

PROSPECT

In the mix

Western Australia's resources industry shows strength in diversity



Transforming the State

The first half of 2010 has proved to be a busy and productive period for Western Australia's resources industry and for the State.

The value of mining and petroleum production in Western Australia last year was more than A\$70 billion and the long-term outlook remains positive. Underpinned by high levels of investment expenditure on major projects, including Gorgon and Oakajee, there is around A\$170 billion worth of projects in the investment pipeline for Western Australia over the next five years or so.

March saw the State Government's receipt of the draft Bankable Feasibility Study for the Oakajee Port and Rail Project, an important step towards delivery of the multi-billion dollar port, rail and infrastructure estate in the State's Mid-West.

May 14 marked the start of construction for the Ord-East Kimberley Expansion Project that will transform the State's North-West. This major infrastructure project will encourage diverse agricultural production and provide unprecedented opportunities for local Indigenous people to participate in and benefit from the project.

There is a direct link between how well the State is travelling in regard to investment in resource projects and the quality and level of services we can provide for Western Australians.

In April, I travelled to the United States to encourage stronger investment in Western Australia and elevate the State's standing on the world stage.

Western Australia is becoming one of the most significant suppliers of high-quality liquefied natural gas to the international market.

This year's Australasian Oil and Gas expo, recently held in Perth, was attended by record numbers, thanks to strong global interest in the booming oil and gas industry.

It is significant that this event, the largest oil and gas event in the southern hemisphere, is held in Western Australia.

Lord Digby Jones, UK Trade and Investment Business Ambassador, attended the event and summarised Western Australia's position in the resources industry when he described it as, "The most important exhibition, in the most important industry, in the most important part of the oil and gas world."

Colin Barnett
PREMIER OF WESTERN AUSTRALIA & MINISTER FOR STATE DEVELOPMENT

Norman Moore
MINISTER FOR MINES AND PETROLEUM

Prospect

Western Australian Prospect magazine is published quarterly by the Western Australian Government's Department of Mines and Petroleum (DMP) and Department of State Development (DSD).

*Editorial management: Rebecca Atkinson, DSD Communications and Marketing Division.
Tel: (08) 9222 0417 • Fax: (08) 9222 0505*

Disclaimer

Prospect has been compiled in good faith by the Department of Mines and Petroleum (DMP) and Department of State Development (DSD). Opinions expressed in Prospect are those of the authors and do not necessarily represent the views, or have the endorsement of DMP and DSD. DMP and DSD has used all reasonable endeavours to ensure the material contained in this publication is correct, but it is intended to be general in nature. No representation is made with regard to the completeness or accuracy of the information contained herein. DMP and DSD disclaims any or all liability for loss or damage whatsoever suffered or incurred resulting from the use of or reliance on information contained herein. Readers of this publication should make and rely on their own enquiries, research and judgements in making decisions affecting their own or any other persons interest.

*Cover photo: The Simcoa Silicon Plant at Kemerton Industrial Park.
Photo courtesy of Jim Brosnan, Simcoa.*

DEPARTMENT OF STATE DEVELOPMENT

Trade and Investment Services

1 Adelaide Terrace
East Perth, Western Australia 6004
Tel: +61 8 9222 0490 • Fax: +61 8 9222 3862
Email: invest@dsd.wa.gov.au
www.dsd.wa.gov.au

INTERNATIONAL OFFICES

Europe

European Office • 5th floor, Australia Centre
Corner of Strand and Melbourne Place
London WC2B 4LG • UNITED KINGDOM
Tel: +44 20 7240 2881 • Fax: +44 20 7240 6637
Email: europe@wago.co.uk

India — Mumbai

Western Australian Trade Office
93 Jolly Maker Chambers No 2
9th floor, Nariman Point • Mumbai 400 021 • INDIA
Tel: +91 22 6630 3973 • Fax: +91 22 6630 3977
Email: middleeastindia@dsd.wa.gov.au

India — Chennai

Western Australian Trade Office - Advisory Office
1 Doshi Regency • 876 Poonamallee High Road
Kilpauk • Chennai 600 084 • INDIA
Tel: +91 44 2640 0407 • Fax: +91 44 2643 0064
Email: middleeastindia@dsd.wa.gov.au

Indonesia — Jakarta

Western Australian Trade Office
Wisma Budi Building • floor 5 Suite 504
Jl H R Rasuna Said Kav C-6
Kuningan, Jakarta 12940 • INDONESIA
Tel: +62 21 5290 2860 • Fax: +62 21 5296 2722
Email: southeastasia@dsd.wa.gov.au

Japan — Tokyo

Government of Western Australia, Tokyo Office
13th floor, Fukoku Seimei Building
2-2-2 Uchisaiwai-cho Chiyoda-ku
• TOKYO 100-0011 • JAPAN
Tel: +81 3 5157 8281 • Fax: +81 3 5157 8286
Email: wa.tokyo@wajapan.net

Japan — Kobe

Western Australian Government Office
6th floor, Golden Sun Building •
4-3-6 Nakayamate-dori
Chuo-Ku • Kobe 650-0004 • JAPAN
Tel: +81 78 242 7705 • Fax: +81 78 242 7707
Email: wa.kobe@wajapan.net

Malaysia — Kuala Lumpur

Western Australian Trade Office
4th floor, UBN Tower • 10 Jalan P Ramlee
KUALA LUMPUR 50250 • MALAYSIA
Tel: +60 3 2031 8175/6 • Fax: +60 3 2031 8177
Email: southeastasia@dsd.wa.gov.au

Middle East — Dubai

Western Australian Trade Office • Emarat Atrium
PO Box 58007 • Dubai • UNITED ARAB EMIRATES
Tel: +971 4 343 3226 • Fax: +971 4 343 3238
Email: middleeastindia@dsd.wa.gov.au

People's Republic of China — Shanghai

Western Australian Trade and Investment Promotion
Room 2208 • CITIC Square
1168 Nanjing Road West
SHANGHAI 20004 • PEOPLES REPUBLIC OF CHINA
Tel: +86 21 5292 5899 • Fax: +86 21 5292 5889
Email: china@dsd.wa.gov.au

People's Republic of China — Hangzhou

Western Australian Trade and Investment Promotion
Hangzhou Representative Office
Room 1705 • World Trade Office Plaza
Zhejiang World Trade Centre
122 Shuguang Road • Hangzhou 310007
PEOPLES REPUBLIC OF CHINA
Tel: +86 571 8795 0296 • Fax: +86 571 8795 0295
Email: china@dsd.wa.gov.au

South Korea — Seoul

Western Australian Trade and Investment Office
Unit 702 • 7th Floor • Kwanghwamoon Building
211 Sejongno, Jongno-gu
Seoul • South Korea 110-730 • KOREA
Tel: +82 2 722 1217 • Fax: +82 2 722 1218
Email: japankorea@dsd.wa.gov.au

In this issue



02 Oakajee bound

Weld Range set as cornerstone project to export out of Oakajee

06 Gorgon benefits

Gorgon Project delivers benefits to Western Australia

12 WA on world stage

Premier Colin Barnett takes Western Australia to the world stage on US visit

15 Exploration Incentive Scheme

EIS program funds new Capricorn Deep Seismic Crustal Survey

16 Expansion begins

Simcoa Silicon Plant commences first stage of A\$200 million expansion

22 Skilled labour strategy

WA Government and industry join forces on State specific migration strategy



Department of **Mines and Petroleum**
Department of **State Development**

Department of Mines and Petroleum
www.dmp.wa.gov.au

Department of State Development
www.dsd.wa.gov.au

SINOSTEEL MIDWEST

ON THE ROAD TO OAKAJEE

With Sinosteel Midwest Corporation now mining and shipping iron ore from its Koolanooka/Blue Hills Project, the company is making significant headway in its flagship Direct Shipping Ore (DSO) project at Weld Range.

Located 65 kilometres southwest of Meekatharra in Western Australia, the Weld Range project will be a cornerstone project to export out of the proposed Oakajee Port.

According to Sinosteel Midwest Chief Operating Officer Giulio Casello, bringing the Koolanooka project through planning and approvals to development has paved the way for their major project at Weld Range.

“Not only has Koolanooka provided valuable experience for our team and laid the foundation for the progression of our Weld Range project, it will also provide important capability to ensure we can move forward with confidence,” Mr Casello said.

“The Weld Range project will see Sinosteel Midwest become a significant exporter of iron ore, and as the largest DSO project in the Mid West, it will play an important role in the viability of the planned Oakajee port and rail infrastructure.

“We are now at a crucial point in the development of world-class efficient port and rail infrastructure at Oakajee – 2010 is the year the planning needs to be resolved to ensure the 2014 delivery date.

“We are in ongoing discussions with Oakajee Port and Rail in this regard, and we hope to see significant progress in the coming months.”

The Weld Range project is expected to produce 15 million tonnes per annum over 15 years. It is at a well advanced stage with Sinosteel Midwest investing A\$150 million to date and a Bankable Feasibility Study (BFS) due for completion in July 2010, and should be ready for production by 2013.

“The timing for development of the Oakajee infrastructure will determine when we can begin exporting ore, so we are working closely with Oakajee Port and Rail to ensure we are as aligned as possible,” Mr Casello said.

“With a producing mine, the largest DSO project in the Mid West with a BFS about to be released, and a strong

pipeline of projects planned for the next 20 years, the future is looking bright for Sinosteel Midwest.

“We have maintained a sustainable approach to our exploration and operations to date and we intend to continue this to ensure we leave a positive legacy in the Mid West.

“Under our parent company Sinosteel Corporation, we released our first Sustainability Report earlier this year, and we’re proud to be a part of the first Chinese enterprise to produce a United Nations Global Compact-compliant Sustainability Report covering its Australian operations,” he said.



Sinosteel Midwest is developing the largest DSO iron ore project in the Mid West at Weld Range.

SUSTAINABILITY REPORT

ANOTHER FIRST FOR SINOSTEEL

About Weld Range

The Weld Range deposits have resource estimates in excess of 250Mt at 58% Fe (in accordance with the JORC Code) and with no significant deleterious contaminants.

Estimates have been made at a cut off grade of 50% Fe and with acceptable mining waste to ore ratios.

The Weld Range project has significant potential due to high grade outcrops over a total 16km strike length. The current resource represents only 6km of the strike length.

Sinosteel Midwest has a significant and accelerated drilling program at Weld Range aimed at increasing the JORC Mineral Resource.

To date Sinosteel Midwest has only substantially explored three key mineralised zones in its Weld Range tenements and considers the unexplored areas offer good potential to expand resources.

About Sinosteel Midwest Corporation Limited

Sinosteel Midwest Corporation (Sinosteel Midwest) is developing iron ore and steel materials projects from one of the largest land holdings in the expanding Mid West resources region of Western Australia. It has advanced production opportunities for iron ore at Koolanooka, Weld Range, Jack Hills and Robinson Range.

Sinosteel Corporation, one of China's biggest suppliers of raw materials to Chinese steel mills, purchased Midwest Corporation in 2008. It is committed to the responsible and sustainable development of Sinosteel Midwest's assets.

Sinosteel Midwest continues to actively develop and explore the potential of its deposits and describes its outlook as exciting.

Further information is available from www.sinosteelmidwest.com.au ■

Sinosteel Midwest Corporation has become the first Chinese enterprise to produce a United Nations Global Compact-compliant Sustainability Report covering its Australian operations.

Released in March 2010, the Sustainability Australia Report sets out the company's commitments in the core areas of business, environment, health and safety, employee relations, community engagement and Aboriginal rights and cultural preservation.

The report covers the governance and management systems Sinosteel has developed for its operating companies, which in Australia consist of two iron ore projects in Western Australia and a uranium exploration venture in South Australia.

Chief Operating Officer for the Perth-based Sinosteel Midwest Corporation, Giulio Casello said that the landmark report reflected the company's focus on world's best practice for sustainability issues.

"It is evidence of a new way of going about business by Chinese companies and is a strong, clear signal about how modern Chinese companies approach their corporate responsibilities at home and internationally," Mr Casello said.

"We believe that taking account of the interests of all our stakeholders

makes the most sense because business does best for longest when the benefits are spread.

"All Sinosteel entities are required by board-level mandate to achieve the highest standards for sustainable operations."

Sinosteel President Tianwen Huang said because humanity shares a common future, sustainable development must be a shared task of all countries.

"Chinese companies have increasingly extensive impacts on the global economy, environment and society," Mr Huang said.

He said the company would be continuously dedicated to promoting the prosperity and development of both the global economy and the harmony and progress of society.

The move has also received support from the State Government, with Premier Colin Barnett welcoming Sinosteel's commitment to world's best practice sustainability principles and reporting.

"Such undertakings serve to reinforce the professionalism and excellence that Chinese investment brings to Australian projects, and are, in many cases, an education for us as we come to understand more about our important Chinese partners," Premier Barnett said.

From left to right: Sinosteel Midwest Corporation's Legal and Sustainability Manager Michael Silbert, Managing Director Tony Cheng and Chief Operating Officer Giulio Casello present the Premier Hon Colin Barnett with a copy of the company's Sustainability Report.





2010 Western Australian Industry and Export Awards

Celebrating Western Australian innovation and excellence

The annual Western Australian Industry and Export Awards, now celebrating their 22nd year, recognise companies for their innovation and success in industry and export.

Recognising excellence in engineering and technology, marketing and design, innovation and a host of other industry and exporting achievements, the Awards are coordinated by the Department of Commerce.

Thousands of businesses in the suburbs of Perth and the regions make up a vibrant industry in Western Australia.

Some are high profile and well resourced with proven track records, others have modest premises and small workforces. Many are doing business in a smart and innovative way. All are important and deserve to be recognised and rewarded for their efforts.

Closing date for entries is Wednesday 14 July 2010.

The Benefits

Experience shows that firms enjoy a real business advantage as a finalist or winner in the Awards.

All finalists and winners can benefit from:

- Doors opening for emerging exporters
- Enhanced standing with clients and bank managers
- Assistance to explore potential overseas markets
- Networks and partnerships
- Businesses learning from others
- Media coverage in the West Australian newspaper and regional media

- Valuable publicity and increased industry recognition through prominent showcasing at the Gala Awards presentation evening
- Finalists receive a distinctive award certificate and winners a handsome trophy
- Finalists and winners can use the Awards logo on their stationery and marketing material
- Rewarding the efforts of management and staff at the Gala Presentation Night, even if you don't win an award
- Export Award winners automatically become finalists in the Australian Export Awards – increasing opportunities for national and international exposure

Access the department's website

www.commerce.wa.gov.au/industryexportawards

or telephone June Phillips on (08) 9263 8278

for more details.



Government of Western Australia
Department of Commerce



Australian Government
Austrade



An Australian Government Initiative
AusIndustry



Australian Government
EFIC
Export Finance & Insurance Corporation



**The West
Australian**

LAVIN LEGAL
Leaders in Law

RioTinto



© OPR

OAKAJEE PROJECT EDGES CLOSER

Delivery of a multi-billion dollar port, rail and industrial estate in Western Australia's Mid West took a step forward recently with the State Government's receipt of a draft Bankable Feasibility Study for the Oakajee Port and Rail Project.

The draft Bankable Feasibility Study is based on extensive design and engineering studies undertaken by project proponent Oakajee Port and Rail Pty Ltd (OPR) and outlines the proposed design, operating arrangements and costings for the project.

The Department of State Development will lead the State Government's due diligence on the draft Bankable Feasibility Study, to ensure the project will meet the State's objectives and deliver value for money.

Western Australian Premier and Minister for State Development, Colin Barnett said that bringing this massive and complex project together was a huge undertaking for the proponent, for the State Government, and for Mid West mining companies, but that significant progress had already been made.

"The Oakajee project is vital for Western Australia. It enables the development of a major new iron ore export province in the Mid West and will potentially attract investment in a wider range of resources processing and advanced manufacturing, into the future," he said.

"The State Government remains committed to commissioning of the port in 2014 and to provision of multi-user, open access infrastructure, to meet the demands of emerging iron ore projects."

Oakajee Port and Rail is currently negotiating with three potential foundation customers, Sinosteel Midwest (Weld Range project), Karara Mining (Karara project) and Crosslands Resources (Jack Hills project).

In March, Gindalbie Mining, the owners of the A\$1.8 billion Karara Iron Ore Project, announced a US\$65 billion offtake agreement that covers the mine's 30-year life.

The Premier described the announcement as a huge achievement that gave further certainty to the Oakajee project.

"In addition, bankable feasibility studies for the other two projects are expected to be finalised this year," he said.

"Sinosteel Midwest has commenced production at its Koolanooka project, seen as a precursor for development of its Weld Range deposit.

