



QUEENSLAND MAJOR
CONTRACTORS ASSOCIATION

2010 MAJOR PROJECTS REPORT
Queensland Engineering Construction Outlook

FOREWORD

One of the key strategic initiatives of the Queensland Major Contractors Association (QMCA) is to regularly review and analyse the major Engineering Construction Projects planned and delivered in Queensland, for the public and private sectors. This review is concerned with major projects identified with a present value of greater than \$100 million (and does not consider Building or Residential construction).

The QMCA's Major Projects Report is a valuable tool for our member companies and the broader construction industry and provides a snapshot of the pipeline of potential major projects available.

Analysis of this information also provides the basis for well-informed consultation and discussion with Government, the private sector and other industry peak bodies regarding the status and health of the general construction industry. In addition, data contained within the report gives a macro measure of current workforce levels employed on Major Projects and a reliable mechanism to forecast future staffing, manpower needs, training requirements and skills needs.

In 2010, a National Resources Sector Employment Taskforce was established to address the workforce needs of major resources projects for the next five years and beyond. This document represents the QMCA's submission to the Taskforce to assist in their examination of the scope and timing of major resources projects; the expected demand for labour (construction); and supply issues and solutions.

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Queensland Engineering Construction Outlook
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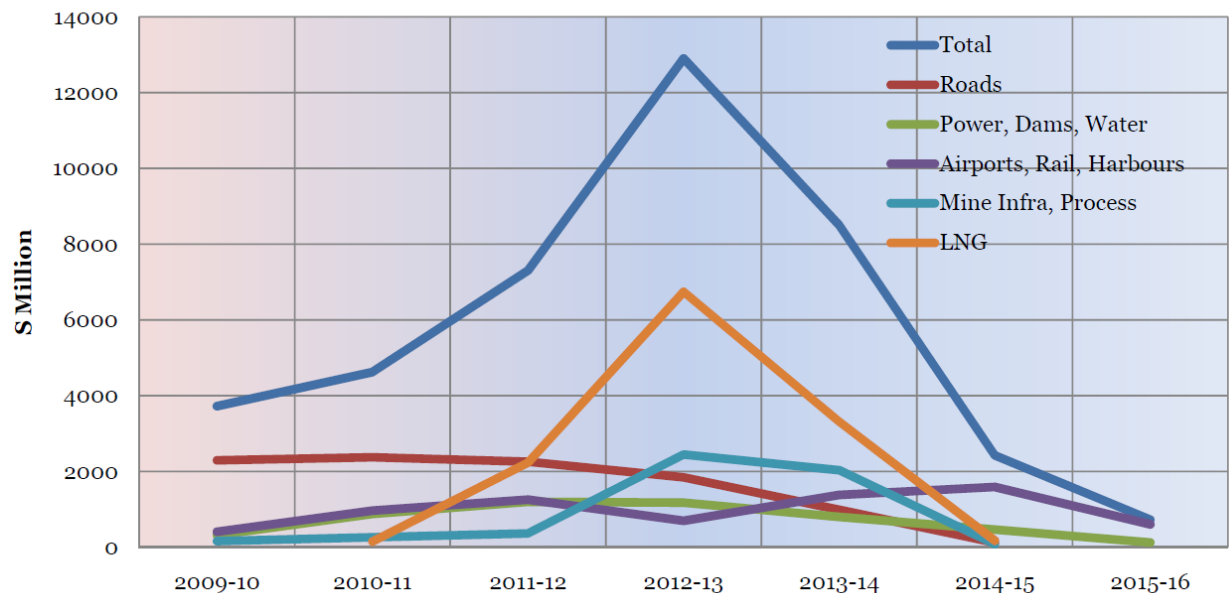
EXECUTIVE SUMMARY

In early 2008, the QMCA published its second bi-annual Major Projects Report that indicated a sustained period of Engineering Construction Activity in Queensland to provide both public infrastructure in support of record population growth in the State's South-East, and to drive the expansion of a buoyant Resources and Mining Sector. At that time, State Government revenues were unimpeded by the impacts of the impending Global Financial Crisis (GFC).

Two years later, the medium term outlook remains strong; with activity on identified Major Projects set to more than double in the period 2010-2011 to 2012-2013. Major Project Engineering Construction Activity is forecast to peak in 2012-13 at some \$12.9 billion. This can be confidently concluded based on the level of certainty attached to the near term projections 2010-11 to 2012-13.

