,000 tonnes a year of greenhouse gases. Wind monitoring in the Geraldton district over the past decade, and more intensively in the past two years, confirm that Mumbida is an excellent wind energy resource.

Our commitment to environmental excellence is not restricted to legislative requirements. Building on the success of the Hotham-Williams Western Power Greening Challenge, where we aim to plant four million trees in degraded, salt affected areas of the State's South West; we are planning a new Greening Challenge to take in other areas in future years.

The demonstration Integrated Wood Processing Plant at Narrogin, which we announced last year, is well on track to be operational by early 2003. If successful, the project could see large areas of the Wheatbelt planted with deep-rooted oil mallees that will help to combat rural soil salinity while providing a source of renewable energy that will help reduce our greenhouse gas emissions.

Our Cockburn 1 Power Station will be operational by the beginning of 2004 and will see a marked increase in the efficiency of our generating fleet. Exploiting more efficient technologies and providing energy products and services that contribute to a growth in sustainable development is a key objective.

Business Growth

In a period of spending restraint and careful management of debt levels, our people are looking at ways of financing new business ventures.

However, we will be cautious of our capital spending. We are required by the State Government to maintain stringent debt constraints that may limit the expansion capability of Western Power.

Other trends that are likely to impact the company's future business environment include:

- **The establishment of an energy access regulator that will oversee third party access arrangements to the electricity transmission and distribution systems to encourage competition**
- **potential new entrants to the Generation and Retail markets, resulting in increased competition, and**
- **new renewable energy opportunities as impediments to renewable energy are removed.**

The energy industry has experienced a period of significant change and the next few years are likely to be impacted by further reforms. However, a competitive and productive Western Power can build on its strong foundation and continue to meet customers' needs in terms of competitive prices and reliable service.

One of the innovative projects featured in this report is our broad band network trial in South Perth. The project builds on the synergies that exist within our networks

and telecommunications areas in the management of an extensive optical fibre network.

Complementing our acceptance of new business ventures and new challenges, is our continuing expansion of traditional areas of business like the management of our electricity networks. Work on new transmission lines to expand capacity and add to the reliability and security of power supplies in northern and southern areas of our South West Interconnected System (SWIS) will create the potential for new industry and more business opportunities for Western Power.

Valuable Business Partnerships

Successful partnerships built on the individual strengths of Western Power and its business partners will provide compounded benefits to our traditional customer base, and to a growing band of new customers as we move into new ventures in new markets.

The Wind Energy Corporation, WindCo, is a collaboration between Western Power, Enercon International GmbH, Enercon Power Corporation and Powercorp and delivers specialised skills and expertise in wind energy engineering, power control systems engineering and electrical engineering. The result is an end-to-end service unequalled in Australia. WindCo is studying the feasibility of building a wind farm on Mumbida, a grazing property about 40km south east of Geraldton.

Western Power continues to look beyond its traditional areas of business. Joint venture partners bring the skills and knowledge that help us to move into new markets with great success. Integrated Power Services (IPS), a joint venture Western Power developed in 1998, expanded substantially this year

with the challenge of relocating 12 gas turbines from around the world to a generating site at Hallet in South Australia. This project was challenging both technically and commercially due to a very short timeframe and IPS performed superbly. The company's turnover this year will have increased more than threefold on the previous year to \$30 million. IPS is now pursuing opportunities both within Australia and overseas.

Business Value

Western Power has continued to focus on cost management to deliver sustainable lower prices to our customers. Since our creation in 1995, we have delivered only one small price increase to residential customers and electricity tariffs for businesses have not increased since 1992.

The successful completion of negotiations with independent power producers in the Mid West, Esperance and West Kimberley regions of the State should bring considerable efficiencies and major cost savings when new, state-of-the-art generation replaces ageing generation plant in some of the most remote areas of Western Australia. Our role in generation is expected to diminish when a wide range of private sector generating businesses take on the generating role in remote areas.

Western Power is planning for the anticipated energy requirements of our customers over the next decade and beyond. The challenge for Western Power is to provide a reliable supply of electricity at the lowest price possible.

As early as the summer of 2004/05, Western Power will require access to additional generating capacity to continue to reliably meet the electricity requirements of Western Australian businesses and residences connected to the SWIS. The need for this new capacity is driven by the growth in the economy and population of Western Australia.

In June 2002 the Minister for Energy announced a power procurement program for the SWIS. *The Electricity Corporation Act 1994* requires Western Power to use an open and non-discriminatory procurement process to acquire the required new generation capacity.

Accordingly, we have established a process for the procurement of 240MW of additional peaking generation capacity for the SWIS by 2005/06. A further stage will proceed to procure 300MW of baseload capacity by 2007/08. The result of these programs will be power purchase agreements for the supply of electricity to Western Power.

Western Power and its predecessors have played an integral role in the development of Western Australia's vast economic and social wealth. In 2002, the company is superbly positioned to continue to play a major part in the State's economic, social and environmental development.



We pride ourselves on being a leader in the development of sustainable energy sources in Western Australia. Projects like the advanced mini-wind farm in Exmouth are an example of our quest to create tailor-made sustainable solutions for areas across the State.

GLOSSARY

CAIDI	Total outage duration minutes/average number of customers.
CO₂	Carbon Dioxide.
EMS	Environmental Management System.
EMISWeb	Electronic environmental management information system.
GW	Gigawatt. A measure of electrical power. Equivalent to one million kilowatts.
GWh	Gigawatt-hour. One GWh = 1000 MWh or one million kilowatt-hours.
ISO 14001	International Standards Organisation 14001. The international standard for environmental management systems.
kV	Kilovolt. One kV = 1000 volts. A volt is the unit of potential of electric pressure.
kW	Kilowatt. One kW = 1000 watts. A watt is the rate at which electrical energy is produced or used.
kWh	Kilowatt-hour. The standard unit of energy, equivalent to the consumption rate of one kilowatt for one hour. Commonly used as the 'unit' of electrical energy.
MVA	Megavolts-ampere. The product of the voltage rating (kV) and the current rating (kA). Used to represent the rating of electrical equipment such as transformers.
MW	Megawatt. One MW = 1000 kW or one million watts.
MWh	Megawatt-hour. One MWh = 1000 kWh.
NO_x	Nitrogen Oxides. A term used for a mixture of nitrogen oxides.
SAIFI	Total customers interrupted/average number of customers.
SO₂	Sulfur Dioxide.
Spinning Reserve	The amount of instantly available spare generation capacity on the system at any one moment.
TJ	Terajoule. One TJ = one million, million joules, or 10 ¹² joules. Used to indicate the energy content of gas.