Mr Barnett said the Government and OPR were making steady progress in negotiating implementation agreements that would outline the terms and conditions for delivery of the port and rail infrastructure.

The State and Commonwealth Governments have agreed to jointly fund the common user infrastructure at the Oakajee port on a 50/50 basis. This includes construction of the channel, breakwater, turning basin, navigational aids, provision for tug and pilot boat pens, port administration offices and associated roads and utilities.

This infrastructure will be government-owned with port users being charged for its use on a commercial basis. The State will also own the adjacent industrial estate.

The Premier said OPR was expected to deliver a final Bankable Feasibility for the project towards the end of this year. ■

GORGON PROJECT

DELIVERS BENEFITS TO WESTERN AUSTRALIANS

The Final Investment Decision, and State and Commonwealth Government approvals for the Gorgon liquefied natural gas (LNG) and domestic gas project were only signed off in September 2009, but the A\$43 billion project is already having a significant impact for some Western Australian industries.

According to operator, Chevron, it has already delivered more than A\$7 billion and 3,000 jobs to Australian industry, mostly in Western Australia.

For family-owned transport equipment builder, Howard Porter, an A\$21 million contract to build 300 trailers, to carry supplies and equipment for the Gorgon Project, helped accelerate its planned transition from jobbing shop to production line manufacturing.

Managing Director Roy Lombardi said the contract, which Howard Porter completed in March this year after only 38 weeks, was a significant achievement compared to production output in the previous 12 months.

“Over the last three years, we have been restructuring our operations and building our capacity. Only in February 2009, we completed an extension of our workshop,” Mr Lombardi said.

“Having the contract created the possibility of fully implementing our new processes and recruiting 60 additional

staff more quickly than we otherwise would have.”

Mr Lombardi said the contract, which included 240 flat-top trailers, 34 drop-deck trailers, 20 extendable trailers and six 100-tonne floats, set Howard Porter a challenge.

“The second half of each year is our busiest time, with preparation for the State’s annual harvest creating strong demand, so we had half our workshop set aside for the Gorgon trailers, and

half for building equipment for other customers,” he said.

“The Gorgon Project gave our company an opportunity to take an important step forward in our development.”

Mr Lombardi said Howard Porter currently employs 160 staff at two metropolitan sites in Spearwood and Bellevue, manufacturing, maintaining and servicing its wide range of transport equipment.



Construction on Barrow Island.



Construction is underway on Barrow Island: All Gorgon related contracts have to meet strict environmental standards both in design and delivery.

Even before the Gorgon Joint Venturers announced a Final Investment Decision, an A\$500 million contract to design and construct an accommodation village on Barrow Island was awarded in June 2009 to a joint venture that included Western Australian company Decmil Australia Pty Ltd.

Decmil estimates its part in delivering the 3,300 person construction village, including offices, accommodation, facilities and infrastructure, to be worth in the order of A\$170 million, making it the company's largest single contract.

Decmil Group's Chief Operating Officer, Scott Criddle described the announcement as a 'significant step' in the company's 30-year history.

In addition, in December, the company was awarded an A\$74 million subcontract, from JV partner Theiss for providing temporary facilities for its site preparation and construction operations.

Another well established Western Australian Engineering and Construction company Clough, is part of the Kellogg Joint Venture Group (KJVG), which undertook the front end engineering design, and will now engineer, procure and construction manage, the downstream facilities and logistics portion of the Gorgon Project.

The KJV contracts, with a combined value of almost A\$4 billion, cover a

decade from 2005 to 2015 when the project's 15 million tonnes per annum LNG production facilities are expected to be completed.

Other Western Australian based businesses are constructing and operating supply base and loading facilities at Dampier and in Perth, building components and providing specialised services such as divers for subsea construction.

In addition, major national and international companies are establishing or expanding operations in Western Australia to undertake Gorgon related contracts.

Ausco Modular, a national building company has an 80 strong workforce in O'Connor, constructing 195 buildings in 530 individual modules for an A\$50 million contract to provide accommodation, laboratories and offices for the gas processing project.

Scottish company BJ Process and Pipeline is establishing a dedicated facility in Welshpool with an estimated 30 employees to service its US\$80 million contract providing the extensive subsea pipelines for the project.

To protect the high environmental values of Barrow Island, an A Class Nature reserve and the surrounding waters, all Gorgon related contracts have to

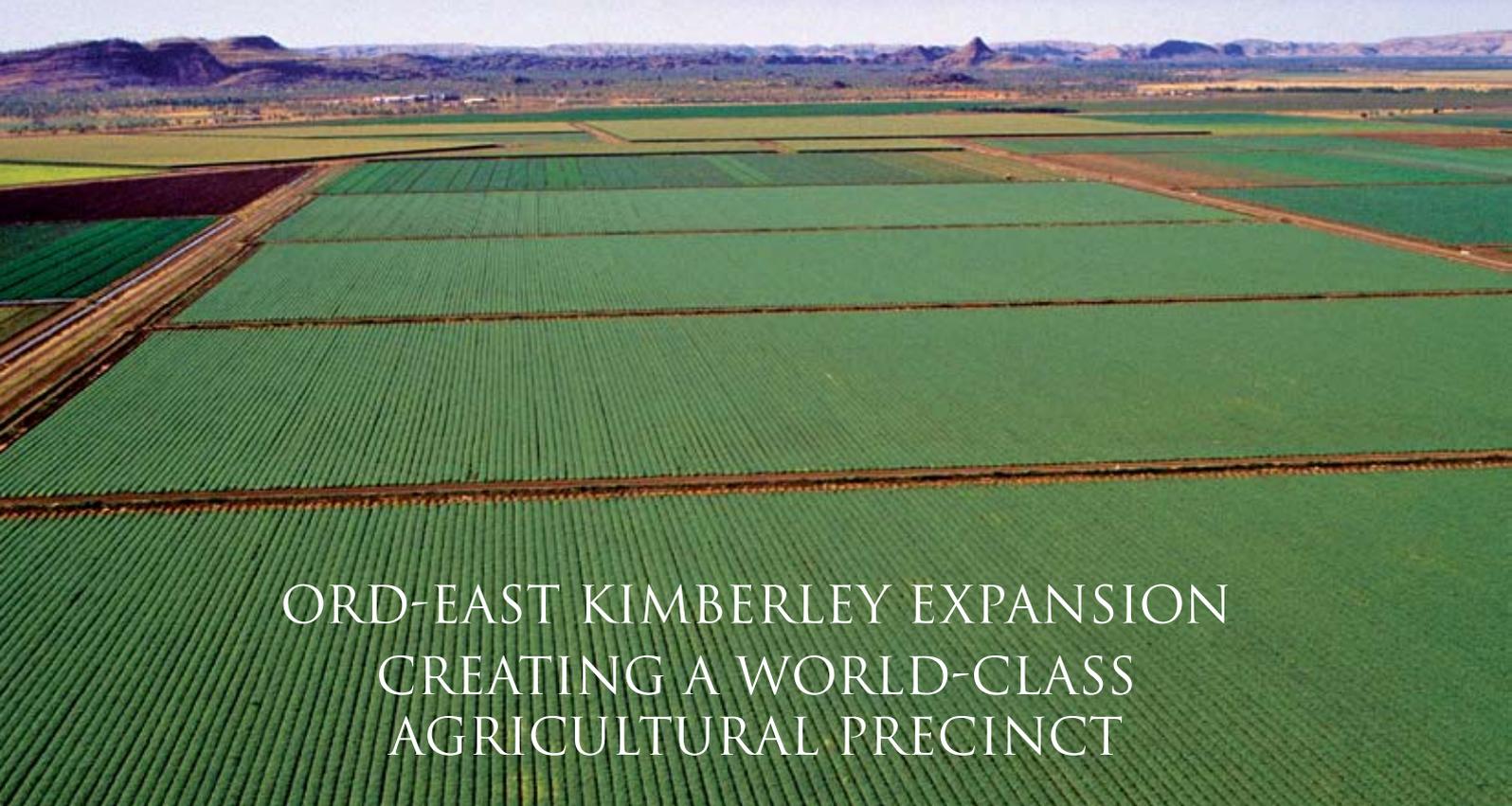
meet strict environmental standards both in their design and delivery. This includes rigorous attention to ensuring that Barrow Island is protected from the introduction of exotic species.

People travelling to the Island are required to meet rigorous quarantine measures and materials and equipment are delivered cleaned and bubble wrapped.

In addition, the Island, 70 kilometres off the Pilbara coast, is subject to high temperatures, a corrosive coastal environment and tropical cyclones with winds up to 320 kilometres per hour, setting additional challenges for the design of equipment and building for a project with an expected life of more than 40 years.

The Gorgon Project also involves the development of the Jansz and Gorgon fields located about 130-200 kilometres off the northwest coast of Western Australia. The project consists of offshore subsea facilities, gas processing and CO₂ injection facilities on Barrow Island.

The Chevron-operated Gorgon Project is a joint venture between the Australian subsidiaries of Chevron (approximately 47 percent), ExxonMobil (25 percent), Shell (25 percent), Osaka Gas (1.25 percent), Tokyo Gas (1 percent) and Chubu Electric Power (0.417 percent). ■



ORD-EAST KIMBERLEY EXPANSION CREATING A WORLD-CLASS AGRICULTURAL PRECINCT

The transformation of Western Australia's North-West has begun, with construction works for the Ord-East Kimberley Expansion Project commencing in May.

The large scale project, jointly funded by the State and Commonwealth Governments, will see the expansion of the Ord River irrigation area into a world-class agricultural precinct.

The project will enable social and economic development in Western Australia's East Kimberley region through investment in housing and transport; education and training; health services; and community facilities, in order to create long-term sustainable regional communities.

Increasing the amount of irrigated land in the East Kimberley is a major focus of the expansion project, which also includes the development of Wyndham Port and the construction of social and common-use infrastructure.

The State Government has the responsibility of developing and delivering agricultural land and supporting infrastructure for the region, including off-farm water supply, drainage and roads.

The Commonwealth Government's decision to invest A\$195 million in the project was based on the Western Australian Government investing in the expansion of the Ord River Irrigation Scheme around Kununurra (see right).

Premier and Minister for State Development Colin Barnett said the expansion of the Ord was an important project that would deliver significant long-term benefits for Western Australia.

"The State's work on the Ord and surrounding areas will not only provide for WA's agricultural future, but also support projects that stimulate job opportunities, education and training for Indigenous people in the East Kimberley," he said.

"Our aim is to see Kununurra emerge as a major regional centre with a vibrant economy founded on agriculture and eco and cultural tourism."

Leighton Contractors and Indigenous Business Australia (IBA) were awarded an A\$50 million contract earlier this year to undertake the construction works - the first major construction contract awarded for the Ord-East Kimberley Expansion Project.

The Leighton/IBA 'Moonamang joint venture' will build 19 kilometres of irrigation channel, a 14 kilometre road extension and irrigation control structures, with the first stage of construction works recently commencing on the Weaber Plains area.

The joint venture project will be supported by a number of Indigenous, local employment and business programs.

Leighton Contractors Western Region General Manager Ray Sputore said the company - which has significant

experience in managing large scale construction projects - was looking forward to working with the State Government and IBA on the project.

"The expansion of the Ord River agricultural precinct is a significant milestone for the East Kimberley region," Mr Sputore said.

"This contract would provide an opportunity to help establish lasting economic and social benefits for the local communities."

IBA Chair Dr Dawn Casey welcomed the opportunity to work on a project that the State Government was investing in that would provide sustainable economic opportunities for Indigenous people.

Dr Casey said IBA were looking forward to working with the State Government and Leighton Contractors, as well as the traditional owners, the Miriuwung Gajerrong people.

"The expansion of the Ord River agricultural precinct provides the Indigenous people of the East Kimberley an important platform to become part of the local economy," she said.

"This contract is an opportunity to help establish new, and grow existing, local Indigenous enterprises."

IBA is a statutory authority committed to Indigenous economic development through specialised joint venture opportunities for Indigenous Australians.

The Leighton/IBA joint venture project will include extensive training as well as business and employment opportunities for the traditional owners of the East Kimberley region.

Minister for Regional Development Brendon Grylls said that as the Ord project grew and Kununurra headed towards regional centre status, the State Government would work to foster every opportunity for the local Indigenous people to be an integral part of the development.

“The project will deliver significant outcomes for the traditional owners of the region,” Mr Grylls said.

“The involvement of Aboriginal people as joint venture partners and the

inclusion of training and employment opportunities for the local Miriuwung Gajerrong people have been key drivers of this project.

“This project is a great demonstration of what can be achieved through a commitment to a vision that will provide great social and economic benefits to the East Kimberley and its residents beyond the initial construction phase.”

Local group training program, Kimberley Group Training has been commissioned to deliver training courses and has already run two pre-employment courses for apprentices for the project. All 24 participants in the course were Indigenous and 12 prospective

Indigenous apprentices are ready to start work on site in the coming months.

Further developments for the project include an A\$10 million upgrade and expansion of Wyndham Port and jetty.

Contracts for the new Wyndham Port are expected to be awarded by mid-year, with the contract for the replacement of the jetty amenities building recently awarded to Cambridge Gulf Limited, based in Kununurra.

On completion of the Ord Irrigation Expansion, the project will increase the Ord irrigation area to 22,000 hectares, with the first release of the new agricultural blocks, following environmental approvals, expected by the end of this year. ■

ORD-EAST KIMBERLEY EXPANSION EXPANDING RESOURCES

The Ord-East Kimberley Expansion is a huge nation building endeavour, jointly funded by the Commonwealth and State Governments, to realise the full potential of available resources in Western Australia’s East Kimberley region.

With the release of 8,000 hectares of agricultural lots, on completion the project will ultimately increase the Ord irrigation area from 14,000 hectares to 22,000.

It will see the expansion of the area into a world-class agricultural precinct, delivering significant improvements to the regional community through the provision of better social, community and common-use infrastructure.

The expansion of the Ord irrigation area has been planned for a number of years, since the initial development of the area in the 1960s and 70s that saw the damming of the Ord River and the creation of Lake Argyle - a water catchment area more than 30 times the size of Sydney Harbour.

It included the construction of major water supply and drainage infrastructure for agricultural land in the East Kimberley region, which underpinned the development of Kununurra.

The current expansion project is an A\$415 million investment, with funding being injected into the region to support economic development while addressing issues of social inclusion and Indigenous disadvantage.

The Commonwealth-State Government investment has two components – the East Kimberley Development Package

(consisting of an A\$195 million investment from the Commonwealth Government) and the Ord Irrigation Expansion Project (an A\$220 million investment from the Western Australian Government’s Royalties for Regions fund).

The Commonwealth Government’s investment in the project was conditional on a joint assessment with the State Government of the most effective infrastructure projects for the region – projects that would meet the economic and social development needs of the East Kimberley and local communities for years to come.

The joint assessment was completed in March 2009 and identified 27 projects targeting priority community needs in the areas of housing and accommodation; transport and community infrastructure; health; and education.

The Department of State Development is the lead agency for coordinating 21 of the 27 State-based projects in conjunction with the Commonwealth and other Western Australian government agencies.

Many of the projects are well underway, including an A\$50 million housing program to deliver up to 100 dwellings in Kununurra and Wyndham and an A\$10 million upgrade of Wyndham Port and jetty.

Visit the department’s website for further information on the Ord-East Kimberley Expansion Project: www.dsd.wa.gov.au ■

PROJECTS IDENTIFIED BY THE JOINT ASSESSMENT	
Project	A\$ million
Health - A\$50 million	
Redevelopment of Wyndham Health Facilities	3.4
Kununurra Hospital expansion	20.0
Short stay patient accommodation	4.0
Residential rehabilitation facility	3.2
Remote aged care services	4.0
Remote clinics	5.5
Environmental health measures	4.3
Sobering Up Centres	0.6
Health service providers housing	5.0
Education and Training - A\$64 million	
Wyndham Early Learning Activities Centre	1.6
Warmun Early Learning Centre	0.6
Kununurra Primary School	25.0
Kununurra District High School upgrade	15.0
Kununurra School Community Library expansion	5.0
East Kimberley Teacher Training Facility	3.5
Kimberley TAFE upgrade	10.0
Community meeting rooms	2.3
Early Childhood Building for Jundranung Community	1.0
Housing - A\$50 million	
Social Housing	30.0
Transition Housing	20.0
Transport - A\$15.4 million	
Wyndham Port facility upgrade	10.0
Kununurra Airport upgrade	5.4
Community - A\$15.6 million	
Community sporting facilities	4.2
Warringari Art Centre	1.6
Wyndham Picture Gardens	0.3
Wyndham Community Jetty	5.0
MG Corporation – Gelganyem Trust shared facility	4.5
Total	195.0

STRENGTH IN ADVERSITY

As the dust continues to settle from the worst global financial meltdown since the Great Depression, the strength of Western Australia's resources industry has shown an underlying resilience.

