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Oceans Energy Environment

Bringing together diverse technologies to create
and enhance energy systems

Australian business potential Power Generation and Oil & Gas

Australian business potential - Power Generation and Oil & Gas

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Australia

Economy

Australia's reputation as a highly competitive economy continues to strengthen. In 2009, the Australian economy was ranked in the top three countries in the Asia-Pacific region for its overall competitiveness. Among countries with a population of 20 million or more, Australia ranks second in the world, behind only the United States. (Source: IMD, World Competitiveness Yearbook, 2009).

For many years Australia has outperformed OECD economies in both growth and resilience of the economy. For six of the last eight years, the Australian economy has been found the most resilient in the world and its average growth rate from 1998-2009 was 3.4 per cent. (Source: Ibid)

This, together with a strong and independent financial sector and an effective and proven regulatory financial system, means the Australian economy provides a sound platform for foreign direct investment and business growth.

Resilience of the Economy to Economic Cycles – 2009

The higher the score the better¹

Rank	Country	2005 Score	Country	2006 Score	Country	2007 Score	Country	2008 Score	Country	2009 Score
1	Australia	7.64	Australia	7.39	Denmark	7.45	Australia	6.78	Qatar	6.16
2	Denmark	6.84	USA	7.22	USA	6.90	Denmark	6.73	Norway	5.96
3	India	6.74	Denmark	7.16	Israel	6.82	Switzerland	6.43	Australia	5.83
4	USA	6.67	Hong Kong	7.09	Austria	6.67	Israel	6.14	Chile	5.83
5	Norway	6.63	India	6.84	Malaysia	6.64	Austria	6.00	Denmark	5.79
6	Chile	6.62	Israel	6.80	Switzerland	6.43	Norway	5.96	India	5.78
7	Malaysia	6.53	Ireland	6.68	Australia	6.38	Chile	5.89	Brazil	5.54
8	Ireland	6.45	Norway	6.68	India	6.33	India	5.87	Israel	5.53
9	Canada	6.41	Chile	6.41	Hong Kong	6.33	Brazil	5.83	Switzerland	5.38
10	Thailand	6.31	Canada	6.38	Singapore	6.19	Finland	5.80	China	5.05
11	Taiwan	6.24	Switzerland	6.34	China	6.17	Singapore	5.78	Malaysia	5.04
12	Estonia	6.11	Malaysia	6.34	Norway	6.08	Sweden	5.66	Finland	5.00
13	Hong Kong	6.09	Japan	6.32	UK	6.02	Netherlands	5.66	Austria	4.98
14	UK	6.07	Qatar	6.31	Chile	6.00	Malaysia	5.66	Singapore	4.96
15	Israel	5.88	Singapore	6.30	Taiwan	5.79	Hong Kong	5.61	Hong Kong	4.94
16	Finland	5.84	Estonia	6.19	Japan	5.79	Taiwan	5.52	Taiwan	4.91
17	Austria	5.65	Finland	6.02	Ireland	5.76	Czech Republic	5.41	South Africa	4.84
18	Switzerland	5.53	China	5.90	Luxembourg	5.73	Canada	5.36	Netherlands	4.83
19	China	5.49	Thailand	5.82	Estonia	5.72	Germany	5.34	Germany	4.79
20	Spain	5.44	UK	5.82	Netherlands	5.66	Slovenia	5.29	Sweden	4.77
21	South Africa	5.41	South Africa	5.75	Slovenia	5.66	USA	5.29	Philippines	4.73
22	Czech Republic	5.41	Sweden	5.72	Sweden	5.61	Estonia	5.27	Slovenia	4.63
23	Turkey	5.30	Jordan	5.67	Czech Republic	5.60	Jordan	5.15	Lithuania	4.60
24	Japan	5.29	Taiwan	5.65	Jordan	5.50	China	5.15	Jordan	4.60
25	Singapore	5.29	Austria	5.58	Germany	5.19	Ireland	5.02	New Zealand	4.49









UAE = United Arab Emirates

Surveyed question: Resilience of the economy to economic cycles is strong.

1. IMD World Competitiveness Yearbook Executive Opinion Survey based on an index from 0 to 10. The IMD included 57 economies in the 2009 survey.

Sources: IMD World Competitiveness Online 1995-2009 (Updated: May 2009); Austrade

Tuesday, 27 October 2009: *Business Confidence surged to the highest in 15 years in the third quarter according to the National Australia Bank (NAB), with measures of trading conditions profitability, and orders all pushing higher.*

Central Bank Rates			
CURRENCY	RATES	CURRENCY	RATES
 NZD	2.50%	 AUD	3.50%
 GBP	0.50%	 USD	0.25%
 CAD	0.25%	 EUR	1.00%
 CHF	0.25%	 JPY	0.10%

Respondents polled for the survey also said conditions would continue to improve in the final three months of the year, boosting expectations that the Reserve Bank of Australia (RBA) will continue to scale back monetary stimulus.

Indeed, a Credit Suisse gauge of the markets' priced-in interest rate expectations shows traders are betting the RBA will raise borrowing costs by over 200 basis points in the coming year.

November 9, 2009
Boom comes bouncing back
 Sydney Morning Herald

THE dust has barely settled on the global financial crisis, but there are already signs the resources boom is well on track to eclipse its past highs.

Asia-bound shipments of iron ore from Port Hedland have chalked up fresh records of more than 14 million tonnes in each of the past three months, according to figures published late last week. Coal, the nation's top export, is also being loaded on to ships through Newcastle at the fastest pace in a year amid reports of surging demand from Asian buyers. Economists say these increases - and reports of ships once again stretching into the horizon at key ports - point to a boom era in resources returning far more quickly than most expected.

A currency strategist at Westpac, Jonathan Cavenagh, said it was clear the slump had made only a slight indent on the transformation of China and India into developed economies. "The industrialisation of India and China is still going to continue," he said.

"The global financial crisis may have slowed it down a touch in 2008 ... but really it's just gone from strength to strength since then." This boded well for the Australian dollar, the world's strongest-performing currency in recent months. In another sign of the return to boom times, Westpac reports that 77 ships are queuing up outside the Queensland coal port of Dalrymple Bay, where the waiting times are at near record highs.

The rebound in demand is expected to give a major kick to national income, with contract prices of iron ore and coal - worth tens of billions of dollars a year - set to recover in 2010 after falling by about a third this year. And later, economists are predicting a huge lift in energy and mining production as record levels of investment kick in.

On Friday the Reserve Bank said mining investment now accounted for 5 per cent of the economy, compared to 1.5 per cent earlier this decade. The central bank said that from its private discussions with big miners and energy companies, this level of investment would expand even further, provided a series of multibillion-dollar liquefied natural gas projects were given the green light.

Production of coal and iron ore would increase by about a third in the next two years as ports and other infrastructure were upgraded, the bank said.

But the most staggering increase is expected in LNG - where the Reserve Bank said exports could increase fourfold, eventually joining coal and iron ore as Australia's biggest exports.

While the return to boom conditions fuels growth, the Reserve pointed to inflationary risks, such as labour shortages and cost blow-outs.

Currency

The Australian dollar is one of the more highly regarded currencies in the world and has shown very strong support during the past year as the Australian economy has outperformed all other OECD members.

Thursday, 12 November 2009: Australian dollar soared to a new yearly high after a report showed the economy added 24.5 thousand jobs in October, boosting expectations that the central bank will raise interest rates again in December.



**Graph above - Australian dollar appreciation
November 2008 - November 2009**

Code	Country	Current Exchange Rate	Change in relative value Nov. 2008 - Nov 2009
CHF	Switzerland	0.9449	+21.19%
USD	USA	\$0.9293	+44.17%
GBP	Great Britain	£0.5533	+28.28%
JPY	Japan	¥83.0422	+33.25%
EUR	Euro	€0.6253	+21.71%
CAD	Canada	\$0.9772	+23.07%
INR	India	42.9615	+34.39%
CNY	China	6.3434	+44.17%

While indicative of the strong performance of the Australian economy, this appreciation of the dollar disadvantages those companies that have high-cost operations denominated in this currency. This can be a significant competitive advantage to an offshore company by maintaining a low cost of operation in Australia and leveraging its existing offshore design and engineering capabilities.

As a regional base

Australia's exposure to and engagement with the Asian region - which still has the most dynamic growth potential in the world – offers a strategic advantage to companies looking to position themselves for global growth opportunities.

Many international companies choose to use Australia as a regional hub because of the relative ease and security of doing business there.

A significant number of Asian students get their education at Australian universities providing a rich web of interconnection.

Companies and technologies that are proven in Australia are well accepted both regionally and globally. For example, Australia is set to become a leading exponent of CBM (Coal Bed Methane or CSG - Coal Seam Gas) technologies, particularly in the state of Queensland. Indications (as expressed below) are that China wishes to progress in this field but lacks the technology. Companies versed in this technology will be in an excellent position to market their capabilities globally.

11/12/2009

China Set To Enter Rapid Growth Period for CBM Production

Asia Pulse Pte Ltd

China will produce 30 billion cubic meters of coalbed methane (CBM) by 2020 and the emerging industry will enter a period of rapid growth from 2010, according to Li Fubing, a researcher with Oil and Gas Strategy Center in the Ministry of Land and Resources.

Speaking at the Ninth International Symposium on CBM/CMM in China, Li predicted that China would build 10 to 15 production bases for CBM with 1 trillion cubic meters of proven recoverable CBM reserves by 2020.

By 2030, China will produce 50 billion cubic meters of CBM each year, will have discovered 2 trillion cubic meters of proven recoverable reserves and have 20 to 30 production bases, said Li.

China has 37 trillion cubic meters of geological CBM resources at a depth of less than 2,000 meters, including 11 trillion cubic meters of recoverable reserves at a depth of less than 1,500 meters.

However, China's CBM wells generated only about 600 million cubic meters of CBM in 2008, held back by the controversial exploration and development licensing system, inadequate incentive measures, and the lack of investment and up-to-date production technology.

Projects

In the Oil & Gas and gas sector alone the backlog of projects stands at about \$200 Billion. Approximately equivalent dollar amount backlogs exists in the Mining, Power Generation and Civil engineering sectors. This amounts to something in the range of \$800 Billion worth of large and sophisticated engineering projects.

The strong performance of the Australian economy, combined with the perception of a Australia as a reliable business partner suggests that the majority of these projects will proceed more or less as planned.