However, this growth and level of activity is heavily dependent upon a short-term transition away from Government funded public infrastructure to an impressive array of planned privately funded infrastructure in the Resources, Mining and Energy Sectors. Uncertainty remains around the short term funding commitment for many such projects.

2010 Major Projects Demand



A '2 Speed' Infrastructure Investment Environment

The Queensland and Australian Governments are now poised to re-prioritise expenditure and reduce infrastructure funding in their mid year 2010 annual budgets by anywhere between 15 – 35%, back to within affordable levels.

This anticipated reduction in funding by both levels of Government coincides with multiple impending Final Investment Decisions (FID's) by major Resources and Energy companies considering expansion and growth of their operations in Queensland and into other parts of Australia (notably Western Australia). These FID's are sensitive to issues such as favourable global economic conditions, overseas demand for resource commodities and to potential ownership changes and rationalisation of the Coal Seam Methane to Liquefied Natural Gas (CSM-LNG) projects.

Consequently, a number of key issues have emerged for both Queensland Major Contractors, Clients and for the Queensland Government.

Surplus Capacity Emerging from Road and Transport Infrastructure Projects

- Some 30% of previously identified major road projects are now unfunded. These total \$6.12 billion.
- **Both Queensland and Australian Government funded major road and transport projects due to be completed in 2010 and 2011 are not being replaced by new projects at anywhere near the same rate, resulting in an emerging surplus resource capacity in this sector.** Given the current trend, by the end of 2013, it is anticipated that some 800 project staff and 2,400 construction workers currently employed by major contractors on Queensland and Australian Government funded road infrastructure projects will need to have been re-deployed. When employment multipliers¹ are considered, a further 2,500 jobs that are tied to this sector will need to be redeployed, creating a total employment impact of approximately 5,700 jobs.

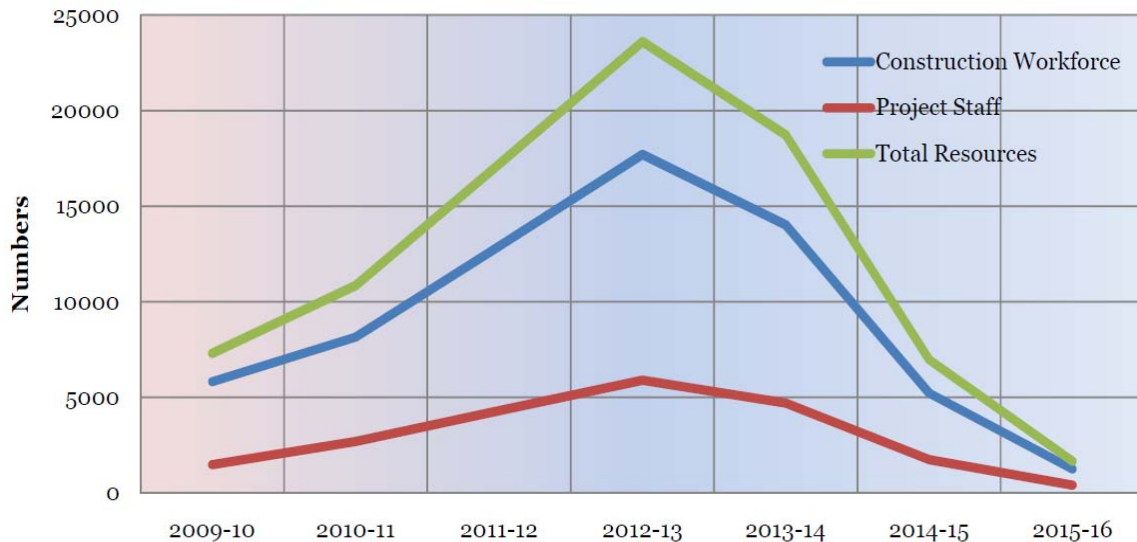
Huge Emerging Demand for Capacity from planned Resources and Energy Sector Projects

- **The magnitude and scale of planned Resources and Energy Sector projects in Queensland is impressive.** By 2011-2012, there is significant potential for privately funded Resource and Energy Sector projects to 'fill the gap' left by the anticipated reduction in public sector investment.
- The QMCA 2010 Major Projects List has assumed a number of sizeable projects commencing in the CSM-LNG, Mining, Ports, Rail and Resources sectors. **At the time of publishing this report, there is still a significant level of uncertainty surrounding a number of these projects** and the likely timing

¹ ABS Year Book 2002, Australian National Accounts: Input-Output Tables 1996-97 (5209.0)

surrounding the FID's. A further complication is potential consolidation of the current 5 (five) major CSM-LNG project proponents planning to develop upstream CSM gas fields in the Surat Basin and pipe the CSM to new processing and export facilities near Gladstone. For the purpose of this report, the QMCA has conservatively forecast that two CSM-LNG projects will proceed within the timeframes currently published.