The value of the State's minerals and petroleum industry in 2009 was A\$61 billion, which represented a drop of 17 per cent compared to 2008.

However, 2008 was an exceptional year and longer term analysis shows the value of the State's resources sector in 2009 is still significantly higher than in previous years.

Over the past 10 years the value of Western Australia's mineral and petroleum industry has grown strongly achieving average annual growth of 15 per cent.

The decline in value in 2009 was expected and can largely be attributed to the global financial crisis, which resulted in falling commodity prices and a sharp contraction in world trade and industrial production.

One of Western Australia's key commodity exports is iron ore and contract prices for iron ore lumps and fines fell on average by 37 per cent.

However, gold was a standout and bucked the downward trend in prices, increasing by 12 per cent in US dollar terms.

World economic recovery supported by government intervention saw commodity prices improve from the lows reached in early 2009.

Australia's strong economic performance relative to other major economies and recent interest rate rises has also seen the Australian dollar appreciate strongly against the US dollar. In November 2009, the Australian dollar peaked at US94 cents.

The rising exchange rate combined with lower commodity prices had an adverse affect on commodity export earnings in 2009.

However, increased export volumes of key commodities such as iron ore helped to partially offset the price falls.

In 2009, mineral and petroleum exports contributed a substantial 85 per cent towards the State's total merchandise exports, which were valued at A\$76.9 billion.

China was again the State's largest export market, accounting for 34 per cent of all Western Australian merchandise exports.

Western Australia maintained its position as the nation's foremost exporter in 2009, contributing a dominant 39 per cent to Australian merchandise exports, which totalled A\$196 billion.

Queensland followed with 22 per cent, then New South Wales with 17 per cent and Victoria contributing around nine per cent.

The mineral and petroleum industry delivered A\$2.8 billion in royalties to the State Government in 2009.

The long-term outlook remains positive and is underpinned by high levels of investment expenditure on major projects such as Gorgon and Oakajee.

As the economies of key export markets in Asia improve as part of world economic recovery, strong demand for the State's mineral and petroleum resources is likely to continue in the years ahead. ■

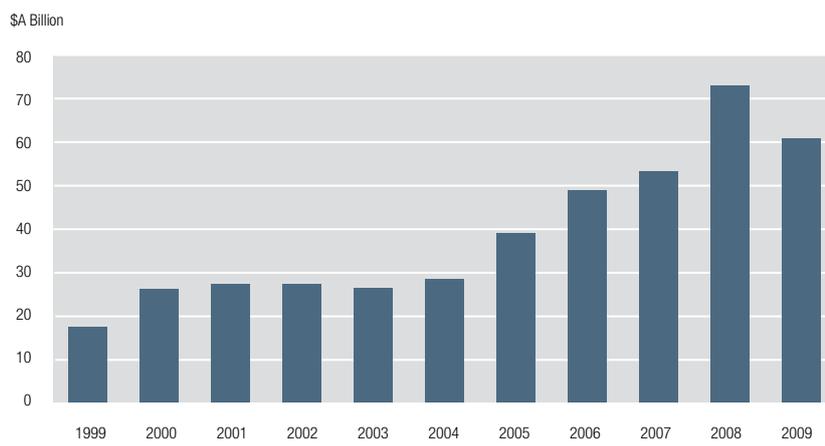


Figure 1 Value of Western Australia's Mineral and Petroleum Industry

Source: DMP

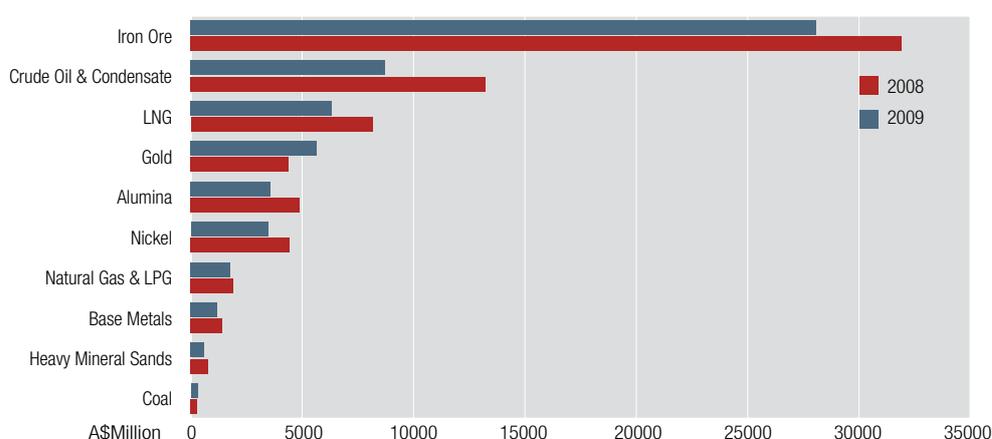


Figure 2 Major Commodities by Value

Source: DMP

HIGHLIGHTS IN 2009

Statistics compiled by the Department of Mines and Petroleum show that the value of Western Australian mineral and petroleum sales reached A\$61.0 billion in 2009. Iron ore, petroleum and gold together accounted for 83 per cent or A\$50.6 billion of all sales. Western Australia's mineral and petroleum resources in order of value for 2009 are:

Commodity	A\$Billion
Iron Ore	\$28.1
Crude Oil and Condensate	\$8.7
LNG	\$6.3
Gold	\$5.7
Alumina	\$3.6
Nickel	\$3.3
Others	\$5.3
Total	\$61.0

Prices for most commodities apart from gold were adversely affected by the global economic downturn. A strong appreciation in the Australian dollar against the US dollar in the latter half of 2009 also weighed on commodity earnings. Between September and December 2009, the Australian dollar averaged US90 cents. Refer to the list below showing average commodity price movements in 2009 in both US and Australian dollar terms:

Commodity	US\$ Terms	A\$ Terms
Gold	Up 12%	Up 20%
Zinc	Down 12%	Down 5%
Lead	Down 18%	Down 12%
Iron Ore	Down 24%	Down 17%
Copper	Down 26%	Down 20%
Tin	Down 27%	Down 21%
Nickel	Down 30%	Down 24%
Alumina	Down 33%	Down 28%
Crude Oil	Down 37%	Down 32%
Cobalt	Down 54%	Down 50%

US VISIT

PLACES WA ON WORLD STAGE

Western Australian Premier and Minister for State Development Colin Barnett visited the United States of America in April to promote Western Australia as a global energy supplier.

Mr Barnett's 10-day trip saw him travel from New York to Houston and then on to Washington, meeting with US business leaders and government agencies along the way.

The Premier shares his US experience with Prospect.

My visit to the US was an opportunity to encourage investment into Western Australia and elevate the State's standing on the world stage.

Western Australia is becoming one of the most significant suppliers of high-quality liquefied natural gas to the international market and right now all eyes are on us.

An important part of my trip was to raise the profile of WA projects and encourage further investment.

My first stop was New York, where the world's largest stock exchange is continuing to recover.

New York is still a critical source of equity and debt funding. A good sign that the world is recovering from the

financial crisis is the fact that the Americans are back in town.

All are interested in our petroleum industry and the aim of my meetings with banking and finance representatives such as Goldman Sachs and JP Morgan Chase in New York was to encourage further investment.

I also attended a lunch hosted by Rupert Murdoch at his News Corporation offices.

From the United State's largest city, I then travelled to Texas, the biggest contiguous US State.

In Houston I was delighted to fulfil a prestigious invitation to speak at the world's foremost energy institute – the James A Baker III Institute for Public Policy at Rice University.

A large gathering of oil and gas leaders attended and I was able to outline Australia's unique geo-political position and Western Australia's status as "the Mining State".

Western Australia is blessed with an extraordinary endowment of mineral and petroleum resources. The mining sector is mature, the petroleum sector is still in the comparatively early stages of development.

The value of mining and petroleum production in Western Australia last (financial) year was more than A\$70 billion. For Australia as a whole, mining and energy exports make up nearly 70 per cent of all merchandise exports.

The true significance of the resources sector is borne out by the shares of world production from Western Australia and the even larger shares of international trade in key commodities.

Western Australia is "punching above its weight" in international trade, with the State producing more than one third of exports with just one tenth of the nation's population.

The mining industry in Western Australia and international companies doing business with the state is significant.

Global resource companies have a major presence in the Western Australian economy.

The world's two largest mining companies, BHP Billiton and Rio Tinto, each have around one third of their global assets in Western Australia.

Among American mining companies, Alcoa has three alumina refineries in the State, which collectively produce almost 11 per cent of the world's total



L-R: ExxonMobil Exploration Company Asia Pacific/Middle East Vice President Mike Cousins; ExxonMobil Development Company Deepwater Projects Vice President Al Hirshberg; Premier Colin Barnett; ExxonMobil Upstream Research Company (URC) Engineering Vice President Marco Rasi; ExxonMobil URC Improved Hydrocarbon Recovery Manager Mr K Sampath; and ExxonMobil Gas & Power Marketing Company Vice President LNG Ron Billings at ExxonMobil in Houston.

production. Newmont Mining has around one third of its global gold reserves in Western Australia.

There are around 30 international oil and gas companies and more than 40 oil and gas service companies with offices in Perth.

The combination of natural resources and relative proximity to Asian markets is the attraction.

Given the long term growth prospects of Asia and the seemingly insatiable demand for raw materials that Western Australia has, it is possible that the State will produce over 40 per cent of national exports by the end of the decade.

That is the significance of the mining industry and what makes Western Australia important. It is why Western Australia might claim to be the world's leading mining economy.

I am optimistic about the future for the resources industry, with Asian expansion translating directly into increased demand and higher prices for key commodities. For Western Australia, the impact is magnified.

The iron ore price has doubled this year, gold has increased by around 20 per cent over the past year and nickel by 120 per cent.

This further translates into an investment surge in new mining and petroleum projects.

There is around A\$170 billion worth of projects in the investment pipeline for Western Australia over the next five years or so.

Australia, as a nation, is rich in energy resources. This includes coal on the east coast, gas on the west, uranium in the interior and wide potential for renewable energy.

In every sense, the biggest game in town is the development of mega projects for the export of liquefied natural gas (LNG).

At present, natural gas provides around 21 per cent of world primary energy.

By 2030, it is expected that global demand for natural gas will have increased by 55 per cent from the 2005 level and that gas will be the energy source for some 27 per cent of world electricity generation.

The global demand for natural gas is expected to grow more quickly than that for oil or coal. These projects, both

existing and proposed, dwarf any other industrial projects in Australia.

From Houston, I travelled on to Washington where I had the pleasure of meeting with Australia's new Ambassador to the US Kim Beazley, as well as the US Department of Energy.

While oil and gas were the major focus of the trip, I also met with other organisations, including the Bureau of Indian Affairs Department of the Interior about the interaction between government, business and American Indians as traditional land owners.

In summarising my US visit, I hope to see stronger investment in Western Australia.

Overseas investment has always been welcomed and continues to be.

There is a direct link between how well the State is travelling in regard to investment in resource projects and the quality and level of services we can provide.

By elevating Western Australia on the world stage I am hopeful that we will see stronger investment and interest in our State for the betterment of families and businesses. ■

OIL AND GAS EXHIBITION A SUCCESS

“The most important exhibition, in the most important industry, in the most important oil and gas region in the world.”

The recent Australasian Oil and Gas Exhibition and Conference (AOG), held in Perth, proved a success thanks to the strong global interest in the booming oil and gas industry.

The AOG is the largest oil and gas event in the southern hemisphere, bringing together major local, national and international oil and gas players.

The event showcased the latest developments in the oil and gas industry and featured products, services and new technology.

This year’s conference, held in March at the Perth Convention and Exhibition Centre, attracted a record number of visitors at 9749, an increase of 26 per cent on last year, and included 408 exhibitors representing 500 companies.

Event organiser Bill Hare said the conference attracted international delegations from the United Kingdom, Scotland, Italy, Norway and Russia and was the most successful AOG in the event’s 25 year history.

Mr Hare said he received a lot of positive feedback from attendees, including Lord Digby Jones, Business Ambassador for UK Trade and Investment.

Lord Digby Jones was impressed by the sheer size of the event and the industry’s keen participation and stated that the AOG is the most important exhibition, in the most important industry, in the most important part of the oil and gas world.

Western Australian Premier and Minister for State Development Colin Barnett said

that Perth’s growing status as the petroleum industry focus for the Asia Pacific region had underlined the decision to stage the AOG annually after more than 25 years as a biennial conference.

“Increasingly, Perth is the preferred location for businesses providing engineering, geosciences, research and supply support for petroleum explorers and producers in Australia and the Indo Pacific region,” he said.

“More than 100 Australian and international companies have interests in the onshore and offshore exploration

and production areas of the State and many hundreds more are directly involved in servicing and supplying this massive industry.

“Western Australia offers world-class opportunities in petroleum exploration and production potential in both offshore and onshore basins, and in servicing exploration, development and production.”

AOG will return to the Perth Convention and Exhibition Centre in February 2011. For information on next year’s event, visit www.aogexpo.com.au ■



Minister Norman Moore represented Premier Colin Barnett at the conference.



© Terrex

SEISMIC SURVEY SET TO UNLOCK SECRETS OF WA'S CRUST

The popularity of the Western Australian Government's Exploration Incentive Scheme (EIS) continues with 90 applications received this year, seeking in total over A\$9.3million from the co-funded drilling program.

Minister for Mines and Petroleum Norman Moore said the co-funded drilling program was one of six components of the EIS and was designed to develop the long term sustainability of Western Australia's resources industry.

"For the 2010 program, the Government has budgeted A\$5 million," Minister Moore said.

"The applications reflect the requirements for targeted exploration in under-explored areas.

"Many of the projects are in remote greenfield areas and several of them, which were co-funded in the first round of drilling funding, have already returned good results."

Beadell Resources had positive results with gold in West Musgrave and Encounter Resources, with high-grade zinc mineralisation in the Pilbara.

Most applications received were from the mineral exploration sector, although a handful were from geothermal and petroleum explorers.

The successful applicants from the second round will be announced in June.

Gold has proved the most sought after commodity in the applications followed by base metals.

Other commodities included nickel, iron, uranium, heavy mineral sands and coal.

The Exploration Incentive Scheme's Geophysical and Geochemical Surveys program is also being utilised to fund 50 per cent of an important new survey.

The Capricorn Deep Seismic Crustal Survey will increase the understanding of valuable resources buried in the crust of north-west Western Australia.

The survey has already commenced in the Hamersley Ranges, near Tom Price, and will investigate the structure of the Earth's crust down through the Gascoyne and into the Mid-West, passing through Western Australia's rich iron ore, cooper-lead and gold regions.

Minister Moore said understanding the Earth's crust was significant to the mineral and petroleum exploration industry because the data could identify potential commercial ore bodies or petroleum deposits.

"As well as identifying prospective commercial resource sites, this invaluable geological data will link the two oldest pieces of crust in Australia - the Pilbara and Yilgarn Cratons - and may give clues to how plate tectonic processes were moving continents around the Earth's surface more than two billion years ago," he said.

"It will test the theory that the cratons were parts of two ancient continents separated by ocean and brought together by continental collisions."

The survey is being conducted in collaboration between the Department of Mines and Petroleum's Geological Survey of Western Australia (GSWA) and the Earth Imaging and Structure component of AuScope, the Federal Government's national Earth sciences infrastructure program.

Minister Moore said the survey was one of a series being undertaken across Australia as part of the National GeoTransect Program in order to construct a three dimensional image of the Australian plate and gain data on its evolution.

Seismic reflection data is generated by vibrating the ground using three large vibrator trucks.

Seismic waves travel down through the Earth and are reflected from surfaces and fault structures that mark changes in rock type.

The reflections are recorded and interpreted to construct an image of a vertical slice through the crust.

The acquisition and interpretation of the seismic reflection data is being managed by Geoscience Australia and ANSIR - the national facility for Earth Sounding. ■

C COMMENCEMENT OF SIMCOA EXPANSION

Australia's only silicon plant, the Simcoa Silicon Plant at Kemerton Industrial Park in Western Australia's South West, recently commenced the first stage of an A\$200 million expansion.

The expansion includes the A\$100 million construction of a third furnace at the plant, which will increase production of silicon to 48,000 tonnes per annum.

The expected construction of a fourth furnace within the next few years will realise the completion of the original 1989 vision for the plant.

Simcoa Vice President Jim Brosnan said the main driver for the expansion was a rising global demand for silicon.