Many of these projects are already fully funded and have contracts in place for the supply of the resulting output. Particularly in the case of LNG this makes for extremely time constrained development timelines because customers are relying on the delivery of shipments as specified in long-term contracts. The ability of these projects to deliver as specified is a big factor in their potential success as suppliers in a competitive global marketplace.

Shortage of engineering capability

The backlog of engineering projects with very tight schedules, driven by forward looking product delivery contracts, will put a great strain on the engineering capacity of the region. A nation of 20 million people does not have the capacity to adequately support this level of engineering effort and a great deal of agile outsourcing will be required.

This suggests that considerable opportunity exists to provide an effective insertion of engineering capability at all levels and across all engineering disciplines.

11 November, 2009

Skills shortage looms over Australia

By Upstream Online

The Australian oil and gas industry may soon experience a major skills shortage, according to a leading recruitment company.

"There is more than \$200 billion of work due to come on line in terms of Australia's gas infrastructure over the next twelve months. This is going to re-energise the job market back to the level it was, if not more so," said Hays Oil & Gas managing director, Matt Underhill.

Some sixteen projects are on the drawing board including Woodside's Pluto project which is currently under construction in Western Australia. Chevron's Gorgon project was also given the green light by the State Government last month and is set to create thousands of jobs.

There is also positive activity on the east coast where the focus is on coalbed methane (CBM). Estimates suggest that there is more CBM there than the combined conventional gas resources of Bass Strait, the Cooper basin and the North West Shelf.

"Australia's oil and gas talent pool is relatively shallow in comparison to other regions around the world. This represent a significant challenge as not all players will want to cover, or can cover, the potential skill gap just by importing talent," said Underhill.

The latest quarterly report from Hays indicates exploration professionals, in particular Geoscientists with CBM experience and senior reservoir engineers are amongst the most sought after in Australia.

Contractors

Most of the major international contractors have some presence in Australia, including some substantial homegrown companies. Many of these have significant investment in infrastructure and offices throughout Australia, and are involved in a diverse range of engineering projects, which bear little relation to each other.

As a result they have a very high fixed cost burden, and their talents are necessarily spread across a diverse range of engineering disciplines. This makes them good candidates for being a prime contractor on super-major projects but less than flexible in any other circumstance.

There is a lack of mid range contractors with a tight focus on the energy sector and a low cost structure.

Opportunities exist for companies to enter the market by utilizing their existing offshore design capabilities, and international reputation to service both prime contractors and end-user customers.

By carefully defining market position and image, this lean “franchise” approach maximizes profitability while minimizing both onshore costs and risks.

Existing international relationships, with both engineering companies and facility owner/operators could be exploited.

Contractors referenced in articles				
	Name	Origin	Employees	Focus
	AJ Lucas	Australia		Pipeline, Drilling
	Bechtel	USA	44,000	Full range
	Clough	Australia	4,000	Full range
	DownerEDI	Australia	24,000	
	Flour Corp.	USA	42,000	Full range
	Foster Wheeler	USA	14,000	Full range
	Hatch	Canada	9,000	Full range
	JP Kenny	Scotland	1,300	Pipelines, Subsea systems
	KBR	USA	50,000	Full range
	KJVG - Kellogg Joint Venture Group			
	Leighton Contractors	Australia	9,000	
	Southern Cross Electrical Engineering	Australia		Electrical, Instrumentation
	Thiess	Australia	16,000	Civil
	Thiess Kentz	Australia	650	Electrical, Instrumentation
	WorleyParsons	Australia	29,000	Full range

Projects - LNG

Australia is positioned to become a major force in the international gas and LNG market. Analysts predict that by 2014, more than half of all world expenditure on LNG facilities will be in Australasia. Together with Asian expenditures, the combined region will account for more than 75% of the world total.

Many of the emerging projects, both in Australia and Asia, will be exploring the use of "Unconventional Gas" sources.

In Australia this activity will be focussed in the state of Queensland and managed from the capital city of Brisbane.

The World LNG Market Report 2010-2014

Douglas-Westwood

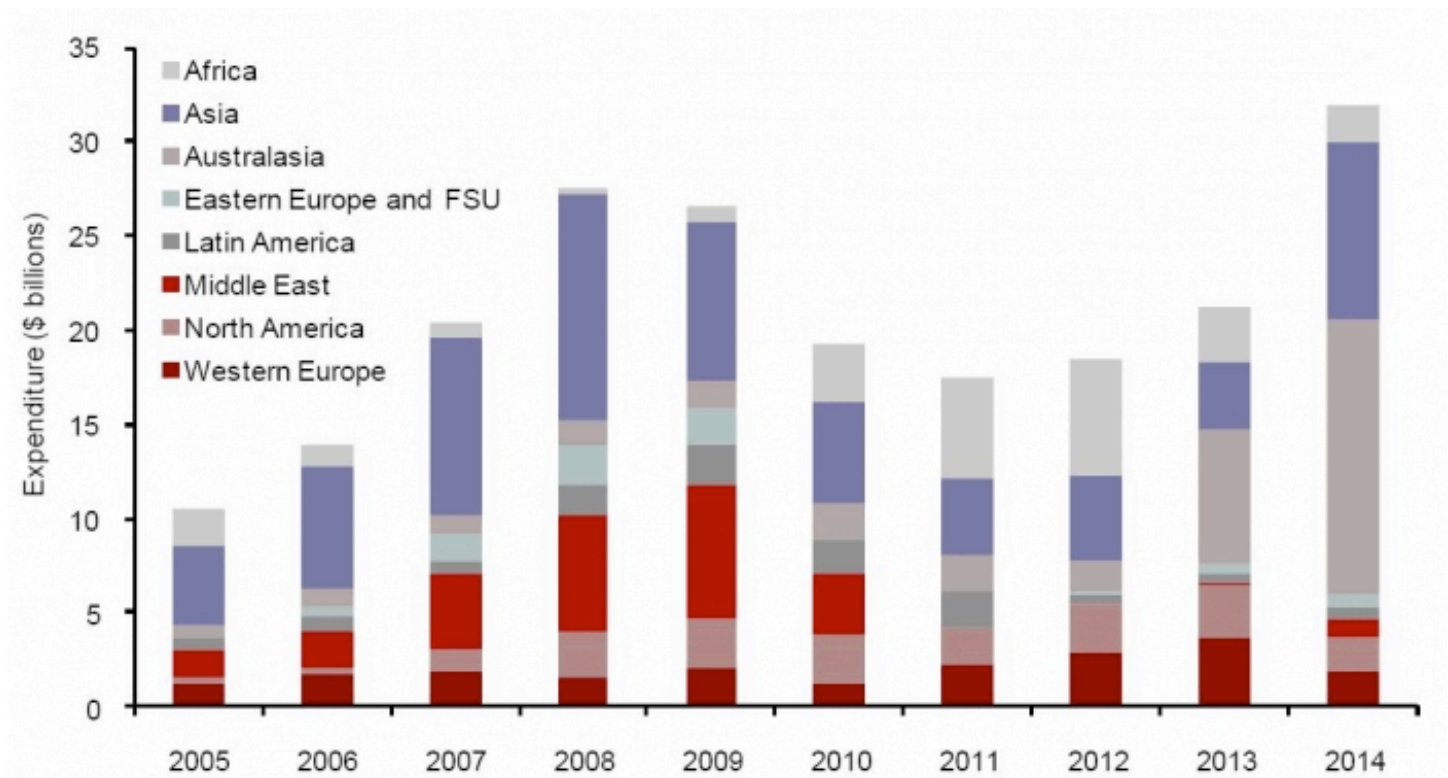
A major new report

This major new report by business analysts Douglas-Westwood examines the current and future prospects, technologies and markets for the LNG (Liquefied Natural Gas) sector.

Despite the global recession, the outlook for long-term gas demand remains high.

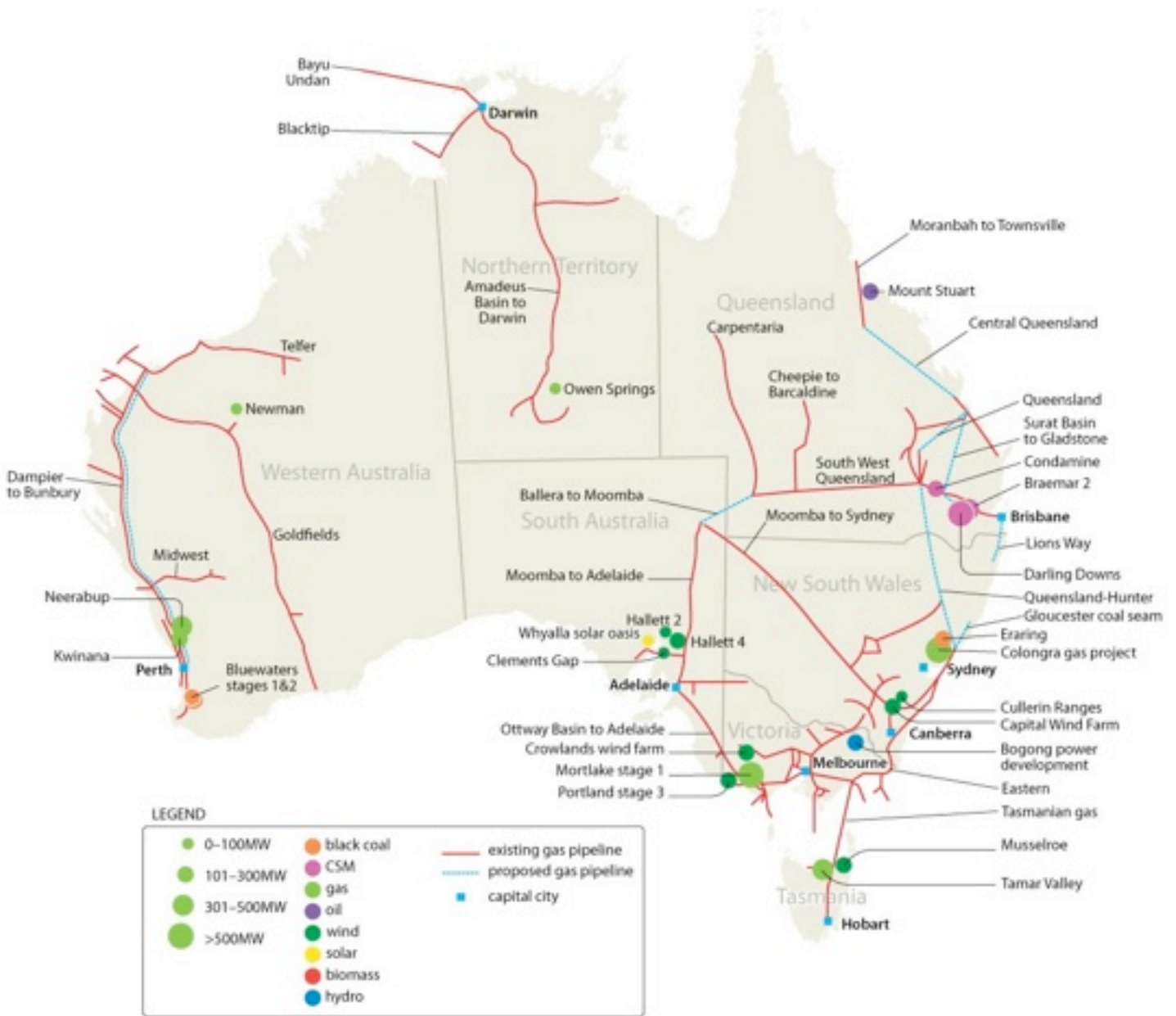
LNG offers an effective alternative to piped gas supply and is seen as an increasingly important solution to the monetisation of isolated gas reserves.