2010 Major Projects Workforce Demand



- Should the current planned Mine, Ports, Rail and Resources infrastructure projects proceed in parallel with the CSM-LNG Energy projects as currently predicted, major Contractors will need to increase their overall capacity from 10,760 (2010-11 four quarter average) to 23,660 in 2012-13. Overall levels of project staff will need to increase by approximately 3,220 (120%) and construction workers by 9,670 (120%).
- This notable increase in capacity also relies on successful redeployment of all project staff and construction workers emerging from completed South East Queensland (SEQ) road and transport infrastructure projects. **Depletion of these SEQ based resources due to unsuccessful transition, re-deployment and re-skilling will significantly exacerbate the additional capacity demand on Major Contractors throughout 2011 and 2012.**

Short Term Challenges – Capacity and Skills

- **In 2011, as significant Resources and Energy projects commence, there is likely to be an emerging shortfall in capacity needed to either commence construction and/or retain the progress of existing SEQ projects.** The size of this shortfall is dependent upon the ability of Government, Project Proponents and Major

Contractors to both successfully import new workers into Queensland and redeploy project staff and construction workers from SEQ to Regional Queensland.

- Whilst detailed workforce planning and skills mapping has not yet been fully addressed, **significant skilled labour shortages are anticipated in a number of key engineering construction trades, technical and professional roles associated with construction of Resources and Energy projects.** These shortages arise due to the differences in work scope between the majority of major projects currently undertaken (and in recent years) compared with the majority of those planned to commence.

- Project based construction staff and workers will be required to increase their levels of transience and redeploy away from predominantly SEQ road and water infrastructure projects to regional Queensland Resources and Energy Sector projects. **It is anticipated there will also be considerable challenges particularly in the Bowen, Surat and Galilee basins, the Gladstone and Mackay regions and the Northern Economic Triangle to provide the necessary structural and social infrastructure necessary to support workforces engaged initially in construction** and then in the ongoing operation of new facilities.

- **With the impending completion of SEQ road and transport projects in 2010 and 2011, some of the pool of available engineering construction workforce will likely seek opportunities interstate** around major coastal centres and State capitals, in preference to relocating to the perceived harsher Central and Regional Queensland locations.

- **The resources pull associated with competing resource sector projects in Western Australia and Papua New Guinea is also likely to add further pressure to the capacity issue.** This will be further complicated as improved economic performance in South Australia (anticipated BHP uranium development), Victoria and NSW drives the need for broader infrastructure investment.

Industrial Conditions, Productivity and Input Costs

- The Queensland construction industry is facing a number of structural adjustments and challenges due to the change in market focus from the major water and road infrastructure projects in South East Queensland to regional Resource Sector projects. **This will require adjustment in the contracting skill set, contract systems, workforce skills and organisational culture of some of Queensland's Major Contractors.**

- **There is a high potential for significant labour cost escalation** beyond acceptable levels if the Resources and Energy Sector proponents adopt a 'competitive' attitude to developing more favourable Industrial Agreements than their counterparts as a strategy to attract and maintain labour in Queensland. Potentially the approach taken to developing industrial agreements in the Resources and Energy Sectors of both Queensland and Western Australia may negatively affect industrial agreement making in the other Australian states and territories.
- The Queensland Engineering Construction sector has experienced a significant decrease in industrial disputation in recent years. **Any erosion of the policy and workplace relations environment that has supported the decrease in industrial disputation could lead to a more volatile industrial relations environment.** This risk would be further complicated by Regional project locations and any perceived inferior living and accommodation standards for construction workers.
- While construction input prices have moderated in the wake of the GFC, **increased short-term demand could fuel localised growth in the price of steel, other metals, quarried products and fuel leading to increases in the cost of construction inputs.** The price of steel grew by 40% in 2007 and jumped a further 61% in the first half of 2008, driven by surging demand from China and India, before falling 18.8% in the September quarter. The price of fuel has also risen strongly in recent years, rising by 34.7% since the end of 2007. The strong growth in the price of steel and fuel has also previously flowed through to higher increases in the price of other construction materials such as cement, glass, plaster and ceramics.