Owned since 1996 by Shin-Etsu Corporation of Japan, Simcoa directly employs more than 120 people in the only silicon plant in Australia, a long-standing operation which has been running for the past 20 years.

The plant currently produces more than 32,000 tonnes per annum of silicon, 85 per cent of which is exported.

The expansion investment decision follows years of work to improve plant efficiencies in terms of recovery rates, energy usage and minimising waste.

Simcoa's operation is recognised by industry as representing 'world's best practice' in the silicon industry.

Jim Brosnan said that 100 to 120 extra jobs would be created during the construction of the third furnace and an extra 40 permanent jobs would result from stage one of the expansion.

"The main driver behind the expansion was increasing demand in the market; and timing," he said.

"We were getting approaches from companies who were after long term contracts for silicon and we just weren't able to provide them with enough silicon. So we saw a need for an expansion.

"We realised the demand was out there and we had the efficiencies and 'world's best practice' for the expansion."

Mr Brosnan said the demand for silicon was coming from three key areas: the Middle East, the chemical sector and from China.

"The demand is coming from the Middle East for aluminium alloys," he said.

"Secondly, from the chemical sector, specifically in the silicones and optical fibre areas, which have had strong growth around six per cent per annum.

"The third area of demand is from China where previously exported production is now being taken up in the local market, reducing the export growth rate."

Other than the two new furnaces, there will be minimal changes to the plant as a result of the expansion.

The third furnace being installed is based on the same technologies as the existing ones, but with some improvements principally geared to energy efficiency.

"The process is not changing, it will still represent the current state of the art worldwide," Mr Brosnan said.

Simcoa's plant was established and operates under the *Silicon (Kemerton) Agreement Act 1987*, which is administered by the Department of State Development.

The third furnace expansion gained environmental approval in 2006 and was approved under the State Agreement in early 2010.

The expansion sits with the final strategy plan for Kemerton Industrial Park, which was released by the Department of State Development and LandCorp in 2009.

Kemerton Industrial Park is located 160 kilometres south of Perth and 20 kilometres north of Bunbury.

The second stage of the expansion, the construction of the fourth furnace, will increase capacity to 64,000 tonnes.

The development will also see production at Simcoa's Moora Quartz mine rising from 80,000 to 160,000 tonnes per annum.

Jim Brosnan said he expects the commissioning of the third furnace to be in August 2011 and the construction of the fourth furnace to be completed by August 2013.

Silicon is used in many modern industrial and commercial products including:

- aluminium alloys
- silicones (found in a variety of products, including antiperspirants, skin and hair care products, fabric softeners, cookware and construction sealants)
- silicon chips
- optical glass fibre (used in information technology and communications)
- photo-voltaic cells (for the production of solar energy). ■



Photo courtesy of the South West Development Commission: Teneille Watson.

L-R: Simcoa Chairman Erv Schroder; Simcoa Vice President Jim Brosnan; and Minister for Regional Development Brendon Grylls at the expansion launch.

ADVANCING WA'S ENERGY MIX

SHALE GAS & GEOTHERMAL ENERGY

The importance of gas to Western Australia's energy mix has been well recognised.

From the first discoveries off the North West Shelf to the recent announcements regarding the James Price Point gas hub and the massive Gorgon Project, the importance of gas to Western Australia will continue for decades to come.

This fact is helped by the evolution of technology that allows companies to access the State's gas reserves.

Exploration targeting unconventional gas resources is expanding worldwide.

Shale gas is one form of unconventional gas adding to resources around the world and Western Australia is no exception.

Senior Petroleum Engineer at the Department of Mines and Petroleum, Ali Sharifzadeh, said shale gas is natural gas within fine grained, organic rich shaly rocks of regional extent.

"Shale acts as both source and reservoir for gas," he said.

"The gas is stored interstitially, within pore spaces or fractures, and absorbed onto the organic components within the shale."

Western Australia's first shale gas exploration well Woodada Deep-1 was drilled in April 2010 by AWE and early signs indicate a thriving new industry could be on the horizon.

Mines and Petroleum Minister Norman Moore said AWE Limited's decision to

drill the Woodada Deep-1 coring well in the onshore Perth Basin, located about 100 kilometres north of Lancelin, could not only create a new industry but also provide greater certainty for existing businesses in Western Australia.

"The drilling has potential to spark a new industry which may significantly increase WA's economic growth and enhance its reputation as an international resources hub," he said.

"Previously considered unviable, shale gas exploration and production is now more prospective due to improved horizontal drilling and fracturing techniques."

Minister Moore said the ability to exploit shale gas resources with new technologies was expected to increase the future gas supply for the United States by a further 100 years.

"I am told that shale gas and its possibilities for industry was the subject of serious discussion at the recent North American Prospect Expo in Houston, the world's biggest upstream oil and gas conference," he said.

In an announcement to the Australian Stock Exchange earlier in the year, AWE said the shale gas potential in the Perth Basin appeared comparable with the successful shale gas fields of North America.

"The WA gas market is very attractive in terms of both demand and pricing. A robust evaluation will take some time but the potential reward is large," the company said.

Mr Sharifzadeh said Western Australia has huge potential for unconventional resources.

"It is not unreasonable that unconventional gas resources, including shale gas, could match or even exceed the State's current offshore conventional gas reserves," he said.

Mr Sharifzadeh cited the growing importance of shale gas in the US as an indication of its potential value to Western Australia.

"At present, shale gas produces approximately 10 per cent (2.0 Tcf/year) of the daily consumption in the USA and is predicted to rise dramatically in the short term," he said.

Minister Moore said if it was found that WA shales had commercial potential, it was possible they could supply the State's domestic gas market with a new source of cheap, conveniently situated reserves.

While gas is undoubtedly important to Western Australia, there is a growing recognition of the need to diversify the State's energy mix to best accommodate future WA energy needs and diversity of supplies.

This is where geothermal energy can also play a role.

Geothermal exploration was first opened up in Western Australia in 2007, via the geothermal acreage release, and has attracted almost 50 applications in three years.

That number could double in 2010, after the entire State became eligible for geothermal exploration in the latest acreage release.

Previous releases were constrained to one of four regions – Perth Basin and adjacent, Carnarvon Basin and adjacent, Southeast and Northeast.

The announcement of an all-of-State release, wherein all onshore Western Australia is available for application, should result in an increase in interest from the geothermal industry.

Department of Mines and Petroleum Senior Energy Geotechnologist Mike Middleton said it was important for the government to assist in the development of geothermal energy.

“Previously, acreage has been released in small blocks,” Mr Middleton said.

“This is the first time the whole State has been released for geothermal energy. The first release was in 2007 and since then we have granted 38 geothermal permits.

“With the whole State being available, we expect this will increase significantly.”

Mr Middleton said there was a growing recognition of the importance of alternative energy among industry.

“It is an emerging technology,” he said.

“There is also an understanding that there may be environmental issues associated with other forms of energy, particularly surrounding emissions.

“It is an important industry that will contribute to the energy mix, assist in securing energy access and lower the environmental footprint of energy supply.”

In March this year, the Minister announced the State Government had granted 10 new exploration permits to companies looking to develop geothermal energy projects in Western Australia.

The approvals were in relation to the 2009 acreage release for the Carnarvon Basin and Southeast region.

Minister Moore said the permits increase the State’s potential to generate significant new renewable energy supplies.

“These new permits, granted by the Department of Mines and Petroleum, will enhance what is becoming a robust geothermal exploration sector,” he said.

New World Energy Ltd received seven of the eight permits awarded in the

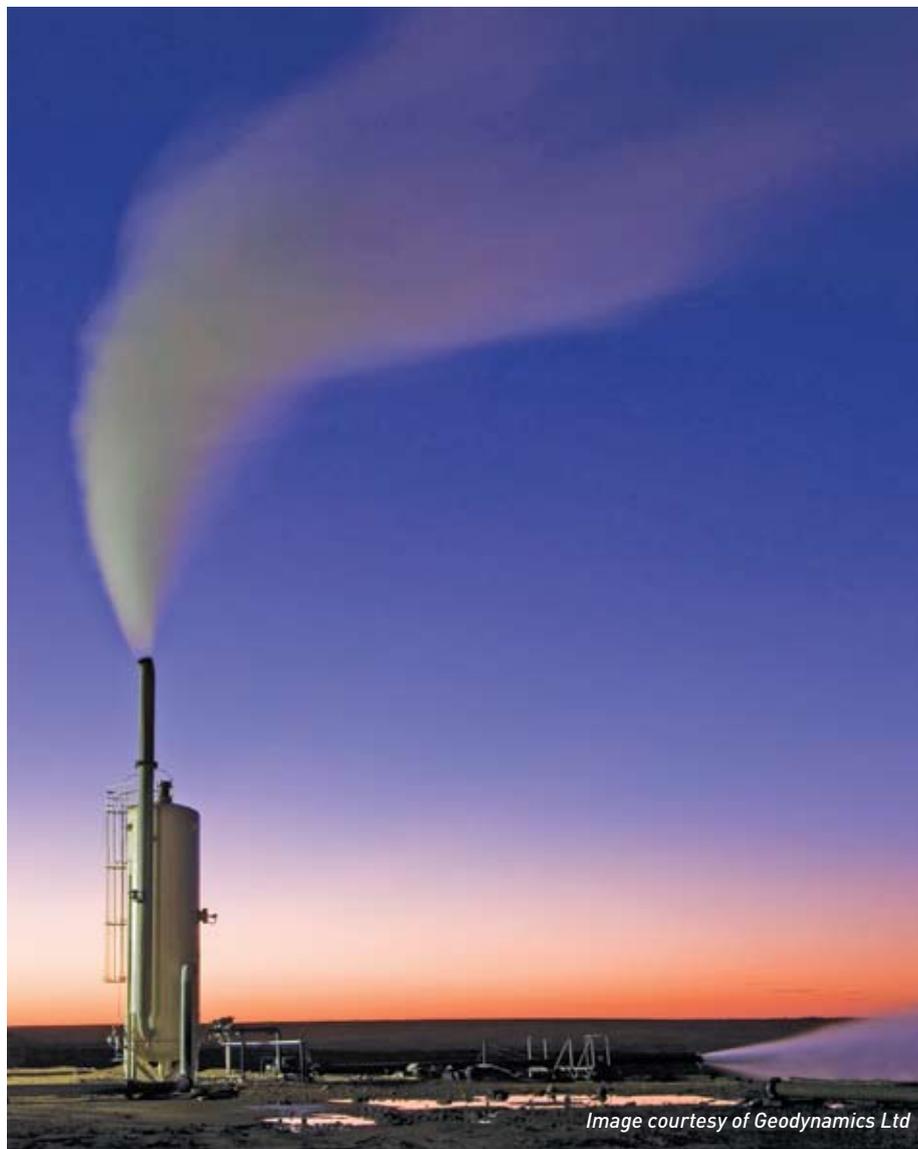


Image courtesy of Geodynamics Ltd

Carnarvon Basin, while Geothermal Energy Pty Ltd received the other.

“These permits cover a combined work area of 34,556 square kilometres and involve a total work program expenditure of A\$62.6 million across the six-year life of the permits,” the Minister said.

The two permits in the Southeast were granted to Greenpower Energy Ltd and cover a combined area of 10,732 square kilometres, with total work program expenditure of A\$42.9 million planned across six years.

“Geothermal Energy and Greenpower Energy are both new explorers to WA in this sector,” Minister Moore said.

“It is encouraging that the geothermal sector in this State is gaining new members at the same time as increasing its geographical spread.”

Mr Middleton said the initial 2010 all-of-State release is limited to blocks and part blocks landward of the mean high-water mark (mainland coastline only)

and does not include any coastal waters or islands.

“The State has been divided into four regions and the release area configuration differs in size for each region,” he said.

“We are already seeing considerable interest in the Perth Basin and surrounds. This region is seen as the most prospective in Western Australia, due to its proximity to the greater part of the population concentration in the State.

“However, large tracts of land with good geothermal potential remain vacant. This all-of-State release provides an excellent opportunity for explorers to obtain geothermal permits with good potential in key locations of the State.”

An information package, including information such as how to apply for acreage, land access, basin geology and data, is available via the DMP website at www.dmp.wa.gov.au/6060.aspx or by calling Mike Middleton (08) 9222 3076 or Richard Bruce (08) 9222 3314. ■

WORLD-CLASS INFRASTRUCTURE

FOR THE AUSTRALIAN MARINE COMPLEX

The Australian Marine Complex (AMC) has been performing from strength to strength, with major infrastructure projects enhancing its capabilities as a centre of excellence in the marine, defence and oil and gas industries.

The latest addition to the AMC is the world's most technologically advanced floating dock and transfer system.

Measuring 99 metres by 53 metres, the dock is capable of lifting vessels up to 12,000 tonnes for service and maintenance.

It can also transfer vessels and modules up to 3500 tonnes from water to land.

The new A\$60 million floating dock is part of a four-year A\$170 million upgrade to the AMC, which also includes a 512-wheeled self-propelled modular transporter system, the eastern wharf and a transfer wharf.

The floating dock and the self-propelled modular transporter have been named Yargan and Kaalil respectively, in recognition of the Henderson area's traditional owners, the Noongar people.

Department of Commerce Marine and Defence Branch General Manager John O'Hare said the dock's control system, in particular the manoeuvring system, made the AMC floating dock incomparable.

"No other floating dock in the world can move in more than one direction and very few docks have the ability to transfer and offload vessels," he said.

"The design of the floating dock also allows for a second stage to be built to adjoin the dock and provide an additional 132 metres docking capacity which can be used as required.

"The floating dock is expected to contribute more than A\$2 billion to the Western Australian economy in the next 25 years."

The AMC floating dock will provide significant benefits to national security by enabling the Royal Australian Navy Collins Class submarine fleet to be serviced at the AMC Common User Facility until at least 2032.

The dock will also service the needs of commercial shipbuilders, the superyacht industry as well as testing of underwater subsea structures for the oil and gas industry.

The world's largest aluminium shipbuilder Austal has already used the floating dock to undertake hull cleaning of its new 102 metre trimaran vehicle-passenger ferry.

The AMC floating dock is a joint initiative between the Department of Commerce, LandCorp and AMC Management Pty Ltd.

The strong reputation that the Australian Marine Complex has built over the years has enabled it to attract other major infrastructure projects that will strengthen its existing capabilities.

Civmec Construction and Engineering is building an A\$24 million undercover fabrication and assembly hall at the AMC.

At 27,000 square metres in size, the facility will be the largest space of its kind in Australia and cater for the marine, defence, oil and gas and resources industries.

Mr O'Hare said the impressive size of the workshop would enable the State to compete for larger scale fabrication and module assembly tenders from the marine, defence, petroleum and resources industries.

"This investment is expected to provide 650 new jobs and a thousand more indirectly from new work that will be brought into WA," he said.

Civmec's Chief Executive Officer Jim Fitzgerald said the facility would meet the need for a one-stop-shop for large and small scale module assembly in the State.

"Civmec's vision is to create a multi-disciplined company capable of serving the increasing demands of the resources, oil and gas and marine and defence sectors," Mr Fitzgerald said.

The workshop is estimated to be completed by the end of 2010, with completion of the office some 12 months later.

In addition to the fabrication and assembly hall, Matrix Composites and Engineering has recently announced it will occupy 8.4 hectares of land in the Australian Marine Complex's new Subsea Cluster.

Located next to the AMC Common User Facility, the Subsea Cluster is a



Austal using the AMC floating dock to undertake hull cleaning of its new 102 metre trimaran.

20 hectare serviced area specifically suited to the requirements of the expanding subsea oil and gas industry.

Built in two stages, Matrix's new development will incorporate an integrated buoyancy manufacturing facility that includes bulk chemical storage, warehousing, composite sphere manufacturing, composite layup and casting, painting, dispatch and one of the world's largest full scale hyperbaric testing centres.

Matrix Business Development Manager Peter O'Brien said the new plant would incorporate some of the most sophisticated oil and gas testing equipment in the world.

"Once completed, our facility will house the world's largest syntactic foam buoyancy plant," he said.

"It will also have the capability to manufacture and test any size of riser and production buoyancy to water

depths of 16,500 feet (5030 metres). This equipment will more than double Matrix's current production capacity."

Mr O'Brien said the company's new facility at the AMC would consolidate its existing operating sites from six to two.

"The site's proximity to the ocean and Chevron's work at the new service and supply base was the deciding factor when we chose to relocate to the AMC," he said. ■

SKILLED LABOUR

MIGRATION STRATEGY FOR WA

The Western Australian Government and industry have recently joined forces to develop a state specific migration strategy.

