

# Opportunities in Energy and Oil and Gas

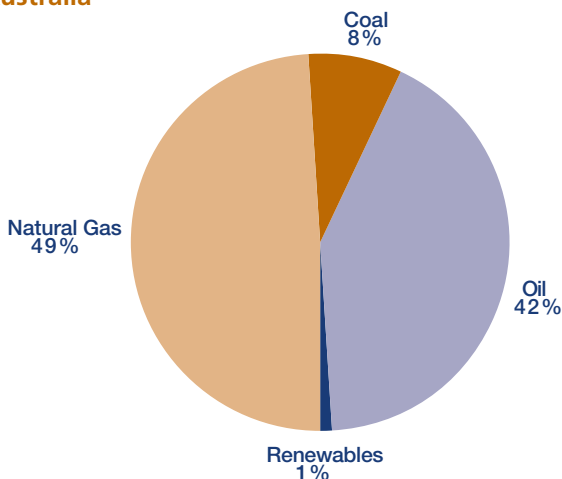
## Overview

Western Australia has been a net exporter of energy since the 1990s and this is expected to continue well into the future.

The Western Australian energy and oil and gas sectors have experienced wide reaching reforms over the past three years. Deregulation and increased competition between gas and coal have substantially lowered energy prices.

Recent structural developments include the sale of the Dampier-Bunbury Natural Gas Pipeline, the completion of the Pilbara-Goldfields Pipeline and the implementation of a fair and open access regime.

**Fig.1 Primary Energy Production in Western Australia**



Source: Office of Energy

A number of private companies throughout the State generate electricity primarily for their own mining or processing operations. There are also a number of privately owned transmission and distribution lines.

The State Government is committed to continuing the process of further reform in order to encourage competition, promote investment opportunities and the delivery of low cost energy.

Open access to energy infrastructure is an important component of the development and promotion of a competitive energy sector. Recently the National Third Party Access Code for Natural Gas Pipelines has been implemented in Western Australia. From 1 July 2002, open access to all gas transmission and distribution systems will be unrestricted.

The timetable for gaining access to Western Power's electricity distribution network has been brought forward. Currently customers with an average load exceeding one megawatt per year at a single site are able to choose their electricity supplier. Regional customers have lower load requirements to qualify for access to alternate power suppliers.

## Energy Opportunities

In a rapidly evolving environment there are many regional opportunities for new players to participate in the growth of the WA energy sector.

The use of electricity has more than tripled over the past twenty three years from 17.2 petajoules to 66 petajoules in 1997-98 and is expected to reach 116 petajoules by 2009. The expected high growth of electricity consumption will offer many opportunities for private sector involvement.



Department of Local Government and Regional Development

### Power generation

There are 29 stand-alone power generating stations supplying electricity to regional towns that are not on either the **South West** or **Pilbara** electricity grids. This represents approximately 21,000 customers. These stand-alone systems range in location from **Esperance** in the south to Wyndham in the north. A competitive procurement process is providing private industry with the opportunity to supply Western Power's requirements in the **Kimberley, Mid West and Goldfields-Esperance** regions. This is a long-term opportunity for private investment.

### Rooftop Photovoltaics

The State Government and Western Power are also encouraging the take-up of rooftop photovoltaic systems. Rooftop photovoltaic systems are in place throughout the world and are becoming an increasingly important source of electricity as countries and companies seek to reduce greenhouse emissions. At present the number of such systems in Western Australia is small. It is expected that technology advances over the next 5 years will substantially reduce capital costs and significantly increase demand for photovoltaic systems, particularly by regional consumers. Investment in the development and manufacture of these systems will have worldwide application. The Peel, South West and Wheatbelt regions are ideal locations for development, trialing, manufacture and marketing of photovoltaic systems.

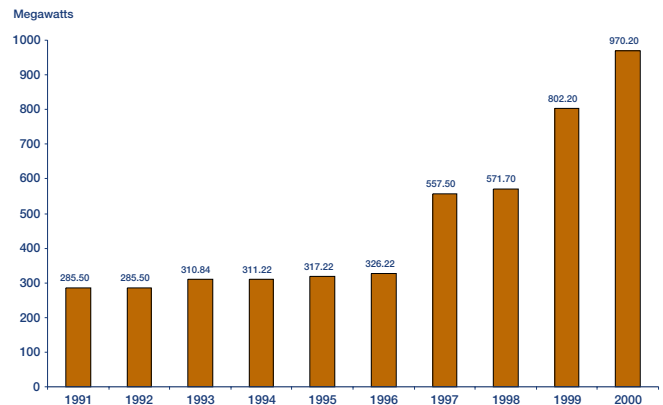
### Cogeneration

An emerging opportunity in regional Western Australia is electricity cogeneration. Installed cogeneration capacity in Western Australia is estimated to be 970 MW, most of which is installed outside the metropolitan region. Cogeneration accounts for about one third of private generating capacity.