Longer Term Implications

- Longer term, there is a sharp fall off in committed projects commencing in late 2014, as the LNG projects and the Galilee Basin coal projects are completed. **Without positive investment sentiment towards post 2014 uncommitted projects, there could be a dramatic disruption to construction activity in Queensland.** This could be further exacerbated if the availability of new public sector infrastructure work continues to decline.
- The period of identifiable forward work opportunities in the 2010 Major Projects Report has dropped from 6 years to 4 years when compared to the 2008 Major Projects Report. This is accompanied by a drop in the total volume of work available in the reporting period. This poses significant challenges to secure ongoing projects to achieve ongoing development, deployment and retention of skilled personnel in key disciplines.

QUEENSLAND MAJOR ENGINEERING PROJECTS OUTLOOK

1. INTRODUCTION

The construction industry is a major employer and a lead indicator of the overall health of the economy, with engineering construction directly aligned with economic and productivity outcomes. Importantly, a robust and efficient engineering construction sector is dependent on competitive and sustainable contractors.

QMCA members represent contractors who are uniquely placed and capable of delivering Queensland's major projects. The business sustainability of the QMCA member contractors relies on their ability to develop, deploy and retain resources having regard for the anticipated demand for their services.

To assist both QMCA members and key industry stakeholders, the QMCA has developed the 2010 Major Projects Report and Major Projects List to provide a snapshot of major projects and the implications that these projects hold for the Queensland engineering construction sector.

2. ECONOMIC OUTLOOK

2.1 Overall Outlook

The world economy has stabilised due to the impact of large stimulus packages by governments around the world and large injections of funds into the banking system, with most economies showing growth at the close of 2009. Another important change is the stabilisation of the financial sector. The return to normality in terms of credit market functioning has given firms more confidence that their debts will be rolled over and hence is lifting the barriers to some investment, since debt reduction is now slightly less urgent.

The Australian economy was remarkably resilient to the GFC with 1% economic growth in 2008-09. As well as the fast stimulus response, other reasons why Australia escaped the worst of the GFC were:

- Less disruption to the banking systems. Australia's relatively high interest rates allowed the foreign capital necessary to support the financial system to be attracted relatively easily.
- China's massive stimulus package that supported Australia's resource industry.²

The national growth outlook is one of growth at around 2.5% for 2009-10 and is projected to accelerate to between 4.5% and 5% by 2011-12.

Queensland was hit relatively hard by the GFC. Economic growth was 0.3% in 2008-09 and is projected to be close to the national rate in 2009-10. However, by 2010-11 Queensland's

² NIEIR Queensland and Queensland Regional Construction Activity- Quarterly projection update – December 2009, A report for the Queensland Department of Public Works, January 2010

growth is projected to be in excess of 4%.³ The Comsec 'Economic Insights: State of the States'⁴ report indicates that while economic growth in Queensland slowed over the past year with companies deciding to mothball new projects, actual activity levels are still well above levels considered 'normal' for the state over the past decade. It is anticipated that the return of a degree of confidence in the world economy will allow more private sector engineering projects to proceed.

The Comsec report provides the following insights into Queensland's Economic growth and other key economic health indicators.

2.2 Economic Growth

Queensland has ranked third on economic growth with Western Australia and Australian Capital Territory ranked first. Victoria has ranked fourth and New South Wales is ranked as eight.

ECONOMIC RANKINGS January 2010

	Economic growth	Retail trade	Business Invest	Unemployment	Construction work	Population growth	Housing finance	Dwelling starts	TOTAL
NSW	8	7	5	8	8	2	5	8	51
Victoria	4	6	4	5	6	6	2	3	36
Queensland	3	2	2	6	3	8	4	7	35
South Australia	6	5	5	3	2	4	3	4	32
Western Australia	1	4	1	7	1	3	7	6	30
Tasmania	5	3	7	2	5	1	6	2	31
Northern Territory	7	1	8	1	7	5	8	5	42
ACT	2	8	3	4	4	7	1	1	30

Source: CommSec

Comsec indicates that there is a substantial level of uncertainty in terms of short-term economic performance as follows:

- The national growth outlook (Section 2.1) identifies a growth of around 2.5% for 2009-10, accelerating to between 4.5% and 5% by 2011-12.
- Queensland's projected growth is 1% compared to Australia's 1.5%. The Queensland economy has averaged 5.05% growth over the last ten years while Australia has averaged 3.3%. These late 2009 projections, issued, as the recovery was underway, remain less than half of the economic growth, which has been the norm for the last decade.⁵

This uncertainty holds particular meaning when looking at future major projects, and the dependence on positive investment sentiment to ensure project commencement.

