



Photo: Woodside Energy Ltd



Invest in the West

Oil and Gas Capabilities in Western Australia

With a history of liquefied natural gas (LNG) production spanning 25 years, Western Australia has built a world class oil and gas services capability, particularly in offshore oil and gas services, innovation, education and training.

Western Australia produced 20.6 million tonnes of LNG in 2015, accounting for 85 per cent of Australian LNG production. By 2018, Western Australia's LNG production capacity is expected to be 48.7 million tonnes per year.

Perth is home to the Australasian head offices of BP, Chevron, Mitsubishi, Mitsui, ConocoPhillips, Eni, GDF Suez, Hess, Inpex, KUFPEC, Shell and Total, and the global headquarters for Australia's largest energy producer, Woodside.

There are more than 800 companies servicing the oil and gas sector in Western Australia, of which more than 400 are international companies. They include explorers and producers (E&Ps), engineering, procurement and construction management companies (EPCMs), oilfield, onshore and offshore services and a myriad of specialist training and technology providers.

WESTERN AUSTRALIA FAST FACTS

- As at September 2015, A\$171 billion of major resource projects were under construction or committed, of which 89 per cent were for LNG projects – A\$110.4 billion worth of major projects were also under consideration
- Business investment in Western Australia represented 25 per cent of Gross State Product and 26 per cent of Australia's total in 2014-15
- Conventional gas resources are more than 130 trillion cubic feet (tcf), with estimated tight gas resources of 86 tcf and estimated shale gas resources of between 91 and 193 tcf
- Estimated 50 operating oil and gas fields around the State
- The largest share of Australia's petroleum exploration expenditure in onshore and offshore is in Western Australia

Western Australia's Natural Gas Reserves/Resources (tcf)

LEGEND

- Gas basin
- Gas pipeline
- Conventional gas reserves (proved and probable)
- Conventional gas resources (contingent)
- Shale gas resources (risked and recoverable)
- Tight gas resources (gas initially in place)

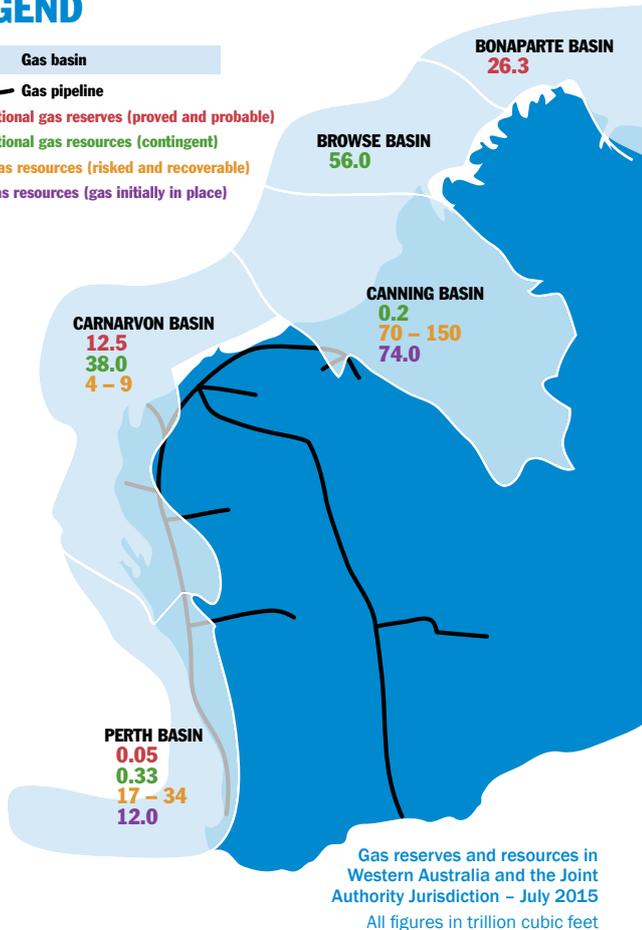


Photo: Woodside Energy Ltd

Western Australia – A Global Resources Leader

As the world's leading diversified minerals and energy province, Western Australia produces a significant global market share of more than ten commodities including iron ore, diamonds, LNG, and gold.

Perth is a founding member of the World Energy City Partnership and is the only Australian city that is an active participant.