Overall global Capex on LNG facilities for the 2010-2014 period is forecast to total over \$108 billion - a growth of 10% relative to the 2005-2009 period.



Projects - Power Generation - Map

From ABARE.GOV.AU



Projects - Power Generation

Notes	
	Less advanced projects are shown in the yellow shaded areas
	Projects that are under construction or committed are shown in the blue shaded areas
State Code	State Name
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
SA	South Australia
TAS	Tasmania
VIC	Victoria
WA	Western Australia

Project	Company	Location	State	Status	Expected startup	New Capacity	Capital Expenditure
Brown coal							
Arckaringa Phase 3	Altona Resources	200 km N of Coober Pedy	SA	New project, feasibility study under way	na	280MW	na
Arckaringa Phases 1 & 2	Altona Resources	200 km N of Coober Pedy	SA	New project, feasibility study under way	2014	560MW	\$520m
HRL IDGCC project	HRL Technology/ Harbin	Latrobe Valley	VIC	New project, feasibility study under way	2013	400MW	\$750m
Black coal							
Bluewaters stage 1	Griffin Energy	5 km NE of Collie	WA	New project, under construction	mid 2009	208MW	\$400m
Bluewaters stage 2	Griffin Energy	5 km NE of Collie	WA	Expansion, under construction	late 2009	208MW	\$400m
Eraring	Eraring Energy	40 km SW of Newcastle	NSW	Expansion, committed	2011	240MW	\$245m
Coolimba	Aviva Corporation	20 km S of Eneabba	WA	New project, EIS under way	2013	400MW	\$1b
ZeroGen stage 1 (demonstration phase)	ZeroGen Pty Ltd	Rockhampton	QLD	New project, feasibility study under way	2012	120MW	\$1.7b

Project	Company	Location	State	Status	Expected startup	New Capacity	Capital Expenditure
ZeroGen stage 2 (commercial phase)	ZeroGen Pty Ltd	to be determined	QLD	New project, pre-feasibility study under way	2017	400MW	\$3b
CSM - Coal Seam Methane							
Braemar 2	ERM Power/Arrow Energy	40 km W of Dalby	QLD	Expansion, under construction	mid 2009	450MW	\$546m
Condamine	BG Group/ANZ Infrastructure Services	8 km E of Miles,	QLD	New project, under construction	2009	140MW	\$170m
Darling Downs	Origin Energy	40 km W of Dalby	QLD	New project, under construction	early 2010	630MW	\$951m (inc pipeline)
Braemar 3	ERM Power	40 km SW of Dalby	QLD	Expansion, govt approval received	2011	450MW	na
Narrabri 1	East Coast Power	Narrabri	NSW	New project, planning approval under way	2012	30MW	\$150m (inc stage 1 and 2)
Narrabri 2	East Coast Power	Narrabri	NSW	New project, planning approval under way	2013	180MW	\$150m (inc stage 1 and 2)
Richmond Valley Power station and Casino Gas project	Metgasco	East Casino	NSW	New project, EIS under way	2010	30MW	\$50m
Spring Gully stage 1	Origin Energy	80 km N of Roma	QLD	New project, govt approval under way	na	500MW	na
Spring Gully stage 2	Origin Energy	80 km N of Roma	QLD	Expansion, govt approval under way	na	500MW	na
Wilga Park B	Eastern Star Gas	Narrabri	NSW	Expansion, planning approval received	na	30MW	\$42m
Gas							
Colongra gas project	Delta Electricity	Munmorah	NSW	New project, under construction	late 2009	660MW	\$500m
Kwinana	Perth Energy	30 km S of Perth	WA	New project, under construction	na	120MW	\$120m
Mortlake Stage 1	Origin Energy	12 km W of Mortlake	VIC	New project, under construction	2010	550MW	\$640m
Neerabup	ANZ Infrastructure Services/ERM Power	50 km N of Perth	WA	New project, under construction	late 2009	320MW	\$425m
Owen Springs	Power and Water Corporation	25 km S of Alice Springs	NT	New project, under construction	2009	22MW	\$130m
Tamar Valley	Aurora Energy	Bell Bay	TAS	New project, under construction	late 2009	375MW	\$464m
ACT Peaker	AGL	8 km S of Canberra	ACT	New project, pre-feasibility study under way	na	500MW	\$350-450m
Bamarang stage 1	Delta Electricity	7 km SW of Nowra	NSW	New project, govt approval received	na	300MW	\$156m

Project	Company	Location	State	Status	Expected startup	New Capacity	Capital Expenditure
Bamarang stage 2	Delta Electricity	7 km SW of Nowra	NSW	Expansion, EIS under way	na	100MW	\$400m
Centauri 1	Eneabba Gas	8 km E of Dongara	WA	New project, govt approval received, on hold	na	168MW	na
Hanging Rock stage 1	Loran Energy Products	20 km SW of Moss Vale	NSW	New project, govt approval under way	2011	300MW	\$360m
Hanging Rock stage 2	Loran Energy Products	20 km SW of Moss Vale	NSW	Expansion, govt approval under way	na	300MW	\$240m
Leafs Gully	AGL	65 km SW of Sydney	NSW	New project, EIS under way	2011	350MW	\$200m
Mallala	Babcock and Brown Power	60 km N of Adelaide	SA	New project, on hold	na	450MW	\$350m
Marulan Gas Turbine Facility	Energy Australia	40 km NE of Goulburn	NSW	New project, EIS under way	2010	250-350MW	\$280m
Marulan Gas Turbine Facility stage 1	Delta Electricity	40 km NE of Goulburn	NSW	New project, EIS under way	2013-14	250-350MW	\$280m
Marulan Gas Turbine Facility stage 2	Delta Electricity	40 km NE of Goulburn	NSW	Expansion, EIS under way	2013-14	100-150MW	\$235m
Mica Creek	CS Energy	10 km S of Mount Isa	QLD	Expansion, govt approval received	na	115MW	na
Mortlake stage 2	Origin Energy	12 km W of Mortlake	VIC	Expansion, EIS completed	na	450MW	na
NQ Peaker	AGL	Townsville	QLD	New project, pre-feasibility study under way	2011	360MW	\$252-324m
Parkes	International Power	Parkes	NSW	New project, govt approval received	na	120-150MW	\$130m
Port Kembla Steelworks Co-generation plant	Bluescope Steel	Port Kembla	NSW	New project, EIS under way	2012	220MW	\$750m
SEQ1	AGL	Ipswich	QLD	New project, pre-feasibility study under way	2011	360MW	\$252-324m
SEQ2	AGL	Kogan	QLD	New project, pre-feasibility study under way	2012	1150MW	\$805-1035m
Shaw River stage 1	Santos	30 km N of Port Fairy	VIC	New project, EIS under way	2012	500MW	\$800m (inc 105 km pipeline from Pt Campbell)
Shaw River stage 2	Santos	30 km N of Port Fairy	VIC	Expansion, EIS under way	na	2x500MW	na
Stanwell	Stanwell Corporation	Rockhampton	QLD	New project, feasibility study under way	na	300MW	na
Swanbank F	CS Energy	Ipswich	QLD	Expansion, feasibility study under way	2012	400MW	na
Tallawarra stage 2	TRUenergy Tallawarra	13 km S of Wollongong	NSW	Expansion, EIS under way	na	300-450MW	\$200-330m
Tomago stage 1	Macquarie Generation	25 km N of Newcastle	NSW	New project, govt approval received, on hold	na	250MW	\$700m (inc Stage 1-3)

Project	Company	Location	State	Status	Expected startup	New Capacity	Capital Expenditure
Tomago stage 2	Macquarie Generation	25 km N of Newcastle	NSW	Expansion, govt approval received, on hold	na	250MW	\$700m (inc Stage 1-3)
Tomago stage 3	Macquarie Generation	25 km N of Newcastle	NSW	Expansion, govt approval received, on hold	na	290MW	\$700m (inc Stage 1-3)
Valley Power Station Augmentation project	Snowy Hydro	Latrobe Valley	VIC	Expansion, govt approval received	2011	50-100MW	\$80-100m
Weddell stage 3	Power and Water Corporation	40 km SE of Darwin	NT	Expansion, feasibility study under way	2013	40MW	\$86m
Wellington	ERM Power	4 km N of Wellington	NSW	New project, EIS under way	2011	600MW	\$350m
Oil							
Mount Stuart	Origin Energy	Townsville	QLD	Expansion, under construction	2009	126MW	\$92m
Buronga Peaking Power Plant	International Power	3 km NE of Mildura	NSW	New project, EIS under way	na	150MW	\$110m
Wind							
Capital Wind Farm	Renewable Power Ventures	50 km NE of Canberra, NSW	NSW	New project, under construction	mid 2009	140MW	\$220m
Clements Gap	Pacific Hydro	30 km S of Port Pirie	SA	New project, under construction	late 2009	57MW	\$135m
Cullerin Range Wind Farm	Origin Energy	30 km W of Goulburn	NSW	New project, under construction	mid 2009	30MW	\$90m
Hallett 2	Energy Infrastructure Trust	20 km S of Burra	SA	Expansion, under construction	late 2009	71MW	\$159m
Hallett 4 (North Brown Hill)	AGL	12 km SE of Jamestown	SA	Expansion, committed	2011	132MW	\$341m
Musselroe	Roaring 40s	Cape Portland	TAS	New project, under construction	2011	129MW	\$350m
Portland stage 3	Pacific Hydro	Cape Nelson South	VIC	New project, under construction	mid 2009	44MW	na
Ararat Wind Farm	Renewable Energy Development Australia	7 km N of Ararat	VIC	New project, govt approval under way	2011	226MW	na
Badgingara Wind Farm	Griffin Energy/ Stanwell Corporation	200 km N of Perth	WA	New project, feasibility study under way	2010	130MW	na
Bald Hills Wind Farm	Mitsui	170 km SE of Melbourne	VIC	New project, govt approval received	2011	104MW	na
Barn Hill	Transfield Services Ltd	Barn Hill	SA	New project, govt approval under way	2010	130MW	\$300m