2.2 Business Investment

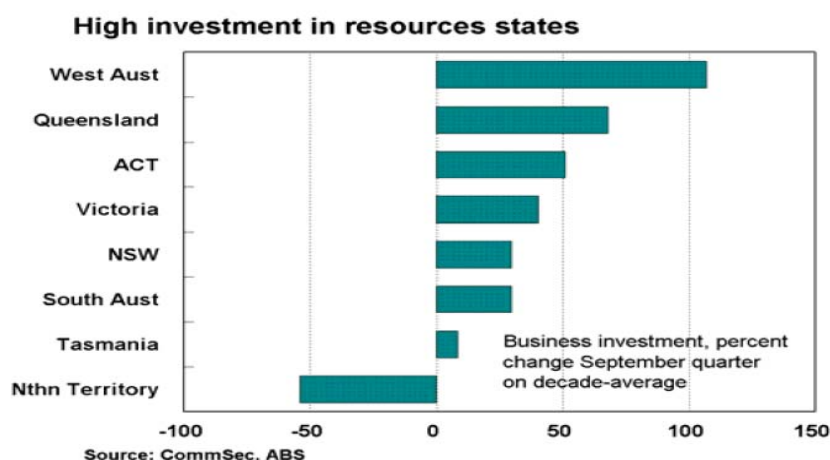
Comsec advises that the resources-dependent states of Western Australia and Queensland continue to lead the business investment leader-board. While growth in investment has slowed over the past year in both states, the amount of work underway is still markedly above decade-average levels.

³ *ibid* NIEIR

⁴ Economic Insights by Craig James, Chief Economist, ComSec, January 11 2010 (bi-annual report) - highlights in Section 2.2 to 2.6 of this report

⁵ *A stronger Queensland for the future* Hon Andrew Fraser MP, Treasurer of Queensland, Minister for Employment and Economic Development, CEDA Forum Brisbane 3 February 2010

In Queensland, business investment is 68% above 'normal' levels. Simply, there is a lot of work to be done.



2.3 Employment and Unemployment

Comsec indicates that demand for workers remains solid but population growth and interstate migration have not kept pace. Over December 2009, the only increases in unemployment were experienced in Queensland and Tasmania.

Queensland Treasury's Labour Force Report (February 2010) indicates that:

- In the December quarter 2009, there were 2,217,527 employed persons in Queensland, which accounted for 20.4% of Australia's total employment.
- Leading indicators imply subdued jobs growth in Queensland in the coming months.
- Despite very strong population growth, Queensland's labour force grew only 1,900 persons in February, helped by the trend participation rate remaining relatively stable, at 67.2%, in the month. As a result, the modest trend employment growth in February led to a fall in the trend unemployment rate, to 5.7%, from 5.8% in January 2010.

2.4 Construction Work and Workforce

Comsec has ranked Queensland third on construction work. Queensland work is down almost 2%. Nationally construction work is rising in trend terms and is up almost 6% over the year. Queensland's construction industry employs 236,755 persons (November 2009) with employment down by 8,100 persons or -3.3% on 2008 employment figures numbers (244,800). The construction sector represents around 11% of Queensland's total workforce with 86.2% employed on a full time basis.⁶

2.5 Population Growth

Queensland's population growth of 2.6% is only modestly above the 'normal' or decade-average growth pace of 2.3%. Both Queensland and Western Australia have been consistently leading the rest of the nation on population growth, especially over the past three years.

⁶ ABS Labour Force Survey, Queensland Employment by Industry, November 2009, four quarter average data

2.6 Wages and Prices

Comsec advises that consumers in all states and territories are enjoying real wage gains (wages growing faster than prices) and homeowners are benefiting from rising home prices.

3. QUEENSLAND GOVERNMENT ASSET INVESTMENT STRATEGIES

The Global Financial Crisis (GFC) reduced Queensland Government income by \$15 billion over four years, with income reductions in various areas:

- GST down by \$4.6 billion.
- Royalties down by \$2.6 billion.
- Taxes such as stamp duty, down by \$7.8 billion.