Western Australia's Commercial Environment

- Western Australia accounts for almost one third (31.9 per cent) of all companies listed on the Australian Securities Exchange
- 75 companies hold interests in offshore exploration and production titles and 55 companies hold interests in onshore exploration and production titles in Western Australia
- Western Australia has the shortest travel times from an Australian State capital to most Asian and Indian Ocean markets.

Western Australia offers both capabilities and investment opportunities in the oil and gas sector:

- Subsea and marine
- Unconventional gas
- Operations and maintenance
- Engineering design and fabrication
- Logistics and transport
- Emergency response and safety
- Research and innovation
 - Automation of knowledge work
 - 'Internet of things' and the application of the internet to energy and resources
 - Advanced robotics autonomous and near-autonomous vehicles
 - Advanced materials
 - Advanced oil and gas exploration and recovery.

Oil and Gas Research and Innovation Capabilities in Western Australia

Perth is home to the newly established National Energy Resources Australia (NERA); an oil, gas, coal and uranium industry growth centre. The Australian Government has committed funding of A\$15.4 million for the centre over four years.

Global technology divisions of major oil and gas companies based here include:

- Chevron Global Technology Centre
- IBM Natural Resource Solutions Centre for Petroleum
- GE Oil and Gas service, Maintenance and Training Facility
- Shell Centre for Floating LNG Learning and Research
- Woodside Technology and Innovation Hub
- Siemens Remote Service Centre.

Western Australia's resource sector research and development expenditure was almost A\$1.3 billion, or 45 per cent of total Australian expenditure in 2013-14.

Resource sector trainees in Western Australia have the unique learning opportunity of being exposed to a globally recognised oil and gas sector as well as a world leading mining and METS sector. Western Australia has a skilled workforce of approximately 1.4 million people.

Perth is globally ranked 4th (after the Silicon Valley, Calgary, and Houston) for the number of engineers per 1000 employees.

The State's strong and diversified resources industry creates opportunities for unique collaboration and application of skills and technology across both energy and mining sectors.

Western Australia has developed capabilities in big data and data analytics with the establishment of several data infrastructure and R&D projects that directly or indirectly will benefit the State's oil and gas sector.

These include:

- IVEC – Pawsey Supercomputing Centre
- Cisco Internet of Everything Innovation Centre – an industry and research collaboration established by Curtin University and Woodside Energy
- Square Kilometre Array project – a global radio-astronomy project involving institutions from more than 20 countries.

Oil and Gas Education and Training

Perth has become a global centre for oil and gas education, training and industry development through world class institutions including The University of Western Australia, Curtin University, and the Australian Centre for Energy and Process Training.

At the forefront of oil and gas research in this State are publicly funded institutions such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Australian Resources Research Centre (ARRC), and the Western Australian Energy Research Alliance (WA:ERA).

Western Australia's academic sector is working with government, industry associations and operating companies to address industry challenges and develop advanced technologies and innovative solutions.



CSIRO's ASKAP antennas at the Murchison Radioastronomy Observatory in Western Australia

Cultural Diversity

Western Australia is one of Australia's most culturally diverse States with over a third of its residents born overseas – the highest proportion of all Australian capital cities. Migration has added diversity to the population giving Western Australia a competitive edge in its international linkages.

Today, the State's social diversity includes people from more than 190 countries, about 270 spoken languages and dialects and more than 130 religious faiths.

A Dynamic Lifestyle and Location

Perth is consistently ranked by the Economist Intelligence Unit among the world's top ten most liveable cities – the highest for all major resource cities in the world. The city offers a relaxed, friendly and outdoor lifestyle with modern infrastructure, health and education facilities and leisure and cultural activities.

Western Australia covers an area of 2.5 million square kilometres (3.5 times the size of Texas), and has a pristine coastline stretching 12,500 km. Perth's Mediterranean-style climate averages eight hours of sunshine a day.

Perth is serviced by 18 international and 12 domestic and regional airlines connecting travellers to over 110 destinations globally and Australia-wide. Along with this, Western Australians continue to enjoy one of the highest weekly earnings, about 15 per cent higher than the national average. Perth is also Australia's western gateway to the world's most dynamic and emerging economies in Asia, with over 4 billion in population.



Information current as at March 2016.

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KEY CONTACTS

Department of State Development, Perth

Telephone: +61 (08) 9222 0555

invest@dssd.wa.gov.au

www.dssd.wa.gov.au