Peak industry bodies the Chamber of Minerals and Energy Western Australia (CMEWA) and the Chamber of Commerce and Industry Western Australia (CCIWA), will work alongside government to develop the strategy in response to mounting concern over an expected return of skilled labour shortages.

“Our State has emerged from a difficult 18 months and is about to enter a new economic cycle, driven by favourable terms of resources-based trade and associated business investment,” CME Chief Executive Reg Howard-Smith said.

“This growth will again highlight capacity constraints in the form of widespread skilled labour shortages, and temporary and permanent skilled migration will have an important role in easing the pressure.”

Industry experts have predicted that up to 26,000 skilled workers will be required within the next three years and 400,000 in the next ten years. It is anticipated there will be a shortfall of 150,000 workers.

Training and Workforce Development Minister Peter Collier said the strategy would provide for a responsive, efficient and consistent approach to meet the State’s skilled migration needs over the short to medium term, as WA enters a new phase in economic growth driven by a strong resources sector.

“While the plan will focus on maximising opportunities for all Western Australians, targeted overseas and interstate migration will also be vital in alleviating the predicted skill and labour shortages,” Mr Collier said.

The current strategy is accused of being flawed with some employers waiting up to six months for an overseas worker.

The development of this new strategy for WA will involve a thorough investigation of other key issues affecting skilled migration including the:

- current migration approach
- role of temporary and permanent skilled migration
- identification of WA as a destination of choice for business professionals and skilled migrants
- development of a policy framework that outlines the role of migration and its social and infrastructure impacts.

The WA strategy is part of an overhaul of Australia’s General Skilled Migration program.

It is a positive result for the resources and energy industry, demonstrating that the Federal Government has recognised WA’s dynamically different job market and its requirement for a tailored approach to migration.

The strategy provides a timely move by government, given that Western Australia will be home to some of the world’s largest energy and resources projects and is set to be positioned as a world leader in the industry.

There are four super projects ramping up in the State within the next few years, and between them they have an estimated workforce requirement (at peak construction) of up to 25,000 workers.

Woodside’s Pluto LNG Project is set to begin operation in 2010; Chevron’s Gorgon Project in 2014 and Wheatstone in 2015; and Woodside’s Browse LNG project in 2016/17. ■



SCHOLARSHIPS HELP PAVE MINING CAREERS

Each year, the Department of Mines and Petroleum provides scholarships as a career pathway for students studying mining engineering or metallurgy at the Western Australian School of Mines (WASM).

This year's recipients include Kalgoorlie local Scott McKenzie, aspiring mining engineer Jaime Roberts and Pakistan-born Farjad Ather, who has always dreamt of becoming a miner.

The scholarships were introduced in 1985 in order to support WASM in attracting high-calibre students, with the aim of enhancing the school's reputation and improving overall standards.

During that time, the Department of Mines and Petroleum (DMP) has invested more than A\$1 million into the scholarship program.

Scholarships are renewed annually, and are maintained through the four-year undergraduate course.

Potentially, scholarship recipients can receive A\$6,000 a year over a four year period, up to a total of A\$24,000, as long as students maintain satisfactory grades.

Factors taken into account in awarding the scholarships include academic ability and performance at school and motivation to pursue a career in the mining industry.

Jaime, a third year student, said the scholarship would enable her to fulfil her aspirations to become one of the top female mining engineers in Australia.

"By receiving this scholarship I will be able to have more time to spend studying and learning in this major industry," she said.

First year student Scott said he had been working in the mining industry for a number of years in both underground and open pit operations and undertook university studies because he was confident of a successful career in mining.

Fellow first year student Farjad, who migrated from Pakistan last year, said he had always had a dream of becoming a miner and to realise his dreams he migrated to Kalgoorlie.

"I was always interested in mining engineering as it is the most practical professional engineering qualification in the industry, where you are directly involved with the workforce as well as the decision making role as you proceed in your career," Farjad said.

He believes once he graduates he will be a significant addition to the skilled manpower needed for the mining boom.

With a history of over 107 years in Kalgoorlie, the WASM has been one of Australia's leading mining education

providers since 1902. At that time, and until 1969, it was administered by the Department of Mines, before coming under the umbrella of what is now Curtin University.

WASM graduates are highly sought after by industry and consistently receive among the highest starting salaries of any graduates in Australia, with virtually a 100 per cent employment rate.

Recent graduates of 2009 who were assisted by the DMP scholarships during their studies were Toby King (Minerals Engineering) and Andrew Simons (Minerals Engineering).

Toby, originally from Manjimup, is now employed at Polymetal's White Dam Gold Mine as a Plant Metallurgical Engineer.

Andrew, from Perth, was also recently awarded several academic prizes including the prestigious Reg Buckett Prize. He is currently pursuing his Doctorial studies at WASM.

The Western Australian School of Mines is one of only three national university schools that are endorsed by the Minerals Council of Australia as a preferred national provider of mining engineering education through Mining Education Australia, the Metallurgical Education Partnership (MEP) and the geosciences consortium. It is a school within Curtin University's Faculty of Science and Engineering. ■



Department of Mines and Petroleum
Department of State Development
Department of Commerce

The Graduate Program

Applications for our Graduate Program will soon open. This unique opportunity offers graduates the ability to work across three leading Western Australian Government departments:

- Department of Mines and Petroleum
- Department of State Development
- Department of Commerce

Graduates expand their knowledge and experience in an exciting, supportive and diverse environment. Learning and development opportunities are combined with rotational placements, formal training and support over 18 months, after which graduates return to a permanent role in their home division.

To learn more about the Departments and the Graduate Program please visit their websites or contact Rachelle Jarvis on 9222 3866.



NEW SAFETY REGIME UNDERWAY

The rollout of the State Government's new safety regime for the resources industry is now underway.

The Reform and Development at Resources Safety (RADARS) strategy is designed to reduce serious accidents across the mining, petroleum and dangerous goods sectors.

Mines and Petroleum Minister Norman Moore said RADARS emphasised expanding the role of risk management rather than relying on detailed prescription for resources safety regulation.

"It is vital the mining inspectorate reflects the size and complexity of WA's mining industry and, as such, the Government has approved the creation of up to 26 additional mines inspector positions," he said.

The recently introduced Mines Safety and Inspection Levy will be used to fund these and a range of staff positions within the Department of Mines and Petroleum (DMP).

The latest in a series of independent reviews into mining safety in Western Australia highlighted the State's low inspector to employee ratio.

The Minister said despite criticism from some in the industry, the levy was important to ensure the Government had the resources to lift safety standards.

"The growth in WA's mining industry has stretched DMP's resources to the limit," he said.

"It is the State's position that enhanced safety services should be funded by the mining industry as the direct recipient of those services."

The new levy regulations set out details such as how the levy will be charged to industry, how it will be assessed and the payment process.

The levy will raise about A\$8 million in 2009-10 and about A\$18 million in

2010-11 for regulating the mining sector, which is the initial priority of RADARS.

Resources Safety will continue to regulate safety across all of the industry sectors, including onshore oil and gas, pipelines, mining exploration, dangerous goods, major hazard facilities, explosives and counter-terrorism measures.

A Ministerial Advisory Panel was recently formed to guide the implementation of RADARS.

The panel is headed by Department of Mines and Petroleum Director General Richard Sellers.

Mr Sellers said the Government believed Western Australian workers and the general community needed to be confident the resources industry was capable of providing a safe place to work.

"The advisory panel has an important role to play in the development of a best practice regulatory model and the mechanisms to help drive cultural change within industry itself," he said.

"To achieve the desired outcome of addressing serious accidents, it is important to establish a common understanding of both the risk-based methodology and the work plan required to bring about the necessary change."

Mr Sellers said it was important to reinforce, promote and extend the application of risk management in safety regulation.

"This requires on-going consultation and input from industry and union representative bodies, which we will achieve through the advisory panel," he said.

The panel will also take into account planned federal reforms in occupational health and safety and skill shortages, which affect both government and industry.

The other panel members are Ian Ashby (BHP Billiton Iron Ore President), Anne Bellamy (Chamber of Commerce and Industry), Dr Agu Kantsler (Woodside Health and Safety Executive Vice President), Simon Bennison (Association of Mining and Exploration Companies Chief Executive), Gary Wood (Unions WA) and Mark Cooper (Dampier Bunbury Pipelines General Manager).

Industry will be kept informed with direct mail outs and updated information on the Resources Safety website: www.dmp.wa.gov.au/ResourcesSafety ■



The new Ministerial Advisory Panel for Reform and Development at Resources Safety (RADARS).

PORT HEDLAND AIR QUALITY AND NOISE MANAGEMENT

A unique collaboration between industry, the community and the State Government has laid the foundation to resolve more than 40 years of contention over the impact of export operations at Australia's largest tonnage port.

Dust from iron ore storage and loading operations at Port Hedland affects nearby residential and commercial areas and has raised concerns about health impacts, particularly in the town's West End, the town's traditional centre.

The Port Hedland Air Quality and Noise Management Plan adopted by the Western Australian Government in March 2010, provides certainty for future export growth, and direction for Port Hedland's future development.

Premier Colin Barnett said the plan would assist the transformation of Port Hedland into a regional city.

"The Port Hedland Air Quality and Noise Management Plan balances community development and renewal, with the continued growth of vital export industries," he said.

The plan sets goals and allocates responsibilities for managing and monitoring dust and noise impacts on people and property. This includes establishing a comprehensive air monitoring system and adopting a guideline measure for air quality, which industry, the Town of Port Hedland and government agencies will work together to achieve.

New land use planning measures will encourage future development of the West End for short term accommodation, commercial and recreational uses, with uses such as childcare or aged care prohibited.

Residential development and services suitable for families and the elderly will be a focus in the town's east where dust impacts are less.

Industry and government also will jointly develop a plan for managing noise impacts on residential and commercial areas, which are also expected to grow.

The plan was prepared by The Port Hedland Dust Taskforce, established by the Premier in 2009 and chaired by Department of State Development Director General Anne Nolan.

Its task was to develop a comprehensive resolution of dust and noise related issues while ensuring the interests both of Port Hedland and Western Australia in continued expansion of industry and export activity.

Members included the Town of Port Hedland, the Port Hedland Port Authority (PHPA), exporters; BHP Billiton Iron Ore, FMG and Hancock Prospecting, and the State Government Departments of Environment and Conservation, Health, Planning and the Premier and Cabinet.

The Taskforce was assisted by previous studies and consultation activities undertaken by industry, local and State Government agencies, and by the significant efforts individual exporters and the port have made in reducing emissions, by increasing monitoring, introducing better technology and practices and locating dust and noise causing activities away from the town.

However, the sheer size of planned and potential growth in future iron ore exports will inevitably generate dust and noise. For example, in 2009-10, Port Hedland Port is expected to ship more than 180 million tonnes, three times as much as it did only a decade previously, primarily of iron ore, but also salt, manganese and other minerals.

During the development of the plan exporters, port services providers and the PHPA came together to establish the Port Hedland Industries Council, which will co-ordinate future monitoring and emission reduction activities.

While a review of Port Hedland Hospital records over a twenty year period had suggested that children and older residents in dust prone areas were more likely to have been admitted for respiratory problems, the impacts of Port Hedland's dust levels are not fully understood.

While excessive levels of dust are an acknowledged health risk in

urban settings, Port Hedland dust is predominately iron ore, and particles are relatively large in size. These characteristics are considered to present less risk than those of normal urban dust, for which recommended tolerance levels are set.

There was also some local community resistance to any proposed restrictions on residential land use, given that high dust levels have been tolerated throughout Port Hedland's development as a regional centre, since iron ore exports began in 1965.

Others questioned to what extent Port Hedland's hot, dry climate and arid landscape, rather than industry activity, contributed to generating dust.

The Taskforce took a precautionary approach, focussing on reducing the exposure of those most at risk - children and the elderly - and improving understanding and management of dust emissions to produce a plan that all parties agreed on.

Ms Nolan said the Taskforce process provided an excellent model of how Government and industry can work together to drive responsible development for the State's future.

"We focussed on engaging all stakeholders and setting clear, achievable and timely goals and the outcomes show that this approach was a success - we've developed a plan that is positive for all players and for the future of the Town," she said.

The Taskforce will monitor progress in implementing the plan and report to the Premier. Copies of the Plan and fact sheets are available from www.dsd.wa.gov.au/PHDTF ■



Aerial view of Port Hedland - Australia's largest tonnage port.



DMP CONTINUES TO LIFT GAME ON APPROVALS

Dr Tim Griffin

Following a strong 2009 the Department of Mines and Petroleum (DMP) continued to improve its resources approvals performance in the first quarter of 2010.

The department is also regularly unveiling new initiatives aimed at building on the progress it has made.

DMP's latest approvals performance report showed compliance with timeframes for all key mining approvals was above 90 per cent during the first quarter.

Director General Richard Sellers was pleased the figures showed a steady reduction in the total number of pending mining tenement applications.

The number of mining exploration licence applications eased from 960 in the fourth quarter of 2009 to 798 in the first quarter.

However, the number of applications for environmental approvals to commence exploration activity continued to increase, primarily due to the significant increase in exploration activity following the recovery from the global financial crisis.

"The number of applications in the system being carried forward also increased over the past year, from 145 leading into the first quarter of 2009 to 243 at the end of the first quarter of 2010, and resources have been reallocated to assist in meeting the increased demand," Mr Sellers said.

In the petroleum sector, 97 per cent of those proposals approved in the first quarter of 2010 were processed within the department's target timeframe, compared with 80 per cent in 2009.

"Additionally, the number of applications carried forward now stands at 137, a

reduction from 160 at 1 January 2009," Mr Sellers said.

He said the processing of petroleum environmental applications maintained a high level of compliance with the timeline target and also achieved a marked reduction in the number being carried forward since the beginning of 2009.

DMP recently created the new position of Deputy Director General (DDG) Approvals to focus on continuing the reforms that have already led to improvements to the timeliness, clarity and interaction of approvals for proposals submitted by industry.

The DDG will oversee the department's key regulatory divisions responsible for approvals, Mineral Titles, Environment and Petroleum.

The position reflects the lead agency role DMP plays in the wide-ranging activities of the minerals and energy sector across Western Australia.

Until it is formally advertised and filled, the new position will be occupied by Dr Tim Griffin, the former Executive Director of DMP's Geological Survey of Western Australia.

Dr Griffin said DMP had a great opportunity at this time to achieve fundamental approvals reform across all parts of government.

"The two main areas I will be focusing on are the further implementation of DMP's lead agency role and the development of the new uranium sector in Western Australia – those are two areas the Government has indicated where it is keen to see significant progress," Dr Griffin said.

DMP has also agreed recently on new working arrangements with the Department of Indigenous Affairs (DIA).

The new arrangements, signed off by the two departments this month, provide information on departmental roles and responsibilities, office contacts, communication protocols, and target timelines for some key approvals for access to lands where Aboriginal heritage values or sites may be affected.

Dr Griffin said the arrangements were a very important first step with DIA to achieving the goals of the State Government's lead agency framework.

"This recognises that DMP and DIA need to work efficiently and effectively together because project proposals submitted to our two departments will often overlap or be dependent on one another," Dr Griffin said.

"We have made similar progress with other key agencies and we are now focussing on further developing working arrangements."

Further improvements within the department include new approvals tracking capabilities within online systems such as the Petroleum and Geothermal Register, Environmental Assessment and Regulatory System (EARS) and Mineral Titles Online.

Finally, DMP is reviewing guidelines for exploration and development approvals. This is to ensure that documents are up-to-date, and that individual companies benefit from the improvements to approvals management and reporting that DMP and other approvals agencies are working to achieve. ■

NEW HAND

AT THE WHEEL FOR MINERAL TITLES

Western Australia is often claimed to be one of the largest and most valuable mineral titles jurisdictions in the world.

This makes the task of managing it a challenging and highly important one, with a degree of the economic success of the State and Australia dependent on the outcomes.

This task now falls to Dr Ivor Roberts, who was appointed the Director of Mineral Titles at the Department of Mines and Petroleum in May.

Dr Roberts has been employed with the department since 1997, within the Geological Survey of Western Australia division.

His first position was as the Regional Manager of the survey in Kalgoorlie and his most recent role was as Manager of Mineral Resources in DMP's Perth office.

Dr Roberts said he was committed to the maintenance of robust and transparent regulation and assessment of industry proposals for mineral titles within his new role.

"The State Government has a commitment to improve minerals and petroleum approvals processes in Western Australia, and the Mineral Titles Division has a major role to play in this," he said.

"Mining is a globalised industry and we need to ensure the State is in the

best position to secure international investment in new exploration and development activity."

Dr Roberts said DMP and the Western Australian mining sector needed to face the challenges of changing national and international conditions.