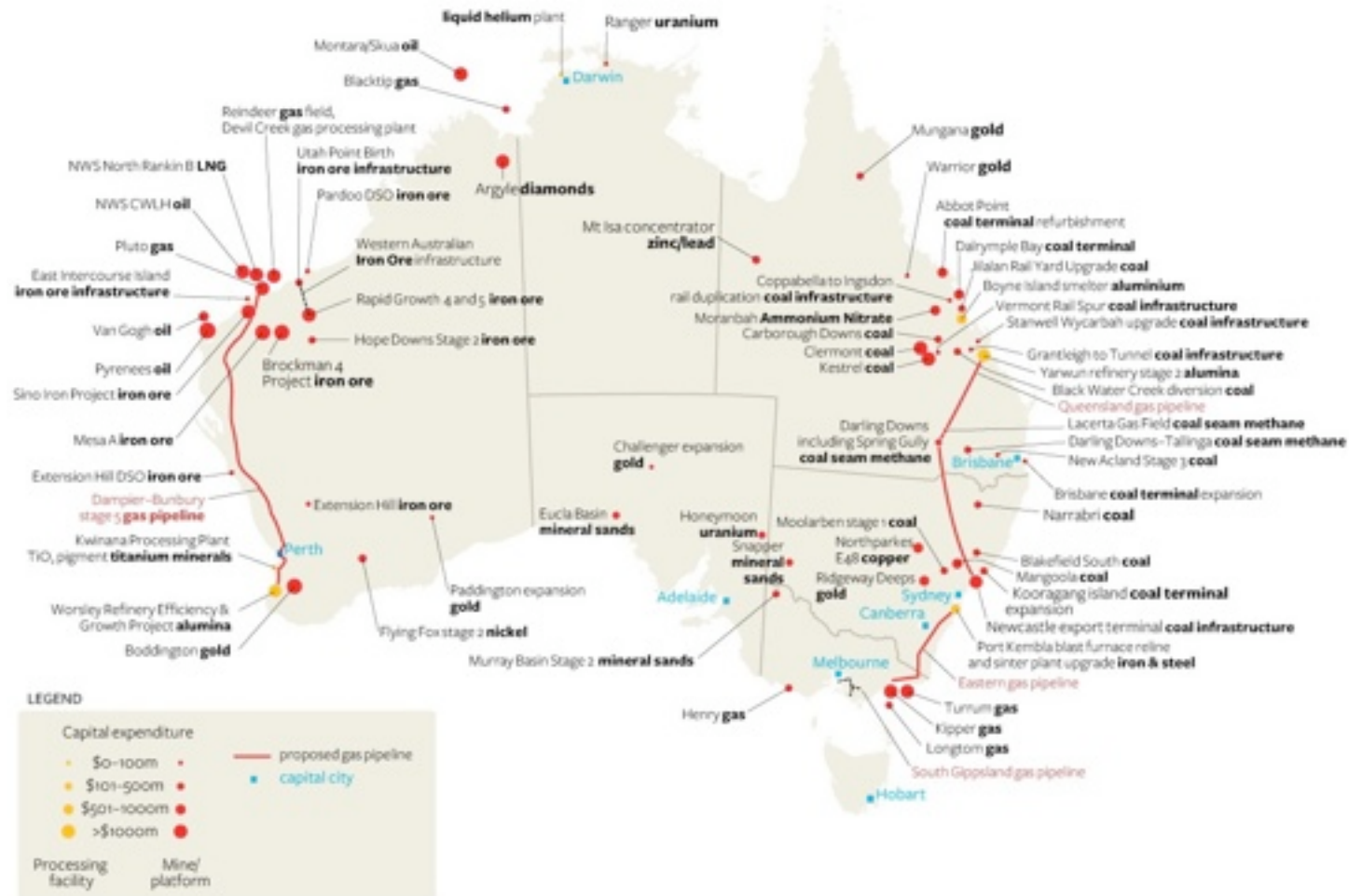
Project	Company	Location	State	Status	Expected startup	New Capacity	Capital Expenditure
Ben Lomond Wind Farm	AGL	62 km N of Armidale	NSW	New project, govt approval under way	na	150MW	\$300m
Berrybank Wind Farm	Union Fenosa Wind Australia	60 km E of Mortlake	VIC	New project, govt approval under way	2011	200-250MW	\$484m
Boco Rock Wind Farm	Wind Prospect	146 km SW of Nimmitabel	NSW	New project, govt approval under way	2011	146MW	\$380m
Collgar Wind Farm	Investec Bank/ Windlab Systems	25 km SE of Merredin	WA	New project, govt approval received	late 2010	220MW	\$600m
Conroy's Gap Wind Farm	Origin Energy	17 km W of Yass	NSW	New project, govt approval received	na	30MW	na
Cooper's Gap Wind Farm	AGL/ Windlab Systems	65 km S of Dalby	QLD	New project, govt approval under way	2011	440MW	\$1.2b
Crookwell 2	Union Fenosa Wind Australia	14 km SE of Crookwell	NSW	New project, govt approval received	late 2010	92MW	\$238m
Crowlands Wind Farm	Pacific Hydro	30 km NE of Ararat	VIC	New project, govt approval under way	na	172MW	\$360m
Crows Nest Wind Farm	AGL	43 km N of Toowoomba	QLD	New project, feasibility study under way	na	150MW	\$405-435m
Darlington Wind Farm	Union Fenosa Wind Australia	5 km E of Mortlake	VIC	New project, feasibility study under way	2011	300-350MW	\$720m
Drysdale Wind Farm	Wind Farm Developments	3 km N of Purnim	VIC	New project, govt approval received	2011	30MW	\$60-100m
Flyers Creek Wind Farm	Flyers Creek Wind Farm	20 km S of Orange	NSW	New project, planning approval under way	na	80-100MW	\$160-200m
Glen Innes Wind Farm	Glen Innes Wind Power	Waterloo Range	NSW	New project, EIS under way	na	44-81MW	\$150m
Gullen Range Wind Farm	Epuron	25 km NW of Goulburn	NSW	New project, govt approval under way	2010	up to 252MW	\$250m
Gulnare/ Carmodies Hill Wind Farm	Pacific Hydro	18 km N of Mt Misery	SA	New project, govt approval under way	na	175MW	\$350m
Hallett 3 (Mt Bryan)	AGL	Hallett	SA	Expansion, feasibility study under way	2011	80MW	\$216-232m
Hallett 5 (The Bluff)	AGL Energy	12 km SE of Jamestown	SA	Expansion, feasibility study under way	na	50MW	\$135-145m
Hawkesdale Wind Farm	Union Fenosa Wind Australia	35 km N of Point Fairy	VIC	New project, govt approval received	early 2011	62MW	\$150m
Kongorong	Transfield Services	30 km W of Mt Gambier	SA	New project, pre-feasibility study under way	na	120MW	na
Kulpara	Transfield Services	Yorke Peninsula	SA	New project, pre-feasibility study under way	na	60-110MW	na
Lal Lal Wind Farm	West Wind Energy	25 km SE of Ballarat	VIC	New project, planning approval under way	2012	140MW	\$320-360

Project	Company	Location	State	Status	Expected startup	New Capacity	Capital Expenditure
Macarthur Wind Farm	AGL/ Meridian Energy	Macarthur	VIC	New project, govt approval received	2010	330MW	\$850m
Mount Gellibrand Wind Farm	Pro Ventum International/ Acciona	15 km NE of Colac	VIC	New project, govt approval received, on hold	na	232MW	\$380m
Mount Hill	Transfield Services	20 km NW of Port Neill	SA	New project, pre-feasibility study under way	na	80MW	na
Mount Mercer Wind Farm	West Wind Energy	30 km S of Ballarat	VIC	New project, govt approval received	2010	131MW	\$250m
Myponga	TrustPower	50 km S of Adelaide	SA	New project, govt approval received	na	40MW	na
Naroghid Wind Farm	Wind Farm Developments	10 km N of Cobden	VIC	New project, govt approval received	2011	42MW	\$60-100m
Nilgen Wind Farm	Pacific Hydro	9 km E of Lancelin	SA	New project, govt approval under way	na	132MW	\$280m
Oaklands Wind Farm	AGL/ Windlab Systems	5 km S of Glenthompson	VIC	New project, planning approval under way	2011	70MW	\$175m
Paling Yards	Union Fenosa Wind Australia	84 km N of Goulburn	NSW	New project, feasibility study under way	2012	76-95MW	\$183m
Portland stage 4	Pacific Hydro	Cape Nelson North and Cape Sir William Grant	VIC	New project, govt approval under way	na	54MW	na
Robertson Wind Farm	Roaring 40s	123km N of Adelaide	SA	New project, planning approval under way	na	100MW	na
Ryan Corner Wind Farm	Union Fenosa Wind Australia	10 km NW of Port Fairy	VIC	New project, govt approval received	2011	136MW	\$327m
Sidonia Hills Wind Farm	Roaring 40s	10 km NE of Kyneton	VIC	New project, pre-feasibility study under way	2010	68MW	\$170m
Silverton Wind Farm	Silverton Wind Farm Developments	25 km NW of Broken Hill	NSW	New project, EIS under way	2011	1000MW	\$2.2b
Snowtown stage 2	TrustPower	5 km W of Snowtown	SA	Expansion, govt approval received	2010	212MW	na
Stockyard Hill Wind Farm	Origin Energy	35 km W of Ballarat	VIC	New project, planning approval under way	na	484MW	\$1.4b
Stony Gap Wind Farm	Roaring 40s	120 km N or Adelaide	SA	New project, planning approval under way	na	129MW	\$350m
The Sisters Wind Farm	Wind Farm Developments	12 km S of Mortlake	VIC	New project, planning approval under way	2013	30MW	\$63m
Vincent North	Pacific Hydro	Yorke Peninsula	SA	New project, govt approval under way	na	60MW	\$100m
Waterloo stage 1	Roaring 40s	30 km SE of Clare	SA	New project, govt approval received	2011	114MW	\$275m