Cogeneration plants are increasingly being built and operated by third parties, which provides benefits to industry in the form of lower costs and frees up resources for core activities. Cogeneration

is particularly attractive in the **South West** region where electricity can be on-sold to the South West Integrated System or directly to clients using Western Power's existing transmission and distribution infrastructure.

**Fig.2 Cogeneration Capacity – as at 30 June 2001**



Source: Office of Energy

### Hydro-electric Power

In the north of Western Australia there are rivers big enough to justify large-scale hydroelectric plant. The Ord River Dam was built with a provision for installation of hydropower. Currently, the capacity of hydroelectric plant is modest but has the potential to expand.

### Oil & Gas Opportunities

While Western Australia leads the nation in exploration for oil and gas, vast areas of the State's offshore regions remain under-explored.

Western Australia accounts for around 80 per cent of identified national gas reserves. The offshore areas in the State's NorthWest shelf are widely considered to be the most prospective oil and gas basins in Australia.

Natural gas accounts for 44 percent of the State's identified energy resources and will last around 150 years at the current level of production.

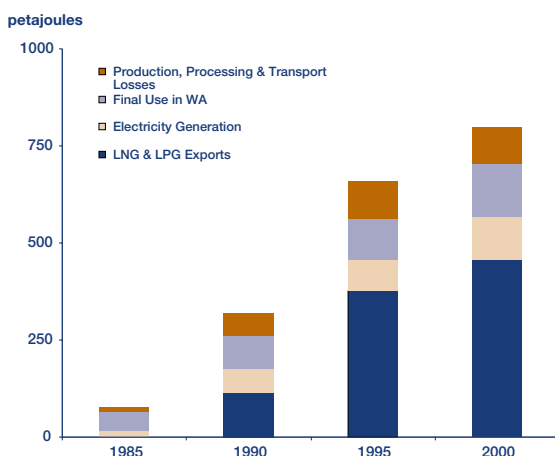
### Gas

Imagine a resource project bigger than the Sydney 2000 Olympic games. That project is the \$A9 billion

Gorgon gas gathering and LNG project. A project of this magnitude will require sourcing of equipment, services and capital from all over the world. The project managers believe it will present state based and national contractors with many extensive opportunities to supply products and services.

The Dampier-Bunbury pipeline has been privatised and there is a strong likelihood that expansion in domestic gas demand will require a significant expansion of pipeline capacity. Natural gas is taking an increasing role in the world's primary energy supply, and consumption is projected to rise at over three times the rate of oil use.

**Fig.3 Natural Gas Production**



Source: Office of Energy

Continued development of the Northwest Shelf, such as the installation of additional processing trains, will provide opportunities for piping design, installation and maintenance services, especially those specialising in cryogenic installations and high tech fabrication.

There are large offshore reserves of natural gas in fields north of Broome. The major markets for these fields are the supply of gas to the Northern Territory and feedstock for a future local petrochemical plant. The Canning Basin in the **Kimberley** region has only been sparsely explored and represents one of the last under-explored on-shore oil provinces in the world.

The demand for natural gas in manufacturing and residential use is projected to increase from 850 to 1,470 terrajoules per day (TJ/d) over the next decade.

Extensions to the gas pipeline network are creating new opportunities for value-added downstream processing. A major surge in metals projects in the **Goldfields** is a reflection of the competitiveness of Western Australia's energy sector.

### Support and Infrastructure

The concentration of leading edge technology and expertise in the regional oil and gas and energy sectors is supported by regional infrastructure developments and facilities such as the Bunbury casting basin, used in the construction of the Wandoo concrete gravity structure.

Substantial opportunities are available for local industries to support the burgeoning oil and gas sector. The opportunities range from specialised and general maintenance products and services, to professional services in diverse fields such as engineering, geo-physics, chemistry, electronics, communications and finance.

The opportunities afforded in the oil and gas sector are demonstrated by the steady traffic of major service companies, which have chosen to headquarter in Western Australia. The State Government can provide assistance for those companies who locate in the regions.

The Western Australian offshore oil and gas industry has been compared to the Gulf of Mexico 20 years ago. Continued growth and development of this sector will require greater support from supply, construction and fabrication companies.

As the oil and gas sector matures local opportunities for undertaking highly skilled offshore and onshore fabrication work for complex projects will continue to emerge. These developments will also create future opportunities for local and regional industry to be in a competitive position to bid for overseas contracts.

The Port of Geraldton has been used for the construction of platforms and modules for the Saladin oil project and has the capacity for the construction of smaller platforms and modules.

The proposed Dampier Maritime Services Industrial Estate includes a backed wharf with associated lay down area, services and industrial land suitable for a supply base and other purposes. Such a facility would also accommodate potential users other than in oil and gas.

Another infrastructure opportunity identified by industry is an offshore construction and maintenance facility for large platforms located in the **Pilbara**. This multiple purpose facility would also be used for export contracts.

Taken together, the regions provide a maritime and oil and gas industrial complex that is internationally

competitive. The construction of an industrial complex and port at Oakajee in the **Mid West** region primarily to service that region's iron and steel industry, also has the potential to significantly contribute to the oil and gas sector.

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