These included the Federal Government's possible implementation of the recommendations of the Henry Tax Review, and ongoing volatility in several commodity markets.

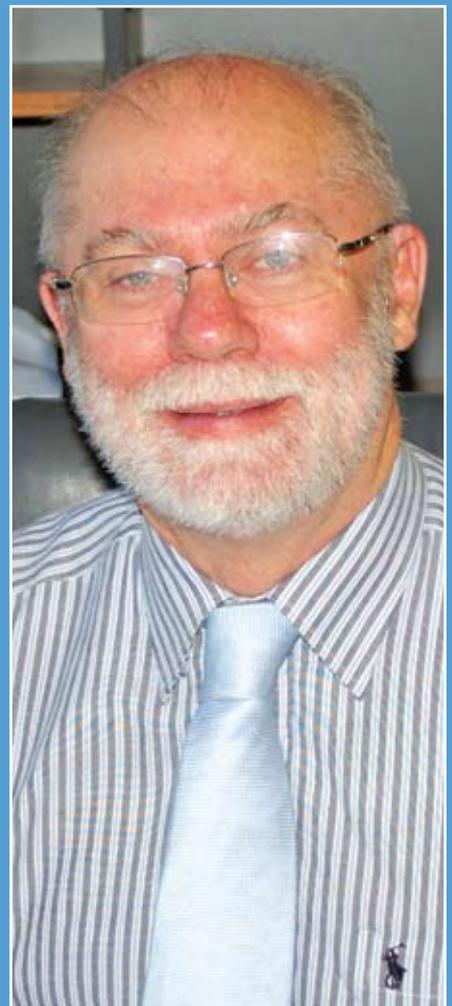
Dr Roberts has recent experience in seeking pragmatic solutions to important issues.

He has led DMP's discussions with the Department of Environment and Conservation on the expansion of the Western Australian conservation estate and protecting mineral deposits from land tenure changes.

Prior to starting with the department he spent seven years as a lecturer and senior lecturer with the Western Australian School of Mines in Kalgoorlie.

He also previously held a lecturing position at the University of New South Wales, in his home State.

The previous Director of the Mineral Titles Division was Roy Burton, who served 45 years with the department and was greatly respected in the Western Australian mining sector. ■



Dr Ivor Roberts

AGRICULTURE

Ord - Ord East Kimberley Expansion Project
WA STATE GOVERNMENT

The State Government has committed \$220 million to increase the existing amount of irrigated land in the Kununurra region by adding 8,000 hectares at Weaber Plains. This funding will provide the construction of irrigation channels, roads and off-farm infrastructure to service the future needs of the region's growing population and sustain economic growth. The Commonwealth Government has committed \$195 million of Nation Building funding for social and common use infrastructure in the East Kimberley region. Construction has commenced and the package will be fully implemented by June 2012. Expenditure: \$415m.

DIAMONDS

East Kimberley - Argyle Diamond Mine (and Underground Expansion)

ARGYLE DIAMOND MINES PTY LIMITED

Development of the Argyle Diamond Mine commenced in 1982 and mining commenced in the main ore body (AK1) in 1985. The mine is operational and in order to extend the life of the mine the company has committed to an underground mine expansion. Commencement of underground operations occurred in Q4 of 2008. The company is continuing to construct the underground mine, which will extend the project's life beyond 2018. Despite a slowdown in critical development activities in the first quarter of 2009 due to difficult market conditions, the underground project is well positioned to ramp up to full operating capacity of 8.5 million tonnes per annum by 2013. Concurrently, open pit mine production is winding down with the last ore expected to be extracted in 2010. Currently 67% of Argyle Diamonds' site workforce is locally based of whom 25% are Aboriginal. Argyle aims for at least 40% indigenous workforce by the time the underground mine is in full production.

Expenditure: \$1.2b.

Employment: Construction: 250; Operation: 420

GOLD

Kalgoorlie - Super Pit - Golden Pike Cutback
KALGOORLIE CONSOLIDATED GOLD MINES KCGM

In January 2010, Kalgoorlie Consolidated Gold Mines (KCGM) received the final environmental approval from the Department of Mines and Petroleum to extend the working life of its Fimiston Super Pit open cut mine until 2021. The approval will allow the deepening of the Super Pit to 600m, the development of additional waste dumps and the expansion of tailings storage facilities. KCGM commenced preliminary works on the Golden Pike cutback in February 2010. Over the next two to three years, Golden Pike will become the primary cutback for the Fimiston Open Pit.

Employment: Operation: 1043

IRON ORE

Pilbara - Atlas Iron Pardo Hematite Direct Shipping Ore (DSO) Mine
ATLAS IRON LTD

Atlas Iron Ltd is an active explorer and developer, focused on iron ore projects within Western Australia. With a growing number of projects and a large landholding in the Pilbara (15,000km²) located close to existing infrastructure, the company is effectively defining resources and reserves capable of being mined with relatively low capital expenditure. Exports commenced in December 2008 starting with its Pardo Project located some 75km east of Port Hedland. The company is targeting commencement of Wodgina DSO Project in late Q2 of 2010 at an initial production rate of 2Mtpa with its first shipment in late Q3 or early Q4 of 2010.

Pilbara - FMG Iron Ore Mine Rail and Port Development

FORTESCUE METALS GROUP LTD

FMG Chichester operates a 45Mtpa iron ore mine at Cloudbreak in the Chichester Ranges of the eastern Pilbara, serviced by a multi-user railway and port facilities at Port Hedland. FMG Chichester is investigating increasing its production to 120Mtpa

from the Chichester Ranges and areas surrounding the Solomon deposits in the western Pilbara.

Employment: Operation: 1600

Pilbara - Rapid Growth Project 4
BHP BILLITON IRON ORE PTY LTD

BHP Billiton Iron Ore is currently expanding the installed production capacity of its Western Australian Iron Ore operations to 155Mtpa for operation in 2010. The increased production will be achieved through infrastructure upgrades and the creation of a Newman hub. Commissioning activities are well advanced and first ore was produced, ahead of schedule, in Q4 calendar year 2009. The Company is also undertaking a parallel expansion, Rapid Growth Project 5. Expenditure: \$2.1b.

Pilbara Mesa A - Mesa A / Warrambo Iron Ore
ROBE RIVER MINING CO PTY LTD

Construction of the mine and rail extension started in November 2007 and was completed in Q1 2010. First production commenced in February 2010. Initial production is planned to be approximately 20Mtpa, increasing to 25Mtpa by 2011. The project involves an open cut mine located south of the Pannawonica road off the North West Coastal Highway. Mesa A will sustain production of the sought-after Robe Valley pisolite ore as production from Mesa J decreases. Expenditure: \$1b.

Employment: Operation: 220

OIL & GAS DEVELOPMENTS

Carnarvon Offshore Basin - Pyrenees Oil Fields
BHP BILLITON PETROLEUM (AUSTRALIA) PTY LIMITED

In July 2007, BHPB Petroleum announced approval of the Pyrenees oil development located 45km north of Exmouth. The development comprises the Crosby, Ravensworth and Stickle oil fields which have estimated recoverable oil reserves in the range of 80-120 million barrels. The project involves the development of 13 subsea wells connected via flowlines to a Floating Production Storage and Offloading vessel, which will be capable of producing about 96,000 bbl/d of oil. First production commenced March 2010. As planned, the wells will be drilled and brought on in phases, with approximately half the field ramping up from first oil and the other half over the next six months.

Expenditure: \$2b.

Carnarvon Offshore Basin - Van Gogh Oil Field
APACHE ENERGY LIMITED

The Van Gogh oil development, located around 50km northwest of Exmouth, will utilise a Floating Production Storage and Offloading (FPSO) vessel (the Ningaloo Vision) with a processing capacity of 63,000bbl/d of oil and storage capacity of 540,000 barrels. It will be linked to two subsea drill centres with 10 production wells. Development drilling and sub-sea production equipment installation is completed awaiting the arrival in the field of the FPSO. Production commenced Feb 2010 and is projected to ramp up during the first half of the year.

Expenditure: \$700m.

Employment: Operation: 80

BAUXITE

Worsley/Boddington - Alumina Refinery - E & G Project Expansion to 4.7Mtpa

BHP BILLITON WORSLEY ALUMINA PTY LTD

BHP Billiton announced in May 2008 the go-ahead for the A\$2.5 billion Efficiency and Growth expansion project at its Worsley alumina refinery. The expansion project will lift capacity of the refinery from 3.5Mtpa to 4.7Mtpa through expanded mining operations, additional refining capacity and upgraded port facilities. Construction has commenced and production capacity is expected to be expanded by 2012. An additional A\$500 million will be spent on a new multi-fuel cogeneration power plant to be built at the refinery.

Expenditure: \$2.5b.

Employment: Construction: 1500; Operation: 200

ELECTRICITY

Karratha 7 Mile - 7 Mile Power Station
HAMERSLEY IRON PTY LIMITED

Rio Tinto has proposed a power infrastructure rationalisation program and upgrade for its mining and port operations in the Pilbara region. Hamersley Iron Pty Limited is constructing a new power generating facility at 7 Mile near Karratha. Robe River Mining Company Pty Limited is constructing a 220kV transmission line and a sub-station at Cape Lambert. The Cape Lambert sub-station will be linked to the 7 Mile main power generator via the new transmission line. Hamersley and Robe will share the generation capacity created by the new power station. This new single station will replace the two aging plants at Dampier and Cape Lambert. Construction of the power station commenced in late 2008 and is targeted for completion in Q3 2010.

Expenditure: \$700m.

HEAVY MINERAL SANDS

Narngulu - Processing Facility Expansion
ILUKA RESOURCES LIMITED

Iluka is currently upgrading its Narngulu processing facility to treat ore from South Australia to supplement a diminishing supply from its Eneabba mining operations. Iluka will treat up to 600,000tpa of heavy mineral concentrate from its Jacinth-Ambrosia deposit in SA at Narngulu, with the plant expected to produce up to 350,000tpa of zircon. The upgrade is nearing completion, with only minor works remaining. Following project ramp-up, significant sales of Jacinth-Ambrosia products are expected in the second half of 2010.

Expenditure: \$60m.

Employment: Construction: 100; Operation: 8

IRON ORE

Mid West Region - Extension Hill Hematite Mine
MOUNT GIBSON IRON LIMITED

Mount Gibson Iron has environmental approval for a 3Mtpa hematite mining operation at Extension Hill, 260km south east of Geraldton. The ore will be trucked to a rail head near Perenjori then railed to the port of Geraldton for export. Construction of the project will commence in 2010, with first shipments in June 2011.

Expenditure: \$73m.

Employment: Construction: 150; Operation: 100

Mid West Region - Karara Iron Ore Project
KARARA MINING LTD (GINDALBIE METALS LTD / ANSTEEL JOINT VENTURE)

The Karara Iron Ore Project is Karara Mining Ltd's cornerstone production project in the Mid West region. Construction commenced in November 2009. Karara will deliver some 10Mtpa of iron products before the end of 2011, comprising 8Mtpa of high grade magnetite concentrate and blast furnace quality pellets and 2Mtpa of Direct Shipping Ore hematite. The Project is underpinned by a world-class JORC-Code compliant resource base comprising a 522 million tonne magnetite reserve, a 1.853 billion tonne magnetite resource, a 10.9Mt hematite reserve and a 16.2Mt hematite resource. Expenditure: \$1.8b.

Employment: Construction: 1500; Operation: 500

Pilbara - Rapid Growth Project 5
BHP BILLITON IRON ORE PTY LTD

BHP Billiton Iron Ore has obtained all relevant Government approvals for a further installed production capacity expansion of its Western Australian Iron Ore operations to 205Mtpa, to be operating in the second half of calendar year 2011. Construction activities for the increased production, which involves mine expansions, dual tracking of sections of the railways and additional berths at Port Hedland, are almost 50% complete. The Company is in the study phases for future potential expansions. Expenditure: \$5.3b.

Employment: Construction: 3500

Pilbara - Western Turner Syncline (Sections 10 & 258 of ML45A)

HAMERSLEY IRON PTY LIMITED

Following State Agreement approval on 27 January 2010 construction commenced on the 6Mtpa iron ore

Committed Projects

mine at Western Turner Syncline, 20kms west of Tom Price. The mine is scheduled to come on stream to replace the production from the Tom Price mine as production decreases. Western Turner Syncline ore will be delivered by road to the processing and rail facilities at Tom Price at the initial rate of 6Mtpa. Expenditure: \$200m.

Employment: Construction: 200; Operation: 150

Pilbara Brockman Syncline 4 - Brockman Syncline 4 Iron Ore Mine

HAMERSLEY IRON PTY LIMITED

In mid 2008 Hamersley Iron commenced construction of the mine for the Brockman Syncline 4 iron ore deposit, located approximately 60km north west of Tom Price. First production is planned for July 2010 with a full production target of 22Mtpa.

Expenditure: \$2b.

Employment: Construction: 1500

IRON ORE PROCESSING

Pilbara - Cape Preston - Sino Iron Project

CITIC PACIFIC

Iron Ore Processing, CITIC Pacific Mining, a Chinese company, is constructing a magnetite iron ore mine and processing plant at Cape Preston. The project will include a concentrator, 6Mtpa pellet plant, slurry pipeline, combined cycle power station, port facilities and desalination plant. When operational, the facility will be capable of producing 27.6Mtpa of iron ore concentrate and high grade pellets, with first production of concentrate planned for the final quarter of 2010.

Expenditure: \$5.2b.

Employment: Construction: 4000; Operation: 500

LITHIUM

Great Southern Region - Mount Cattlin Lithium Project, Ravensthorpe

GALAXY RESOURCES LIMITED

Galaxy Resources Limited is developing a 1Mtpa lithium project (over a 15 year mine life) at Mt Cattlin, north of Ravensthorpe. Galaxy commenced mine development and plant construction in Q4 2009 with first production of concentrates planned during Q3 2010. Lithium (Spodumene) concentrate is expected to be shipped through Esperance. Galaxy's initial fast track project schedule aims to meet the growing demand for lithium-ion batteries currently being fuelled by the rapidly expanding international hybrid and electric vehicle market. Scoping studies for processing of lithium carbonate in Jiangsu, China, were completed in October 2009 and plans for commencement of the plant in Q4 of 2010 are on track.

Expenditure: \$75m.

Employment: Construction: 100; Operation: 75

NICKEL

Ravensthorpe - Ravensthorpe Nickel Operation

FIRST QUANTUM MINERALS AUSTRALIA NICKEL PTY LTD

First Quantum Minerals (FQM) acquired the Ravensthorpe Nickel Operation (RNO) from BHP Billiton (BHPB) in February 2010. BHPB placed RNO on care and maintenance in early 2009. FQM plans to return RNO to sustainable production by late 2011. RNO is an open cut mine and hydrometallurgical process plant that produces a mixed nickel cobalt hydroxide intermediate product. The modifications are within the plant's existing footprint in the materials handling area, including crushing, conveying and stockpiles. FQM aims to produce 39,000tpa nickel metal for the first five years after recommencement and 28,000tpa nickel metal over the current anticipated mine life of 32 years.

Expenditure: \$150m.

Employment: Construction: 200; Operation: 600

OIL & GAS DEVELOPMENTS

Barrow Island (Carnarvon Offshore Basin) - Gorgon Gas Processing Project

GORGON JOINT VENTURE

The Gorgon Joint Venture (GJV) made a final investment decision on the \$43 billion Gorgon Project on 14 September 2009. The GJV's foundation

project on Barrow Island includes a three train LNG development capable of exporting 15Mtpa and a domestic gas project capable of delivering at least 300 terajoules per day of gas to the mainland. The development on Barrow Island also includes potentially the largest commercial geosequestration project in the world. The project obtained State and Commonwealth environmental approval in August 2009. The project is based on gas from both the offshore Gorgon and Jansz/lo gas fields. On-island activity commenced in late 2009 and will ramp up through 2010 with the processing plant construction scheduled to commence in 2011.

Expenditure: \$43b.

Employment: Construction: 3500; Operation: 300

Carnarvon Basin - Pluto LNG

WOODSIDE ENERGY

Approved for development in July 2007, the Pluto LNG Project will process gas from the Pluto and Xena gas fields, located in the Carnarvon Basin about 190 km north-west of Karratha, Western Australia. The Pluto and Xena gas fields are estimated to contain 4.6 trillion cubic feet (Tcf) of dry gas reserves and an additional 0.5 Tcf of contingent resources. The initial phase of the project comprises an offshore platform, connected to five subsea wells on the Pluto gas field. Gas will be piped in a 180 km trunk line to the Pluto LNG Park onshore facility located on the Burrup Peninsula. Onshore infrastructure comprises a single LNG processing train with a forecast production capacity of 4.3 million tonnes a year. Storage and loading facilities include LNG and condensate storage tanks and export jetty. The Pluto LNG Project is on track to become the world's fastest developed LNG project from discovery of the gas field in 2005 to first LNG in early 2011 contingent on a productive industrial relations environment.