Project	Company	Location	State	Status	Expected startup	New Capacity	Capital Expenditure
Woodlawn Wind Farm	Acciona Energy	40 km S of Goulburn	NSW	New project, govt approval received, on hold	na	50MW	\$100m
Woolsthorpe Wind Farm	Wind Farm Developments	2 km W of Woolsthorpe, Vic	VIC	New project, govt approval received	2011	40MW	\$60-100m
Worlds End	AGL	Burra, SA	SA	New project, feasibility study under way	na	180MW	\$486-522m
Yaloak Wind Farm	Pacific Hydro	35 km E of Ballarat, Vic	VIC	New project, planning approval under way	na	115MW	\$150m
Yass Wind Farm	Epuron	20 km W of Yass, NSW	NSW	New project, EIS under way	na	up to 660MW	\$850m
Hydro							
Bogong Power Development	AGL	300 km NW of Melbourne	VIC	New project, under construction	late 2009	140MW	\$230m
Ocean							
Banks Strait Tidal Energy Facility	Tenax Energy Pty Ltd	Banks Strait	TAS	New project, govt approval under way	2013	302MW	na
Clarence Strait Tidal Energy Project	Tenax Energy Pty Ltd	Clarence Strait	NT	New project, govt approval under way	2011	450MW	na
Port Phillip Heads Tidal Energy Project	Tenax Energy Pty Ltd	Port Phillip Heads	VIC	New project, govt approval under way	2012	34MW	na
Biomass							
Bell Bay Power Plant	Gunns	48 km N of Launceston	TAS	New project, on hold	na	200MW	na
WA Biomass	Babcock Brown Power/Npower	5 km S of Manjimup	WA	New project, feasibility study under way	na	40MW	\$110m
Solar							
Whyalla Solar Oasis	Wizard Power	2 km N of Whyalla	SA	New project, Under Construction	2009	na	na
ACT Solar Power Plant	ACT Government	to be determined	ACT	New project, pre-feasibility study completed	2012	22MW	\$141m
PV Power Station	Solar Systems	Mildura	VIC	New project, govt grant received	2013	154MW	\$420m
Geothermal							
Moomba stage 2	Geodynamics	Moomba	SA	Expansion, demonstration plant under construction	2011	50MW	na

Projects - Oil and Gas & Minerals - Map

From ABARE.GOV.AU



Projects - Oil and Gas

Notes	
	Less advanced projects are shown in the yellow shaded areas
	Projects that are under construction or committed are shown in the blue shaded areas
State Code	State Name
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
SA	South Australia
TAS	Tasmania
VIC	Victoria
WA	Western Australia

Project	Company	Location	State	Status	Expected Startup	New Capacity	Capital Expenditure
CSM - Coal Seam Methane							
RTA development (Tallinga)	APLNG (Origin/ConocoPhillips)	160 km E of Roma	QLD	Expansion, under construction	2010	23 PJ pa	\$260m
Camden Gas Project stage 2 (coal seam methane)	AGL	Camden	NSW	Expansion, planning approval received	na	12 PJ pa	\$35m
Camden Gas Project stage 3 (coal seam methane)	AGL	Camden	NSW	Expansion, planning approval under way	mid 2010	na	\$100m
Casino project	Metgasco	Casino	NSW	New project, feasibility study under way	2010	18 PJ pa	\$120m
Gloucester Coal Seam Gas project	AGL	Hunter Valley	NSW	New project, feasibility study under way	2010	15-25 PJ pa	\$200m
Walloon gas field	BG Group	80 km N of Roma	QLD	New project, feasibility study under way	2013	190 PJ pa	\$230m

Project	Company	Location	State	Status	Expected Startup	New Capacity	Capital Expenditure
Petroleum – oil and natural gas projects							
Henry gasfield	Santos/ AWE/ Mitsui	20 km offshore Otway Basin	VIC	New project, under construction	early 2010	11 PJ pa	\$275m
Kipper gas project (stage 1)	Esso/ BHP Billiton/ Santos	42 km offshore Gippsland	VIC	New project, under construction	2011	30 PJ pa gas, 10 kbpd condensate	\$1.57b
Longtom gas project	Nexus Energy	Bass Strait	VIC	New project, under construction	mid 2009	25 PJ pa gas (initially)	\$300m
Montara/ Skua oilfield	PTTEP	Timor Sea, 650 km W of Darwin	NT	New project, under construction	late 2009	38 kbpd	\$1.0b
NWS CWLH	Woodside Energy/ BHP Billiton/ BP/ Chevron/ Shell/ Japan Australia LNG	150 km NW of Dampier, Carnarvon Basin	WA	Expansion, under construction	2011	60 kbpd of oil, 35 PJ pa gas	\$2.1b
NWS North Rankin B	Woodside Energy/ BHP Billiton/ BP/ Chevron/ Shell/ Japan Australia LNG	150 km NW of Dampier, Carnarvon Basin	WA	New project, under construction	2012	967 PJ pa	\$7.29b
Pluto (train 1)	Woodside Energy	Carnarvon Basin/ Burrup Peninsula	WA	New project, under construction	late 2010	4.3 Mt LNG	\$12b (inc site works for train 2)
Pyrenees	BHP Billiton/ Apache Energy	55 km N of Exmouth, Carnarvon Basin	WA	New project, under construction	early 2010	96 kbpd, 23 PJ pa gas	\$2.4b
Reindeer gas field/ Devil Creek gas processing plant (phase 1)	Apache Energy/ Santos	80 km NW of Dampier, Carnarvon Basin	WA	New project, committed	late 2011	40 PJ pa gas	\$1.06b
Turrum	ExxonMobil/ BHP Billiton	Bass Strait	VIC	New project, committed	2011	11 kbpd condensate, 75 PJ pa	\$1.79b
Van Gogh	Apache Energy/ Inpex Alpha	50 km N of Exmouth, Carnarvon Basin	WA	New project, under construction	late 2009	38 kbpd	\$780m

Project	Company	Location	State	Status	Expected Startup	New Capacity	Capital Expenditure
Australia Pacific LNG	APLNG (Origin/ConocoPhillips)	Surat/Bowen basins/Gladstone	QLD	New project, feasibility study under way	2014-15	7-8 Mt LNG (initially) 14-16 Mt (ultimately)	\$35b (based on 14 -16 Mt LNG), includes production wells, 4 LNG trains and 400 km pipeline
Basker, Manta and Gummy gas development	Roc Oil/Beach Petroleum	Offshore, Gippsland Basin	VIC	Expansion, feasibility study under way	na	up to 46 PJ pa	na
Basker, Manta and Gummy oil development	Roc Oil/Beach Petroleum	Offshore, Gippsland Basin	VIC	Expansion, FEED studies under way	na	10 kbpd,	na
Browse LNG development	Woodside Energy/ BP/ BHP Billiton/ Chevron/ Shell	Offshore Browse Basin	WA	New project, feasibility study under way	na	Up to 15 Mt LNG	na
Condensate processing facility	Darwin Clean Fuels	Darwin	NT	New project, feasibility study under way	2011	60 kbpd of gasoline, diesel, LPG and jet fuel	\$500m
Crux liquids project	Nexus Energy	Timor Sea, 600 km N of Broome; 700 km W of Darwin	NT	New project, on hold	na	38 kbpd condensate	\$930m
Curtis LNG project	BG Group	Gladstone	QLD	New project, FEED study under way	late 2013	7.4Mt LNG (12Mt ultimately)	\$8b (includes production wells, LNG plant and 380km pipeline)
Fisherman's Landing LNG project	LNG Ltd	Gladstone	QLD	New project, environment approval granted	late 2012	1.5 Mt LNG initially	\$570m)
Gladstone LNG project	Santos/ Petronas	Gladstone	QLD	New project, EIS under way	2014	3.5 Mt LNG (initially) 10 Mt (ultimately)	\$7.7b (includes production wells, 1 LNG train and 435 km pipeline)
Gorgon LNG	Chevron Texaco/Shell/ ExxonMobil	Barrow Island	WA	New project, EIS under way	2014	15 Mt LNG	\$30.3B
Halyard	Apache Energy/ Santos	120 km N of Onslow	WA	New project, FEED studies under way	2010	26 PJ pa	\$157

Project	Company	Location	State	Status	Expected Startup	New Capacity	Capital Expenditure
Ichthys gas field (incl Darwin LNG plant)	Inpex Holdings/ Total	Browse Basin 440 km N of Broome	WA	New project, FEED studies under way	2015	8 Mt LNG, 100 kbpd condensates, 1.6 Mtpa LPG (initially)	\$28.5b
Julimar/ Devil Creek gas processing plant (phase 2)	Apache	NW of Dampier	WA	New project, feasibility study under way	2013	77-155 PJ pa gas	\$1.64b
Kipper gas project (stage 2)	Esso/ BHP Billiton/ Santos	42 km offshore Gippsland	VIC	Expansion, feasibility study under way	2015	27 PJ pa	na
Macedon	BHP Billiton / Apache Energy	100 km W of Onslow	WA	New project, pre-feasibility study under way	2012	77 PJ pa gas	na
Monash Energy project	Anglo American/ Shell	Latrobe Valley	VIC	New project, on hold	na	60–70 kbpd liquid fuels	na
Pluto (train 2)	Woodside Energy	Carnarvon Basin/ Burrup Peninsula	WA	Expansion, feasibility study under way	2012	4.3 Mt LNG	na
Prelude	Shell	450 km N of Broome	WA	New project, pre-feasibility study under way	na	3.5 Mt LNG	na
Puffin oil field	AED Oil/ Sinopec	700 km W of Darwin	NT	Expansion, feasibility study under way	na	10 kbpd	na
Scarborough Gas	ExxonMobil/ BHP Billiton	280 km NW of Onslow	WA	New project, pre-feasibility study under way	na	6 Mt LNG	na
Sunrise Gas project	Woodside Energy/ ConocoPhillips / Shell/ Osaka Gas	Timor Sea, 500 km NW of Darwin	NT	New project, pre-feasibility study under way	na	5.3 Mt LNG	na
Talbot oil field	AED Oil	600 km W of Darwin	NT	New project, feasibility study under way	na	10–20 kbpd	na
Tassie Shoal methanol project	Methanol Australia/ Air Products and Chemicals	Timor Sea, 275 km NW of Darwin	NT	New project, pre-feasibility study under way	Phase 1: na Phase 2: na	Phase 1: 1.75 Mt; Phase 2: 1.75 Mt methanol	na
Timor Sea LNG project	Methanol Australia	Timor Sea, 275 km NW of Darwin	NT	New project, pre-feasibility study under way	na	3 Mt LNG	na