Expenditure: \$12b.

Employment: Construction: 4000; Operation: 300

North Rankin (Carnarvon Offshore Basin) - North Rankin Redevelopment

WOODSIDE ENERGY

In March 2008 the North West Shelf Venture participants approved funding of the \$5 billion North Rankin Redevelopment Project which will recover remaining low pressure gas from the North Rankin and Perseus gas fields, and extend the field life to around 2040. The project involves the installation of a new second platform - North Rankin B - with gas compression facilities, low pressure separators, utilities and accommodation. North Rankin B will be connected by a 100m bridge to the existing North Rankin A platform and on completion both platforms will be operated as a single integrated facility known as the North Rankin hub. The North Rankin Redevelopment project also includes the necessary connections to North Rankin A and some refurbishment of the North Rankin A platform. North Rankin B is scheduled for start-up in 2013 and will support the North West Shelf Venture's onshore gas requirements to supply future customer commitments.

Expenditure: \$5b.

Pilbara - Devil Creek Development Project

APACHE ENERGY LIMITED

Apache Northwest and Santos Offshore are continuing construction works for the Devil Creek Development Project (DCDP), a greenfield gas project comprised of an unmanned offshore gas production platform over the Reindeer gas field located about 80km northwest of Dampier; offshore and onshore gas pipelines; an onshore gas processing plant and a sales gas export pipeline connected to the Dampier to Bunbury Natural Gas Pipeline (DBNGP). Gas plant site earthworks are complete and civil works progressed sufficiently to allow for the sequential installation of pipe rack and gas processing modules. The onshore gas supply pipeline is nearing completion and the pipeline shore crossing, installed by horizontal directional drilling methods, is well advanced. The development site is located near Devil Creek, 65km southwest of Karratha where the construction workforce is being accommodated within a purpose built facility. The DCDP is designed to provide up to 200TJ per day of dry natural gas and between 80kl to 160kl per day of gas condensate. All gas from the DCDP will service the

domestic gas market in Western Australia, with first gas delivered into the DBNGP second half 2011.

Expenditure: \$800m.

Employment: Construction: 200; Operation: 20

Wanaea/Cossack (Carnarvon Offshore Basin) - Oil and Gas Fields

WOODSIDE ENERGY

The Cossack Wanaea Lambert Hermes (CWLH) fields, 135km northwest of Karratha, have produced 395 million barrels of oil since production began in 1995. The redevelopment work includes the purchase and conversion of the Okha floating storage and offloading facility into a floating production storage and offloading facility to replace the Cossack Pioneer in late 2010, as well as the replacement of associated subsea infrastructure. At a total investment of about A\$1.8 billion, the CWLH Redevelopment Project will support ongoing safe and reliable production from the CWLH fields beyond 2020.

Expenditure: \$1.8b.

RARE EARTHS

Mt Weld - Rare Earths Mine

LYNAS CORPORATION LTD

The Mt Weld deposit, located about 35km south of Laverton, contains an estimated resource of 12.2Mt at 9.7% grade for 1.18Mt rare earth oxides (REO). The development involves an open pit mine and concentrator at Mt Weld. The concentrate will be containerised on site then trucked to the Port of Fremantle for export. The ore will be shipped to a \$300 million processing plant in Malaysia, which will have an initial production capacity of 11,000tpa REO in 2011 and then expanding to 22,000tpa by 2013. Lynas raised \$450 million in equity to enable suspension of the project to be lifted in November 2009. Construction work recommenced at Mt Weld in April 2010 and the first ore feed into the concentration plant is scheduled to occur in December 2010.

Expenditure: \$135m.

Employment: Construction: 135; Operation: 90

SILICON METAL

Kemerton - Silicon Metal Plant Expansion

SIMCOA OPERATIONS PTY LTD

Simcoa announced in October 2009 its decision to expand the company's 32,000tpa capacity silicon metal plant at Kemerton. The first stage expansion, involving installation of a third furnace, will increase the plant capacity to 48,000tpa and commissioning is scheduled for Q3 2011. Providing world demand for silicon continues to increase strongly, a second stage expansion, involving installation of a fourth furnace could take place by late 2013 and increase plant capacity to 64,000tpa.

Expenditure: \$100m.

Employment: Construction: 200; Operation: 40

TITANIUM DIOXIDE PIGMENT

Kwinana - Titanium Dioxide Pigment Plant Expansion

TIWEST JOINT VENTURE

The Tiwest Joint Venture partners, Tronox Incorporated subsidiary, Tronox Western Australia Pty Ltd, and Exxaro Resources Limited subsidiary, Yalgoo Minerals Pty Ltd approved an expansion at their Titanium Dioxide Pigment Plant in Kwinana that will see production capacity increase from 110,000tpa to around 150,000tpa. Construction is almost complete, with additional capacity commencing to come online in May 2010.

Expenditure: \$100m.

Employment: Construction: 150; Operation: 12

AMMONIA/UREA

Shotts Industrial Park - Collie Shotts - Coal to Urea

PERDAMAN CHEMICALS AND FERTILISERS PTY LTD

Perdaman Chemical and Fertilisers Pty Ltd is developing a coal to urea plant at the new (to be developed) Shotts Industrial Park, near Collie. The plant will use proven "best in class" coal gasification and fertiliser production technologies. Around 2.7Mtpa of coal will be used to produce approximately

Projects Under Consideration

2Mtpa of urea, primarily for export. Up to 100,000 tonnes of urea could be made available for local use, which would represent up to 20% of WA's needs. The urea will be transported to Bunbury Port by rail. The company is well advanced in the environmental approval processes and has Government approval to obtain land in the Shotts Industrial Park. Supply and off take arrangements are also well advanced. A Final Investment Decision is anticipated for September 2010. Construction is expected to commence in Q4 2010 with the first shipment of urea planned for Q4 2013.

Expenditure: \$3.5b.

Employment: Construction: 1500; Operation: 200

AMMONIUM NITRATE

Burrup Industrial Estate Site D - Burrup Nitrates Ammonium Nitrate Plant

BURRUP NITRATES PTY LTD

Burrup Nitrates Pty Ltd (BNPL), a joint venture between Burrup Holdings Ltd (BHL) of Australia and Yara International ASA of Norway, is conducting a feasibility study into the construction of a circa 350,000tpa Technical Ammonium Nitrate (TAN) plant to be located on the Burrup Peninsula. Ammonia feedstock will be supplied from BHL's subsidiary company Burrup Fertilisers Pty Ltd, which operates its facility directly adjacent to the proposed location for the new TAN plant. It is expected that all manufactured product will be sold into the Pilbara region. Regulatory approvals are in progress, with construction targeted to begin Q3 2010. The company is aiming for operations to commence by Q4 2013. Expenditure: \$600m.

Employment: Construction: 600; Operation: 65

ELECTRICITY

Collie - Griffin Energy Pty Ltd - Bluewaters III and IV, Coal Fired Power Stations

GRIFFIN ENERGY PTY LTD

Griffin Energy is planning to expand the Bluewaters Power Station Project with two additional 208MW coal-fired power stations at the Coolongatta Industrial Estate, near Collie. Commissioning of the Bluewaters III base-load power station is expected by late 2013 and commissioning of Bluewaters IV by late 2015. Expenditure: \$800m.

Employment: Construction: 600; Operation: 50

Mid West Region - Centauri 1 Power Project

ENEABBA GAS LIMITED (EGL)

Eneabba Gas Limited via its wholly-owned subsidiary Eneabba Energy Pty Ltd (EEPL) is planning to develop a 168MW Centauri 1 gas-fired turbine power station eight kilometres east of Dongara. Generation capacity can be increased to 365MW. The project is focused on supplying additional volumes of energy for the developing Mid West iron ore industries. Besides sourcing gas from the Dampier to Bunbury Natural Gas Pipeline, the company is working to develop an underground coal gasification gas supply for the facility.

Expenditure: \$200m.

Employment: Construction: 100; Operation: 4

GOLD

Kalgoorlie (330kms North East) - Tropicana Gold Project (Lead Agency DMP)

ANGLOGOLD ASHANTI/INDEPENDENCE GROUP JOINT VENTURE

AngloGold Ashanti, as Joint Venture Manager, has undertaken an intensive exploration and resource development program approximately 330kms north east of Kalgoorlie. Plans for the project are to develop an open-cut gold mine and nearby processing plant. So far, a resource estimate of 5 million oz of gold has been identified with a mine life of at least 10 years. The feasibility study commenced in July 2009 and is ongoing. The 8 week Public Environmental Review closed on 24 November 2009. Construction is anticipated to commence in late 2010. Commissioning is expected to be around the first quarter in 2013 with production of up to 410,000 oz per annum. Expenditure: \$700m.

Employment: Construction: 700; Operation: 400

HEAVY MINERAL SANDS

Happy Valley - Heavy Mineral Sands Mine

BEMAX CABLE SANDS (WA) PTY LTD

Located adjacent to the Bemax Gwindinup deposits, the project will involve the mining of the Happy Valley North and South mineral sands deposits situated on private land and in State Forest. The two deposits contain over 750,000 tonnes of recoverable heavy mineral concentrate, with average production expected to be around 150,000tpa over a combined mine life of eight years. The Environmental Review and Management Program document was released for public review and closed in November 2009.

Subject to obtaining all relevant approvals, Bemax expects to commence mining of the North deposit in early to mid 2011 and then plan to transfer mining to the South deposit in 2013. The concentrate will be trucked to Bemax's Bunbury Mineral Separation Plant for final processing.

Expenditure: \$35m.

Employment: Construction: 100; Operation: 30

Jangardup South - Heavy Mineral Sands Mine

BEMAX CABLE SANDS (WA) PTY LTD

The Jangardup South minerals deposit is situated 54km south of the Nannup township and adjacent to the D'Entrecasteaux National Park. Cable Sands estimates that the deposit would provide 2Mt of minerals. Feasibility and environmental studies are well advanced. An environmental impact statement for the project is being prepared.

Expenditure: \$60m.

Employment: Construction: 100; Operation: 50

Keysbrook - Heavy Mineral Sands Mine

MATILDA ZIRCON LIMITED

Matilda Zircon proposes to develop a mineral sands mine located near the township of Keysbrook, approximately 70km south of Perth. It has ore reserves of 41Mt, containing 1.2Mt of heavy mineral concentrate. The project is expected to produce 40,000tpa of leucocoxene and 47,000tpa of ilmenite, high titanium ilmenite and zircon over its eight year mine life. Keysbrook received environmental approval in October 2009. Matilda has applied for development approvals and extractive industry licenses from the two relevant shires and expects their determinations in Q3 2010. Once these approvals are granted, Matilda plans to obtain project finance and start development of the mining operations, with mining to commence in 2011.

Expenditure: \$18m.

Employment: Construction: 35; Operation: 30

Shark Bay - Coburn Zircon Project

GUNSON RESOURCES LIMITED

Gunson proposes to develop the Coburn mineral sands project, located south of Shark Bay. It contains total ore reserves of 308Mt at an average grade of 1.2% heavy minerals, all of which lie within the portion of the project area that has received government environmental approvals for mining. At the proposed mining rate of 17.5Mtpa, the Coburn mine life is estimated to be 17.5 years which could be extended by six years if the northern area receives government approvals for mining. The Definitive Feasibility Study was completed in December 2009 and Gunson is now working towards completing a zircon offtake and investment agreement with a large overseas zircon consumer.

Expenditure: \$169m.

Employment: Construction: 170; Operation: 110

Tutunup South - Heavy Mineral Sands Mine

ILUKA RESOURCES LIMITED

The Tutunup South mineral sands mine, located approximately 15km south east of Busselton, received environmental approval in August 2009 and Iluka plans to commence development of the project over the next few years. It involves the construction of mine pits, screen plant, ore concentrator, solar drying dams and associated mine infrastructure. The mine is expected to produce over 1.2Mt of heavy mineral concentrate over its five to six year life, which will be transported to Capel for further processing.

Expenditure: \$40m.

Employment: Construction: 150; Operation: 50

INFRASTRUCTURE

James Price Point - Browse LNG Precinct Project

WA STATE GOVERNMENT

The State Government is developing a Liquid Natural Gas (LNG) precinct in the Kimberley to enable processing of natural gas from the offshore Browse Basin. The precinct will be capable of accommodating LNG processing and shipping facilities for multiple proponents currently exploring for and developing these resources. This approach will minimise the environmental footprint of gas processing in the region while maximising opportunities for local people and businesses to participate in, and benefit from, employment and business opportunities. Woodside's final investment decision for the precinct is expected to be made in mid-2012.

Expenditure: \$30b.

Employment: Construction: 3500; Operation: 360

Oakajee - Oakajee Industrial Estate & Port Project

WA STATE GOVERNMENT

The Oakajee Port will include common user infrastructure (channel, breakwater, turning basin, navigational aids, provision for tug and pilot boat pens, port administration offices and roads and utilities) funded by the State and Commonwealth governments and private use infrastructure (at least one Cape Class iron ore berth, as well as associated materials handling equipment and rail infrastructure). The Port will also include provision for a Panamax berth to provide import / export capability for value-adding industries in the Oakajee Industrial Estate. A 570km railway will link the port to mining tenements north-east of Geraldton and through existing rail to mining tenements to the south-east. The new rail line will be operated by Oakajee Port and Rail through an open access regime. Oakajee Port and Rail has now identified three foundation customers with an expected initial throughput of 45Mtpa and delivered its bankable feasibility study to the State for consideration.

Expenditure: \$4b.

Employment: Construction: 2000; Operation: 400

IRON ORE

Great Southern Region - Southdown Magnetite Mine

GRANGE RESOURCES LTD

The Southdown Magnetite Mine is situated 90km north east of Albany near Wellstead. Grange Resources Ltd is targeting a 2015 start up with a production of 6.6Mtpa of magnetite concentrate. The slurry concentrate will be transported via a 100km pipeline from Southdown to the Port of Albany for export and pelletising in Malaysia. The merger of Grange with Australian Bulk Minerals brings significant magnetite mining and pelletising experience to the Southdown project. Albany Port Authority (APA) is expanding the Port to allow access to Cape size vessels and to increase berth, storage and loading facilities for the Southdown operation. The APA is waiting on the appeals process and the Minister for Environment's Statement. The mine and pipeline environmental approvals were received by Grange in November 2009. Grange is aiming for an updated prefeasibility study to be completed by late 2010 and bank feasibility studies by late 2011.

Expenditure: \$1.7b.

Employment: Construction: 2000; Operation: 600

Mid West Region - Extension Hill Magnetite Mine

ASIA IRON

Asia Iron has primary environmental approval to produce up to 10Mtpa of magnetite concentrate, which will be transported by slurry pipeline to the port of Geraldton for export. The company is currently seeking secondary approvals.

Expenditure: \$2b.

Employment: Construction: 1000; Operation: 350

Mid West Region - Jack Hills Iron Ore Mine

Stage 2

CROSSLANDS RESOURCES

Murchison Metals commenced trucking 1.5Mtpa hematite from its Jack Hills operations to the port of Geraldton in December 2006. Jack Hills Stage 2

Projects Under Consideration

would involve a further increase to 25-35Mtpa of hematite and beneficiation feed ore. The ore would be transported by a new railway to a new deepwater port at Oakajee. A definitive feasibility study and exploration drilling program on the Stage 2 project is progressing.

Expenditure: \$2b.

Employment: Construction: 450; Operation: 350

Mid West Region - Weld Range Iron Ore Mine SINOSTEEL MIDWEST CORPORATION LIMITED

Sinosteel Midwest Corporation proposes to develop a 15Mtpa iron ore mine at Weld Range 65km southwest of Meekatharra, producing a mix of hematite lump and fines. The project is expected to utilise a new rail line and a new deepwater port facility at Oakajee. The company commenced an extensive drilling program in June 2006 and has completed a pre-feasibility study. A bankable feasibility study is expected in Q3 2010.

Expenditure: \$800m.

Employment: Construction: 1000; Operation: 500

Pilbara - Balla Balla AUROX RESOURCES LIMITED

Aurox Resources Limited is a Perth company developing the Balla Balla Iron, Vanadium and Titanium Project west of Port Hedland, Western Australia. Operations are scheduled to commence in the first half of 2012 with the production of 6Mtpa magnetite iron concentrate and 280,000tpa of titanium concentrate. Within 4 years it is planned to expand to 10Mtpa iron concentrate, 7,000tpa ferrovandium and 470,000tpa titanium concentrate. Based on the currently defined JORC Ore Reserves of 238Mt grading 45% Fe, Balla Balla has a life of mine of 16 years. Conceptual mine plan studies have shown Balla Balla's mine life could exceed 26 years. The company has in place two 15 year sales contracts with major Chinese steel companies for a total of 6Mtpa; increasing to 10Mtpa production in 2015.

Expenditure: \$2b.

Employment: Construction: 680; Operation: 860

Pilbara - Iron Ore Mine - Roy Hill and Central Pilbara

HANCOCK PROSPECTING PTY LTD

Hancock Prospecting is developing the world class iron ore project of Roy Hill that is located 105km north east of Newman. This project is expected to come into production in late 2013 and will produce iron ore for over 25 years after ramp up at 55Mtpa. The project includes the development of the mine, a new railway and port facilities at Port Hedland. Roy Hill project was granted Major Project Facilitation status in September 2009. Environmental approval for Roy Hill mine Stage 1 was received in December 2009 and environmental approval for Stage 2 was received in March 2010.

Pilbara - MCC Cape Lambert Iron Ore Project MCC MINING (WESTERN AUSTRALIA) PTY LTD

MCC Australia Holding Pty Ltd (MCCAH Pty Ltd) is developing a 15Mtpa iron ore (magnetite) concentrate project at Cape Lambert and aims to ship its first ore by mid-2013. The Project comprises a proven JORC compliant 1.9bt iron ore resource and exploration licences covering 369 square kilometres. The Project would consist of a beneficiation plant (A\$1b), 300MW power plant, a port for exporting concentrate (A\$1b) and other related infrastructure. A feasibility study and ongoing environmental and social studies are being conducted by consultancy companies GHD and GRD Minproc on behalf of MCC. GHD is currently preparing a draft Public Environmental Review document. A heritage agreement with the Gnarluma Aboriginal people was signed in January 2010 and the company commenced formal negotiations under the Native Title Act in March 2010.

Expenditure: \$3.7b.

Employment: Construction: 3000; Operation: 1000

Pilbara - Rapid Growth Project 6

BHP BILLITON IRON ORE PTY LTD

BHP Billiton Iron Ore announced on 29 January 2010 early expenditure of US\$1.73 billion (BHP Billiton share) for Rapid Growth Project 6 which is expected to

increase installed capacity at the company's Western Australian Iron Ore operations to 240Mtpa during calendar year 2013. The funding will allow early procurement of long lead time items and detailed engineering to continue the expansion of the inner harbour at Port Hedland, progress rail track dual tracking work and expand the Jimblebar mining operation. The approval for the balance of the RGP6 capital will be considered in the future.

Expenditure: \$2.144b.

Pilbara - West Pilbara Iron Ore Project API MANAGEMENT PTY LTD

The Australian Premium Iron Joint Venture is proposing to develop the West Pilbara Iron Ore Project. Stage 1 of the project is based on the production of 30Mtpa of direct shipping iron ore from its Red Hill and Mt Stuart mine sites located 35-80km south west of Pannawonica. The ore will be exported via a new heavy haul railway to a new multi-user port facility at Anketell. Subject to the successful completion of feasibility and environmental studies, and receipt of government regulatory approvals, the company anticipates that the first shipment will occur in mid-2013.

Expenditure: \$4b.

Employment: Construction: 2500; Operation: 500

Pilbara - Cape Preston - Balmoral South Iron Ore Project

AUSTRALASIAN RESOURCES LTD

Australasian Resources Ltd, through its 100% owned subsidiary International Minerals Pty Ltd (IM), is developing a 24Mtpa magnetite iron ore mine with associated infrastructure and processing facilities to produce iron ore concentrate and pellets for export using shared port facilities at Cape Preston. IM has a right to mine 1bt of magnetite ore from the Mineralogy Pty Ltd owned South Balmoral magnetite iron ore deposit located approximately 30km south of Cape Preston. A bankable feasibility study for the project was completed by IM in 2008. The company expects to commission the project in 2011, with first shipment in 2012.

Expenditure: \$2.7b.

Employment: Construction: 2500; Operation: 800

OIL & GAS DEVELOPMENTS

Carnarvon Basin - Pluto LNG Project Expansion WOODSIDE ENERGY

Woodside's vision for the Pluto LNG Park is an expansion with up to five LNG trains and a pipeline gas plant. In November 2009, Woodside awarded Front-end Engineering Design contracts for Pluto Train 2 and Train 3. These studies are expected to be completed in the second half of 2010. Gas supply for expansion continues to be focused on Woodside equity gas, both discovered and through ongoing exploration. Final investment decisions on Pluto Train 2 and Train 3 are targeted for end 2010 and end 2011 respectively.

Kimberley - Browse LNG Development WOODSIDE ENERGY

Woodside Energy Ltd, as operator of the Browse LNG Development is proposing to develop the Torosa, Brecknock and Calliance gas fields located approximately 400km from Broome, in the Browse Basin. Together, the fields contain an estimated 14Tcf of gas and 370 million barrels of condensate. Phase 1 of the development is for a 15Mtpa LNG project. The Browse JV partners have agreed to progress design for an LNG development at James Price Point and are aiming for a Final Investment Decision in mid 2011 with LNG sales within a market window of 2016 to 2017.

Macedon (Carnarvon Offshore Basin) - Gas Field BHP BILLITON PETROLEUM (AUSTRALIA) PTY LIMITED

The Macedon gas field, about 90km west of Onslow, was discovered in 1992 during drilling of the West Muiron-3 well and is estimated to contain a gas resource of up to 600bcf. BHP Billiton Petroleum (Australia) Pty Ltd and Apache Energy Limited are currently progressing the necessary approvals for a domestic gas project for Western Australia. The development will involve a number of sub-sea gas

wells connected to the gas field, offshore and onshore wet gas pipelines, an onshore gas processing plant 15km southwest of Onslow, and a sales gas pipeline connected to the Dampier-to-Bunbury Natural Gas Pipeline. Daily production is expected to be on the order of 200TJ. Construction is expected to start in late 2010, and gas production to commence in late 2012.

Expenditure: \$1b.

Employment: Construction: 300

Pilbara - Wheatstone LNG Development CHEVRON AUSTRALIA PTY LTD

Chevron is investigating the feasibility of an LNG project based on its Wheatstone and lago gas fields, to be located at Ashburton North, near Onslow. The project will also process gas from sub-economic third party fields in the Carnarvon Basin. Chevron entered FEED (Front End Engineering Design) in July 2009 with a Final Investment Decision planned for mid 2011. Gas to market is scheduled for 2015/16. The project is to have an initial capacity of two 4.3Mtpa LNG production trains, expandable to five, and a 200TJ/d domestic gas plant.

Expenditure: \$23b.

Employment: Construction: 5000; Operation: 400

SALT

Exmouth Gulf - Yannarie Solar Salt Project PTT ASIA PACIFIC MINING PTY LTD

PTT Asia Pacific Mining P/L is proposing to develop a 4Mtpa salt operation in the east coast of Exmouth Gulf. It has exploration licences over the area and has applied for a mining lease. The proposal was withdrawn from Environmental Impact Assessment in January 2010. The company is looking at options to progress the project.

Expenditure: \$200m.

Employment: Construction: 100; Operation: 75

TIMBER

Mirambeena Timber Processing Precinct - Engineered Strand Lumber LIGNOR LTD

Lignor is proposing to develop an Engineered Strand Lumber ESLÂ®/ Engineered Strand Board ESBÂ® plant located at Mirambeena, about 15 km north west from Albany. The Commercial Plant will be preceded by the construction of a Demonstration Plant. This Plant will produce a range of products for certification to the Australian Building Code and overseas equivalents to allow firm off-take contracts to be in place for the revised Commercial Plant at Mirambeena. Both the Demonstration Plant and the Commercial Plant to follow will source most of the timber from the extensive eucalypt plantations growing in the Albany region and will use technology developed in conjunction with the German engineering companies Siempelkamp or Dieffenbacher. Lignor is finalising its design of the Demonstration Plant and anticipates construction to commence by late 2010, with product coming into the market by end 2011. Following successful results from the Demonstration Plant, construction of the Commercial Plant is expected to commence by the end of the first quarter of 2013.

Expenditure: \$276m.

Employment: Construction: 350; Operation: 125

URANIUM

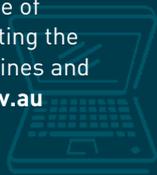
Yeelirrie - Yeelirrie Uranium Project BHP BILLITON YEELIRRIE DEVELOPMENT COMPANY PTY LTD

BHP Billiton proposes to develop the Yeelirrie Uranium Project in the North-eastern Goldfields. The proposal entails open cut mining of shallow deposits of uranium ore, treatment in a plant to be established at the site, and development of associated infrastructure. The project would produce up to 3500 tonnes per year uranium oxide (as UO₂) over 30 years. The formal environmental impact assessment process was initiated in 2009 with a view to commencement of construction in late 2011 and mining in 2014.

Employment: Construction: 700; Operation: 300

Visit us online

Prospect can be downloaded free of charge from the Internet by visiting the website of the Department of Mines and Petroleum at: www.dmp.wa.gov.au



Prospect

Subscription/Change of address

ABN: 69 410 35 356

Name: _____

Position: _____

Organisation: _____

Address: _____

Type of business: _____

Phone number: _____

Email: _____

Please tick the appropriate box

Please add me to your mailing list to receive *Prospect* magazine. I would like a subscription for

- one year @ \$12 (incl. GST)
 two years @ \$22 (incl. GST)
 three years @ \$32 (incl. GST)

My cheque, made out to the Department of Mines and Petroleum, is enclosed OR please debit the amount to my credit card using the following details:

Type of card: Visa Bankcard Mastercard

Expiry date _____

This form will become a tax invoice for GST purposes when payment is made.

Change of address
 (please make changes required on one of your old labels).

Please photocopy or cut coupon and mail to:

Prospect subscriptions
 Information Centre
 Department of Mines and Petroleum
 Mineral House, 100 Plain Street
 East Perth, Western Australia 6004

Significant resource projects in Western Australia

Western Australia continues to lead the way as Australia's premier resources investment destination. There are currently more than A\$150 billion worth of projects either committed or under consideration for the State during the next few years. These will create more than 45,000 construction jobs and 12,500 permanent jobs.

All conversions from foreign currencies were calculated at the latest available rate.

	Project Value	Employment	
	(estimated A\$m)	Construction	Permanent
Alumina			
BHP Billiton Worsley Alumina - Refinery Expansion	2500	1500	200
Sub Total	2500	1500	200
Iron and Steel			
Asia Iron - Extension Hill Magnetite Mine	2000	1000	350
Australasian Resources Ltd - Magnetite Iron Ore Mine	2700	2500	800
Australian Premium Iron Joint Venture - Iron Ore Mine	4000	2500	500
BHP Billiton Iron Ore Rapid Growth Project 4	2100	-	-
BHP Billiton Iron Ore Rapid Growth Project 5	5300	3500	-
BHP Billiton Iron Ore Rapid Growth Project 6	2144	-	-
Cape Lambert Port B Expansion	3000	300	300
CITIC Pacific - Cape Preston Mine and Processing Projects	5200	4000	500
Crosslands Resources - Jack Hills Stage 2 Hematite Mine	2000	450	350
Fortescue Metals Group - Mine, Rail and Port Project	-	-	1600
Grange Resources - Southdown Magnetite Mine	1700	2000	600
Hammersley Iron Pty Limited - Brockman 4	2000	1500	-
Hammersley Iron Pty Limited - Western Turner Syncline	200	200	150
Karara Iron Ore Project	1800	1500	500
MCC Cape Lambert Iron Ore Project	3700	3000	1000
Robe River Mining Co Pty Ltd - Mesa A	1000	-	220
Sinosteel Midwest Corporation - Weld Range Hematite Mine	800	1000	500
Sub Total	39644	23450	7370
Nickel/Cobalt			
Ravensthorpe Nickel Operation	150	200	600
Sub Total	150	200	600
Oil, Gas and Condensate			
Apache - Devil Creek Project	800	200	20
Apache - Van Gogh Oil	700	-	80
BHP - Macedon	1000	300	-
BHP Billiton - Pyrenees Oil Project	2000	-	-
Browse LNG Precinct	30000	3500	360
Chevron - Wheatstone LNG	23000	5000	400
Gorgon Joint Venture Gas Processing Project	43000	3500	300
North Rankin Redevelopment	5000	-	-
Woodside - Pluto LNG Plant	12000	4000	300
Woodside Energy - Cossack Wanaea Lambert Hermes (CWLH) Redevelopment Project	1800	-	-
Sub Total	119300	16500	1460
Other			
AngloGold Ashanti/Independence Group - Tropicana Gold Project	700	700	400
Argyle Diamonds - Underground Mine (Stage 1)	1200	250	420
BHP Billiton - Yeelirrie Uranium	-	700	300
Burrup Nitrates ammonium nitrate	600	600	65
Griffin Energy - Bluewaters III and IV Coal Fired Power Stations	800	600	50
Hammersley Iron 7 Mile Power Station	700	-	-
Oakajee Port, Rail and Industrial Estate	4000	2000	400
Ord East Kimberley Expansion Project	415	-	-
Perdaman Chemicals & Fertilisers - Collie - Coal-to-Urea Plant	3500	1500	200
PTT Asia Pacific - Yannarie Salt Project	200	100	75
Sub Total	12115	6450	1910
TOTAL	173709	48100	11540

Major Resource Projects — June 2010

Northwest Shelf / Pilbara Region

INSET B

Project labels:

PROJECTS OPERATING OR CURRENTLY UNDER DEVELOPMENT WITH AN ACTUAL OR ANTICIPATED VALUE OF PRODUCTION GREATER THAN \$A10 MILLION ARE SHOWN IN BLUE
 PROPOSED OR POTENTIAL PROJECTS WITH A CAPITAL EXPENDITURE GREATER THAN \$A20 MILLION ARE SHOWN IN RED
 PROJECTS ON CARE AND MAINTENANCE ARE SHOWN IN PURPLE

Manell

Toporua

Rimfire / Bravo

Brisis

Glince

Nimblefoot

Lightfinger

Mentarc

Sally

John Brookes

Rosella

Sper

Halvard

Maibond

Woolybutt

Pasco

Flinders Shoal

Warrambo

Onslow / Prodemas Salt

Skate

Onslow

Wheatstone LNG

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Manell

Toporua

Rimfire / Bravo

Brisis

Glince

Nimblefoot

Lightfinger

Mentarc

Sally

John Brookes

Rosella

Sper

Halvard

Maibond

Woolybutt

Pasco

Flinders Shoal

Warrambo

Onslow / Prodemas Salt

Skate

Onslow

Wheatstone LNG

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Manell

Toporua

Rimfire / Bravo

Brisis

Glince

Nimblefoot

Lightfinger

Mentarc

Sally

John Brookes

Rosella

Sper

Halvard

Maibond

Woolybutt

Pasco

Flinders Shoal

Warrambo

Onslow / Prodemas Salt

Skate

Onslow

Wheatstone LNG

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Manell

Toporua

Rimfire / Bravo

Brisis

Glince

Nimblefoot

Lightfinger

Mentarc

Sally

John Brookes

Rosella

Sper

Halvard

Maibond

Woolybutt

Pasco

Flinders Shoal

Warrambo

Onslow / Prodemas Salt

Skate

Onslow

Wheatstone LNG

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Manell

Toporua

Rimfire / Bravo

Brisis

Glince

Nimblefoot

Lightfinger

Mentarc

Sally

John Brookes

Rosella

Sper

Halvard

Maibond

Woolybutt

Pasco

Flinders Shoal

Warrambo

Onslow / Prodemas Salt

Skate

Onslow

Wheatstone LNG

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Maceon

Blencathra

Coaster

Wheatstone LNG

Ashburton North

Pilbara LNG

Macdon Gas

Leatherback

Exmouth

Rivoli

Novara

Van Gogh

Vincent

Ravensworth

Manell

Toporua

Rimfire / Bravo

Brisis

Glince

Nimblefoot

Lightfinger

Mentarc

Sally

Major Resource Projects — June 2010



Project labels:

PROJECTS OPERATING OR CURRENTLY UNDER DEVELOPMENT WITH AN ACTUAL OR ANTICIPATED VALUE OF PRODUCTION GREATER THAN \$10 MILLION ARE SHOWN IN BLUE

PROPOSED OR POTENTIAL PROJECTS WITH A CAPITAL EXPENDITURE GREATER THAN \$420 MILLION ARE SHOWN IN RED

PROJECTS ON CARE AND MAINTENANCE ARE SHOWN IN PURPLE