Project	Company	Location	State	Status	Expected Startup	New Capacity	Capital Expenditure
Wheatstone gas field	Chevron	145 km NW of Dampier, Carnarvon Basin	WA	New project, pre-feasibility study under way	2015	10 Mt LNG (initially) 25Mt LNG (ultimately)	na

Petroleum – gas pipeline projects

Eastern Gas Pipeline	SP AusNet	Wollongong (NSW) to Longford (Vic)	NSW-VIC	Expansion, committed	2009	20 PJ pa	\$41m
Queensland Gas Pipeline	SP AusNet	Wallumbilla to Gladstone (550 km), Qld	QLD	Expansion, committed	2010	25 PJ pa	\$112m
South Gippsland natural gas pipeline	Multinet Gas	South Gippsland (250 km from Lang Lang to five regional towns), Vic	VIC	New project, under construction	2010	na	\$50m
Central Queensland gas pipeline	Arrow Energy/AGL	Moranbah to Gladstone (440 km)	QLD	New project, feasibility study under way	na	20–50 PJ pa	\$475m
Dampier–Bunbury gas pipeline (DBNGP) expansion (stage 5C)	DBP	Dampier to Bunbury, WA	WA	Expansion, feasibility study under way	na	275 TJ/day (total)	\$800m
Gloucester Coal Seam Gas pipeline	Lucas Energy/Molopo Australia	Gloucester to Hexham (98km)	NSW	New project, feasibility study under way	2010	15-22 PJ pa	\$50-80m
Lions Way pipeline	Metgasco	Casino to Ipswich (145 km)	NSW-QLD	New project, EIS under way	2010	18 PJ pa	\$120m
Queensland–Hunter gas pipeline	Hunter Gas Pipeline	Wallumbilla (Qld) to Newcastle (NSW) (820 km)	QLD-NSW	New project, govt approvals received	2012	85 PJ pa	\$900m
South West Queensland pipeline (stage 2)	Epic Energy	Wallumbilla to Ballera (755 km), Qld	QLD	Expansion, FEED study under way	2013	20 PJ pa	\$64m
South West Queensland pipeline (stage 3)	Epic Energy	Wallumbilla to Ballera (755 km), Qld	QLD	Expansion, FEED study under way	2011	36 - 72 PJ pa	\$300-650m
Surat Basin to Gladstone pipeline	Arrow Energy	Surat Basin to Gladstone (450km), Qld	QLD	New project, feasibility study under way	na	na	\$500m

Offshore Projects and associated Fields

Project	Field	Status	Depth	Operator	Country
Albacore	Albacore	Bright Spot		Westech Energy	New Zealand
Basker-Manta-Gummy	Manta	Producing	200 m / 660 ft	Anzon	Australia
	Basker	Producing	200 m / 660 ft		
	Gummy	Producing	200 m / 660 ft		
BassGas Project	Yolla	Producing	80 m / 264 ft	Origin Energy	Australia
Blacktip	Blacktip	Producing	50 m / 165 ft	ENI (NOC)	Australia
Casino-Henry Field	Casino	Producing	72 m / 238 ft	Santos	Australia
	Netherby	Under Development	56 m / 185 ft		
	Henry	Under Development	67 m / 221 ft		
Clio	Clio	Discovery (Appraised)	990 m / 3,267 ft	Chevron	Australia
Greater Gorgon	Achilles	Discovery (Drilled)		Chevron	Australia
	Chandon	Under Development	1,200 m / 3,960 ft		
	Geryon	Under Development	1,232 m / 4,066 ft		
	Gorgon	Under Development			
	Io	Under Development	1,352 m / 4,462 ft		
	Jansz	Under Development			
	Maenad	Under Development			
	Orthrus	Under Development	1,200 m / 3,960 ft		
Urania	Under Development				
Hoki	Hoki	Bright Spot	150 m / 495 ft	Australian World	New Zealand
Ichthys	Ichthys	Discovery (Appraised)	280 m / 924 ft	Inpex	Australia
Kentish Knock	Kentish Knock	Discovery (Drilled)	1,200 m / 3,960 ft	Chevron	Australia
Kipper	Kipper	Under Development	100 m / 330 ft	Esso	Australia
Kitan	Kitan	Discovery (Drilled)		ENI (NOC)	Australia
Kon-tiki	Kon-tiki	Non-Commercial	500 m / 1,650 ft	ConocoPhillips	Australia
Kupe	Kupe	Under Development	35 m / 116 ft	Origin Energy	New Zealand
Longtom	Longtom	Producing	56 m / 185 ft	Nexus	Australia
Maari	Manaia	Discovery (Appraised)		OMV	New Zealand
	Matariki	Bright Spot	100 m / 330 ft		
	Maari	Producing - Under Dev.	1,495 m / 4,934 ft		
Montara	Skua	Under Development	77 m / 254 ft	PTTEP (NOC)	Australia
	Swift/Swallow	Under Development	77 m / 254 ft		
	Montara	Under Development	77 m / 254 ft		
Pluto	Pluto	Under Development	976 m / 3,221 ft	Woodside	Australia
	Xena	Under Development	178 m / 587 ft		
Poseidon	Kronos	Bright Spot		ConocoPhillips	Australia
	Poseidon	Discovery (Appraised)	480 m / 1,584 ft		
	Lion	Exploratory Drilling			
Prelude	Concerto	Discovery (Drilled)		Shell	Australia
	Prelude	Discovery (Drilled)			
Puffin	Talbot	Under Development	105 m / 347 ft	Sinopec	Australia
	Puffin	Producing	103 m / 340 ft		
Pyrenees	Ravensworth	Under Development	210 m / 693 ft	BHP Billiton	Australia
	Crosby	Under Development	200 m / 660 ft		

Project	Field	Status	Depth	Operator	Country
	Stickle	Under Development	195 m / 644 ft		
Spikey Beach	Spikey Beach-1	Non-Commercial	75 m / 248 ft	Beach Petroleum	Australia
Stag	Stag	Producing	49 m / 162 ft	Apache	Australia
Stybarrow	Stybarrow	Producing	825 m / 2,723 ft	BHP Billiton	Australia
	Eskdale	Producing	825 m / 2,723 ft		
Trefoil	Trefoil	Appraisal Drilling		Origin Energy	Australia
Van Gogh	Van Gogh	Under Development	380 m / 1,254 ft	Apache	Australia
	Theo	Under Development	380 m / 1,254 ft		
Vincent	Vincent	Producing	420 m / 1,386 ft	Woodside	Australia
Wheatstone	Iago	Under Development	118 m / 389 ft	Chevron	Australia
	Wheatstone	Under Development	213 m / 703 ft		

Articles

Contract - Supply

December 5 2009

Chevron Deal Shows North Asia's Energy Thirst

Wall Street Journal

SYDNEY -- [Chevron Corp.](#) said Saturday it has a preliminary agreement to sell liquefied natural gas from its Wheatstone project offshore Australia to Japan, the latest in a string of energy supply deals between oil majors and customers in North Asia.

Chevron has signed a heads of agreement with [Tokyo Electric Power Co.](#), known as Tepco, to deliver 4.1 million metric tons of LNG annually for a period up to 20 years. That's equivalent to more than 20% of Tepco's annual consumption of LNG.

Tepco also plans to acquire 15% of Chevron's share in the Wheatstone gas field licenses and an 11.25% interest in the onshore LNG terminal.

Large international oil companies like Chevron, [Exxon Mobil Corp.](#) and [Royal Dutch Shell PLC](#) are betting big on LNG to capitalize on what they expect will be a surge in demand for cleaner-burning fuels. Australia's stable political environment, substantial gas reserves and proximity to fast-growing Asian economies make it an attractive place to invest in, particularly with U.S. gas prices low due to a flood of domestic gas supply into the US market.

Chevron Chairman and Chief Executive David O'Reilly said in October that Chevron is investing so much in Australia that by 2020 it could be as big a profit-driver for Chevron as its U.S. operations are now. Chevron's agreement with Tepco comes just days after Exxon concluded a binding sales-and-purchase agreement with China Petroleum & Chemical Corp. for two million tons of LNG a year from the rival PNG LNG project in Papua New Guinea.

Chevron is also the operator of the 43 billion Australian dollar (US\$39.32 billion) Gorgon project offshore Western Australia state, which recently won the green light from Australian regulators to proceed and plans to ship LNG to customers in Japan, South Korea and China.

"Tepco is among the most experienced LNG buyers in the world. Their commitment to secure long-term LNG supplies from Wheatstone is a strong demonstration of their confidence in Chevron and represents another important step forward for the project," John Gass, president of Chevron Global Gas, said in a statement.

The first phase of the Wheatstone project will have an annual processing capacity of 8.6 million tons of LNG and will include a domestic gas plant. A final investment decision is expected in 2011. In October, Apache Corp. and Kuwait Foreign Petroleum Exploration Co. agreed to join Chevron in the development of Wheatstone, spurning overtures from Woodside Petroleum Ltd. to supply gas from their offshore discoveries to the competing Pluto LNG project. Apache and KUFPEC jointly own 25% of the Wheatstone LNG facilities, but took no interest in the Wheatstone gas field.

December 5 2009

Chevron Sells LNG, Stake to Tokyo Electric in \$82 Billion Deal

(Bloomberg) -- [Chevron Corp.](#) signed an \$82 billion contract, Australia's biggest energy deal, to supply liquefied natural gas to [Tokyo Electric Power Co.](#) and sell the Japanese utility a stake in its Wheatstone project.

The contract is for up to 20 years and covers almost half Wheatstone's initial capacity of 8.6 million tons of LNG a year, Chevron, the second-largest U.S. energy producer, said today in a statement. Tokyo Electric will purchase 15 percent of Chevron's holdings in the field off the Western Australian coast, equal to about 11.25 percent of the project, the utility said in a separate statement, without giving financial details.

Tokyo Electric, Asia's biggest utility, joins Japanese power producers and Chinese and Indian companies in buying stakes and LNG from Australian projects, diversifying supply sources as utilities increase use of the cleaner-burning fuel to reduce carbon emissions. A final investment decision on Wheatstone is due to be made in 2011.

"This is very positive for Wheatstone's path to a final investment decision," said [John Hirjee](#), an analyst at Deutsche Bank AG in Melbourne. "Tokyo Electric Power is an A-grade customer, so from that perspective it's a very good result for Chevron. With 4 million tons, the chances of Wheatstone moving forward are very promising."

Japan imports 99 percent of the oil it needs. Tokyo Electric, the nation's biggest LNG buyer, purchased 20 million tons in the year ended March 2009, accounting for about one-third of the country's imports. It has been burning more gas to make up for the 2007 closure of the Kashiwazaki Kariwa station, the world's biggest nuclear power plant. The company's nuclear operating rate was 44 percent in the last fiscal year.

Tokyo Electric's 11.25 percent ownership of the field would entitle it to 1 million tons of LNG a year, and the company will buy the remaining 3.1 million tons, the utility said in its statement. The Japanese company also will get an 11.25 percent interest in onshore processing facilities, to be built at Ashburton North near the town of Onslow, about 1,400 kilometers (870 miles) north of Perth. The company will import about 17 million to 18 million tons of LNG a year over the next decade, Tokyo Electric said in July. It imports the material, which feeds power plants, from Abu Dhabi, Qatar, Australia, Indonesia, Malaysia, Brunei and Russia.

Chevron is aiming to develop Wheatstone at the same time as work commences on its \$40 billion Gorgon project, also off Western Australia.

Gorgon, which will have capacity to produce 15 million metric tons of LNG a year when it starts operating off the northwest shelf in 2014, is the largest of 10 proposed LNG projects that Resources and Energy Minister [Martin Ferguson](#) says will make Australia "an energy superpower."

"We have started front-end engineering and design work on the Wheatstone project," [Roy Krzywosinski](#), managing director of Chevron's Australian unit, said in today's statement.

Chevron said in October that [Apache Corp.](#) and Kuwait's state-owned oil company had opted to supply gas to the first two processing units at Wheatstone. Apache had agreed to take a 16.3 percent stake in the venture, with Kuwait Foreign Petroleum taking 8.8 percent, Chevron said.

[Exxon Mobil Corp.](#) has signed a contract to supply gas from Gorgon to [PetroChina Co.](#) valued by the Australian government at A\$50 billion and also will sell fuel to India's Petronet LNG Ltd. Chevron has agreed to supply the fuel to Tokyo Gas Co., Osaka Gas Co., and South Korea's GS Caltex, in deals that may be valued at A\$70 billion over 25 years.

September 15, 2009

Chevron Sign Gorgon deal with Kogas

by Sydney Bureau Dow Jones Newswires

Australia's Minister for Resources Martin Ferguson announced a preliminary agreement between Korea Gas Corp. (036460.SE) and Chevron Corp. (CVX) for the delivery of liquefied natural gas, a deal he described as "potentially the largest long-term LNG contract between Australia and South Korea."

According to the press release from the minister's office Tuesday, the pact involves the delivery of 1.5 million metric tons a year of LNG to Kogas from the Gorgon Project in Western Australia state for a period of 15 years and the two parties have an option to extend the deal for another five years.

Exxon Mobil last month struck two deals over Gorgon LNG, including a 20-year deal with PetroChina Co., the listed unit of China National Petroleum Corp., and a 20-year agreement with Petronet LNG Ltd., India's largest LNG importer. Shell last year agreed to sell LNG from its share of Gorgon to PetroChina.

September 10, 2009

Chevron Secures Gorgon Sales Deals

Chevron Corp.

Chevron Corp. on Thursday announced that Australian subsidiaries of Chevron have signed three binding long-term Sales and Purchase Agreements (SPAs) for Chevron's share of liquefied natural gas (LNG) from the Gorgon project. The agreements are for a total supply of nearly 3 million tons per annum (MTPA) of LNG to Osaka Gas, Tokyo Gas, and GS Caltex.

Chevron will supply Osaka Gas 1.375 MTPA of LNG for 25 years. Osaka Gas will also purchase 1.25 percent equity in the Gorgon Project. Tokyo Gas will be supplied 1.1 MTPA over 25 years and will purchase a 1 percent equity stake. Supply from both agreements is expected to commence in the second half of 2014.

Chevron Australia Pty Ltd and Chevron International Gas Inc., have also signed separate agreements with GS Caltex Corp. for 0.5 MTPA of LNG for up to 20 years. The LNG to GS Caltex will be supplied from the Gorgon project and other gas within the global Chevron portfolio. GS Caltex is 50 percent owned by Chevron.

"We are pleased to welcome Osaka Gas and Tokyo Gas as foundation customers and equity participants in Gorgon. This builds upon our longstanding relationship with these companies and represents a major step towards the successful commercialization of the Gorgon Project," said Jim Blackwell, president, Chevron Asia Pacific Exploration and Production Company.

"Securing sales agreements with three major customers in Japan and Korea is a significant milestone in Chevron's efforts to commercialize our equity natural gas and grow our LNG business," said John Gass, president, Chevron Global Gas. "With Osaka Gas and Tokyo Gas, we have as foundation customers two of the most experienced LNG buyers in the largest LNG market in the world," Gass said. He added, "The agreements with GS Caltex provide our initial entry into the important Korean LNG market and GS Caltex's first expansion from refining, petrochemicals and power into LNG." Chevron expects further sales of Gorgon LNG to be executed in the coming months.

The Gorgon project is operated by Chevron Australia Pty Ltd (50 percent) in joint venture with the Australian subsidiaries of ExxonMobil (25 percent) and Shell (25 percent). The project's scope includes a three-train, 15 MTPA LNG facility; a carbon dioxide injection project expected to be the world's largest; and a domestic gas plant. Chevron's stake will change from 50 percent to 47.75 percent once relevant approvals have been obtained on the equity agreements with Osaka Gas and Tokyo Gas.

August 19, 2009

Gorgon Signs \$41B LNG Deal with China

Deutsche Presse-Agentur (dpa)

Australia will supply China with liquefied natural gas (LNG) worth 50 billion Australian dollars, officials said Tuesday.

It's Australia's largest resources' deal ever, double the size of the LNG supply deal sealed last week with India.

"The 50 billion Gorgon LNG project will be the biggest single investment ever made in Australia, breaking the record set only a few years ago by the 12 billion Pluto LNG project now under construction in Western Australia," Minister for Resources and Energy Martin Ferguson said in a statement.

"We are a country built on foreign investment and we continue to welcome investments that develop our resources for the benefit of all Australians," the statement said.

The agreement was signed in Beijing between Gorgon partner ExxonMobil and Chinese energy giant PetroChina.

Ferguson said the Gorgon project had led to LNG supply contracts worth 300 billion Australian dollars over 20 years.

Contract - Engineering

17 November, 2009

AJ Lucas bags Gorgon deal

Australian contractor AJ Lucas is set to start a deal worth A\$95 million (US\$88.7 million), which will see the outfit provide shore crossings to link the upstream facilities for Chevron's Gorgon liquefied natural gas project to the onshore infrastructure on Barrow Island.

The scope of works includes the construction of nine holes using horizontal directional drilling emerging in the region of 400 metres offshore.

AJ Lucas said it will be ordering two new rigs to carry out the work in order to minimise the risk of any local contamination. The company added the equipment will also be sound proofed to further reduce any impact on the local fauna and marine life. Engineering work has already started with site works expected to start in May 2010.

11/16/2009

Foster Wheeler Confirms FEED Award for Pluto Expansion

Foster Wheeler AG

Foster Wheeler announced that a joint venture of its Global Engineering and Construction Group, with partner WorleyParsons Services Pty Ltd., has been awarded a front-end engineering design (FEED) contract by Woodside for Train 2 and Train 3 of the Pluto liquefied natural gas (LNG) Project in Australia. The contract also includes an option for early EPCm services.

The contract value for this award was not disclosed. Foster Wheeler's portion of the contract value will be included in the company's fourth-quarter 2009 bookings. The FEED is expected to be completed in the second half of 2010. Raymond J. Milchovich, chairman and chief executive officer of Foster Wheeler, said, "We look forward to the successful completion of the Pluto foundation project and to the next phase of work on Trains 2 and 3. At the same time, we recognize and support the commercial strategy of Woodside, which has chosen to award dual competing FEEDs for the Pluto expansion. Given our understanding of the project and our technical expertise, we are confident in our ability to deliver a FEED that meets or exceeds the client's expectations."

John Grill, chief executive officer of WorleyParsons, said, "We are delighted that, once again, Woodside has chosen the joint venture of Foster Wheeler and WorleyParsons to play a pivotal role in its strategic objective of expanding world-scale LNG operations."

13 November 2009

Woodside signs off on more Pluto contracts

PNN

WOODSIDE Petroleum has inked yet another Pluto LNG contract this week, awarding Southern Cross Electrical Engineering a \$35 million contract for electrical works.

Southern Cross said the contract award for electrical and instrumentation works for Pluto's storage and loading facility had kicked off the company's re-entry into the oil and gas market.

"This award is the start of what is expected to be an exciting period for the company as we look at the pipeline of LNG projects that are being developed over the coming year," Southern Cross managing director Stephen Pearce said.

Work on the contract is expected to start at the end of December with completion scheduled for July 2010.

Earlier this week, Woodside awarded Downer EDI \$70 million worth of electrical and instrumentation contracts for the project, and signed dual front-end engineering and design contracts for the Pluto expansion to a joint venture between Foster Wheeler, WorleyParsons and KBR.

The \$A12 billion Pluto project is on track to become the fastest developed LNG project in the world, from discovery of the field in 2005 to production of first gas targeted for late 2010.

November 11, 2009

Woodside Awards Dual FEED Contracts for Pluto Expansion

Woodside Petroleum Ltd.

Woodside has awarded dual contracts for Train 2 and Train 3 front-end engineering design (FEED) to Foster Wheeler and WorleyParsons (an unincorporated joint venture PJV) and KBR.

The total Woodside costs, including the dual contracts, for the FEED phase remain within the A\$100-150 million guidance provided at the half-year briefing.

Woodside chose to award dual FEED contracts to provide the necessary due diligence for the engineering, procurement and construction management phase of Pluto Train 2 and Train 3 in the fastest time frame.

Foster Wheeler and WorleyParsons (an unincorporated joint venture PJV) and KBR are expected to complete the FEED studies in the second half of 2010.

The Pluto LNG Project incorporates gas production from two offshore fields: Pluto and Xena. Located offshore Western Australia, the gas fields are situated in the highly productive Carnarvon Basin.

Woodside Petroleum serves as the operator of the Pluto project with 90% interest. Kanasi Electric and Tokyo Gas each hold 5% interest in the project.

November 10, 2009

EDI Wins \$372M in Mining, LNG Contracts

Asia Pulse Pte Ltd

Australian engineering firm Downer EDI Ltd has secured over A\$400 million (US\$372.36 million) worth of contracts on mining and liquified natural gas (LNG) projects. The company said on Tuesday the contracts demonstrate the opportunities for the company in the mining, oil, gas and petrochemical industries.

The contracts include a two-year agreement worth A\$170 million with Wesfarmers Curragh Pty Ltd for expansion work on its Curragh Mine in central Queensland. Downer will work on the design and construction of a coal processing facility to increase the mine's capacity.

A further A\$90 million deal has been reached with BHP Billiton Ltd to provide electrical and instrumentation services for its expansion of iron ore facilities in Western Australia.

Downer has also secured more than A\$70 million worth of electrical and instrumentation contracts for Woodside Petroleum Ltd's Pluto LNG project off the West Australian coast, plus additional electrical contracts with other clients worth over A\$75 million.

Chief executive Geoff Knox said Downer EDI's work in hand stood at over A\$16 billion.

"These wins reinforce Downer's position as a leading provider of mechanical and electrical contracting services," Knox

05 November, 2009

Leighton expects more Gorgon spoils

Wire services

Australia's Leighton Holdings chief executive Wal King said today that the construction company is confident of winning another A\$1 billion worth of contracts from the Chevron-operated Gorgon liquefied natural gas project in Western Australia.

Leighton has already won two separate A\$500 million contracts from the Gorgon partners to prepare the site on Barrow Island and build its accommodation facilities.

"I'm very confident we will win another A\$1 billion worth of work there in the very near future," King told reporters after the group's annual general meeting, reported the Dow Jones.

Other LNG projects planned for the region could also present Leighton with opportunities, such as Browse, PNG LNG in Papua New Guinea and the coalbed methane (CBM) LNG projects planned for Queensland state, King said. Offshore LNG in Indonesia and the Middle East could also present opportunities, he added.

September 14, 2009

KBR-led JV Wins Gorgon \$2.7 Billion EPCM Contract

Kellogg Joint Venture Group (KJVG) has been awarded by Chevron Australia Pty Ltd an estimated AUD 2.7 Billion contract to Engineer, Procure and Construction Manage (EPCM) the LNG downstream and logistics portion of the multi-billion dollar Chevron-operated Gorgon LNG Project.

KJVG, a KBR led Joint Venture consisting of partners JGC, Clough and Hatch, will execute and construct the Liquefied Natural Gas (LNG) facility on Barrow Island, consisting of three 5 million tonne per annum (MTPA) LNG trains, gas processing and treatment facilities, product storage and offloading, complete offsites, utilities and accommodations. The EPCM contract also includes a 300TJ/d domestic gas plant. The design of the facility features improvements in greenhouse gas emissions performance including improved waste heat recovery and the provision of facilities for the injection of reservoir carbon dioxide deep into the subsurface.

The EPCM effort is a modular construction strategy to minimize impact on the island during the construction phase and is being conducted from two main operating centers located in Perth, Australia and London, UK with support from global centers in USA, Singapore, Indonesia and Japan. KJVG plans to utilize several fabrication yards across South East Asia & Australia to support the planned 250,000 tons of LNG modules. Along with the above unique and one of kind design items, KJVG will implement a comprehensive Quarantine management plan for Barrow Island.

Oct 27, 2009

WorleyParsons gets FEED contract for Surat basin CSM project

MELBOURNE, Oct. 27 -- Arrow Energy Ltd., Brisbane, has appointed WorleyParsons as program manager for the front-end engineering and design study for its Surat basin coalseam methane project in Queensland.

The FEED contract will include preliminary engineering, design, procurement, and planning services to allow preparation of the FEED report as well as cost estimate and execution planning required for development of the upstream surface facilities.

The latter include wellhead infrastructure, gathering systems, gas compression, water treatment, and electric power generation.

Arrow says the contract will begin immediately in Brisbane and be concluded during first-quarter 2010.

The Surat project involves the staged development of about 1,500 production wells and associated infrastructure in Arrow's existing CSM fields at Tipton West, Daandine, Stratheden, and Kogan North.

It will also extend into Arrow's exploration areas running from Wandoan to Dalby and south to Millmerran and Goondiwindi.

The plan is to significantly lift gas production from the region for the ongoing supply of the Queensland domestic market as well as the proposed Fisherman's Landing CSM-LNG plant near Gladstone in which the company has an interest.

14th October 2009

Thiess Kentz wins contract at Woodside's Pluto LNG Project on Burrup Peninsula in Western Australia

Thiess Kentz Pty Ltd., has been awarded an AUD \$86m contract on the LNG processing site at Woodside's Pluto LNG Project.

The contract involves the installation and testing of high voltage cabling, switchboards, transformers, UPS systems, instrument control system cabinets, motor control stations, field panels, lighting and small power, trace heating, process instrumentation, fire and gas detection and protection devices, above ground cabling, earthing and bonding, as well as the recovery and termination of cables installed underground. The work will be carried out on pre-assembled units and pre-assembled pipe racks.

25th August 2009

Thiess Kentz wins work on Gorgon's LNG project at Barrow Island

Thiess Pty Ltd has awarded Thiess Kentz the site preparation and temporary construction facilities contract at Chevron Australia's Gorgon liquefied natural gas (LNG) project.

The electrical package consists of the installation of High Voltage cables for above and below ground works. It will also include the installation of substations, ring main units and distribution boards.

Low Voltage cables will also be installed as the main electrical power supply for all the temporary buildings, which will be occupied during the construction period of 2010 - 2011.

July 30, 2009

Bechtel Wins Wheatstone FEED Contract from Chevron

Chevron Corp.

Chevron Corp. announced the award of a major front-end engineering and design (FEED) contract for the first phase of the Wheatstone natural gas development in northwest Australia.

Chevron awarded the contract for the first phase of the project -- which consists of two liquefied natural gas (LNG) processing trains each with a capacity of about 4.3 million tons per year and a domestic gas plant -- to Bechtel Oil, Gas & Chemicals, Inc. The facility will be supplied initially from Chevron's 100 percent interest in the Wheatstone Field and the Chevron-operated Iago Field.

The facility will be located at Ashburton North on the mainland of Western Australia.

"Awarding the contract moves the Wheatstone project a step closer to commercialization, assists in realizing our strategy of developing our large natural-gas resource base in Australia and further enhances our position as a leading supplier of LNG in the Asia-Pacific region and internationally," said George Kirkland, executive vice president, Global Upstream and Gas, Chevron Corporation.

"We are committed to moving forward our two big Australian LNG projects -- Wheatstone and the Gorgon development," Kirkland said.

July 27, 2009

Fluor to Perform FEED for Landmark GLNG Project

Fluor Corp.

Fluor Corp. announced Monday that it was awarded a contract to perform front-end engineering and design (FEED) services for Santos Limited's Gladstone Liquefied Natural Gas (GLNG) Upstream Project in Queensland, Australia. The company booked the \$16 million contract in its second quarter of 2009.

"This is truly a unique engineering opportunity for Fluor and we are honored to work with Santos on the FEED phase of this milestone project in Australia," said Peter Oosterveer, president of Fluor's Energy & Chemicals Group. "The Fluor

team stands ready to assist Santos in what will be the world's first project to convert coal-seam gas to liquefied natural gas."

Fluor's scope of work for this contract includes the preparation of an execution plan and cost estimate for the engineering, procurement and construction of the upstream facilities required to deliver coal-seam gas from Santos-operated, coal-seam gas fields in central Queensland to the proposed GLNG liquefaction facility to be located at Gladstone in Queensland. Fluor's project team for the FEED phase will be led from the firm's Brisbane office.

The overall GLNG project, when completed, is expected to produce 3 to 4 million tons of LNG per year. A gas supply of 170 to 220 petajoules per year will be sourced from the Santos-operated coal-seam gas fields in Queensland's Bowen and Surat Basins. Santos currently produces about 25 percent of Australia's coal-seam gas.

As the operator of the GLNG Project, Santos has a 60 percent share of the project. The joint venture will develop and operate the 435 kilometer gas pipeline to Gladstone and the LNG liquefaction plant on Curtis Island at Gladstone.

May 14, 2009

J P Kenny Wins Ichthys FEED Contract

Wood Group

J P Kenny, (JPK), a subsidiary of John Wood Group PLC ("Wood Group") is to carry out front end engineering design (FEED) of the pipeline and umbilicals, risers and flowlines (URF), for the INPEX-operated [Ichthys](#) liquefied natural gas project in Western Australia's Browse basin. MCS, another Wood Group company, will design the dynamic riser system. INPEX Browse Ltd (INPEX), operator of the Ichthys Project on behalf of joint venture participants -- INPEX (76%) and Total (24%) -- has been working with J P Kenny on concepts for the development since 2007. The FEED will require almost 200,000 man-hours of input and will produce defined solutions for the Subsea systems for the 850 km export pipeline.

Gerwyn Williams, Group Managing Director, J P Kenny said, "We are delighted to be engineering our fourth successive \$multi-billion subsea and pipeline project on the North West Shelf. Our track record on projects such as Woodside's Pluto has been to create savings of hundreds of millions of dollars, and we are pleased that INPEX want to capitalise on that expertise."

Phil Brown, Operations Director of J P Kenny in Perth, added, "The riser engineering capabilities of MCS, a 2008 acquisition by Wood Group, will really help us to devise the best engineering solutions for this project, and the MCS team has been critical in developing our relationship with INPEX. This project will also involve significant contributions from JPK sister companies Ionik and MSi."

The Ichthys Project is expected to have an initial capacity to produce more than eight million tonnes of LNG per annum, approximately 1.6 million tonnes of LPG per annum and 100,000 barrels of condensate per day, at peak. The first shipment of LNG is scheduled to be loaded in 2015.