The Hon Andrew Fraser MP, Treasurer of Queensland has indicated that:

*'The stark reality that we must confront, that we are confronting is this: our finances did take a massive hit. In a time of unprecedented growth, we didn't just cop a speeding ticket – we had the car impounded and the keys confiscated. When that happens, tough choices need to be made. When the income you've been relying on turning up into the future dries up, families, households, businesses and governments must make choices'*⁷.

In response, the Queensland Government announced its plans in 2009 for the privatisation of a number of government owned assets including Queensland Motorways, Queensland Rail's coal rail business QR National, the Port of Brisbane, the Abbot Point coal terminal and Queensland Forestry Plantations. The asset sale is expected to raise \$15 billion. There has been widespread public criticism of the sell-off with Unions, economists and sections of industry criticising the plans as poorly planned or unjustified.

The Queensland Government sees the asset disposal program as a way to free up capital to fund major expansions in economic and social infrastructure and deliver operational efficiencies. In this regard, the Queensland Government has stated that its first priority:

*'is to deliver the schools, roads and hospitals that Queensland families need, not building ports and rail lines that only benefit mining companies'*⁸.

While the Queensland Government's assets sales program will offset the income loss of the GFC, it is anticipated that there will be a short to medium term constraint on the Government's ability to fund infrastructure.

⁷ *A stronger Queensland for the future* Hon Andrew Fraser MP, Treasurer of Queensland, Minister for Employment and Economic Development, CEDA Forum Brisbane 3 February 2010

⁸ Hon Anna Bligh, Premier and Minister for the Arts and The Hon Andrew Fraser, Treasurer and Minister for Employment and Economic Development Monday, October 26, 2009

4. CONSTRUCTION OUTLOOK

4.1 Structure of Engineering Construction Sector

Historically, engineering construction activity in Australia has been predominantly funded by the public sector. However, since the mid-1990's there has been a strong, consistent increase in the private sector funded share, which since 2002-03, has seen work funded by the private sector surpass work funded by the public sector. When heavy industry is excluded, leaving the 'infrastructure' categories, work funded by the public sector accounts for 53% of work, and private sector funded work 47%.⁹

The largest segment of private sector activity is heavy industry (which includes mines, oil platforms, minerals processing facilities and other heavy industrial facilities) and has on average prior to the minerals boom, constituted over 40% of Australia's total private sector engineering construction over the last three decades.¹⁰

4.2 Overview of Queensland Construction Activity

Total Construction

The National Institute of Economic and Industry Research (NIEIR) December 2009 quarter forecasts¹¹ show that Queensland construction activity grew by 8.1% to \$41.6 billion in 2008-09. Total Queensland construction activity is projected to fall by 5.1% to \$39.5 billion in 2009-10, with a further 2.2% fall to \$38.6 billion in 2010-11.

The NIEIR forecasts indicate that the short-term outlook is one of decline. NIEIR indicates that after the March quarter 2010, the total level of Queensland construction is projected to remain stable to the June quarter 2011, as the recovery in housing and high levels of public sector non-residential building offset declines in engineering and private non-residential building remains at low levels. By mid 2011, the fall in Queensland construction from the pre GFC peak in the September quarter 2008 will be 12%.¹²

Engineering Construction

The NIEIR forecasts indicate that in 2008-09, the rate of growth of engineering construction activity in Queensland was 25%. The value of work in the pipeline is declining with the value of work done for engineering construction projected to fall by 3% in 2009-10 and a further 16% in 2010-11, as major projects are completed. However, the improved economic outlook has resulted in a cumulative 16% upward revision in the level previously projected for 2010-11.¹³

Prices and Labour

NIEIR indicates that the recovery in confidence and demand means that the construction industry in Queensland is likely to be moving into a situation of a general shortage of skills over 2011-12. This will particularly be the case if there is a substantial spillover of the Federal Government's stimulus construction program into 2011-12. However, NIEIR cautions that

⁹ BIS Shrapnel Engineering Construction in Australia 2008-09 – 2022/23, page 5

¹⁰ *ibid*

¹¹ NIEIR Queensland and Queensland Regional Construction Activity - Quarterly projection update: December 2009, A report for the Queensland Department of Public Works, January 2010

¹² *ibid*

¹³ *ibid*

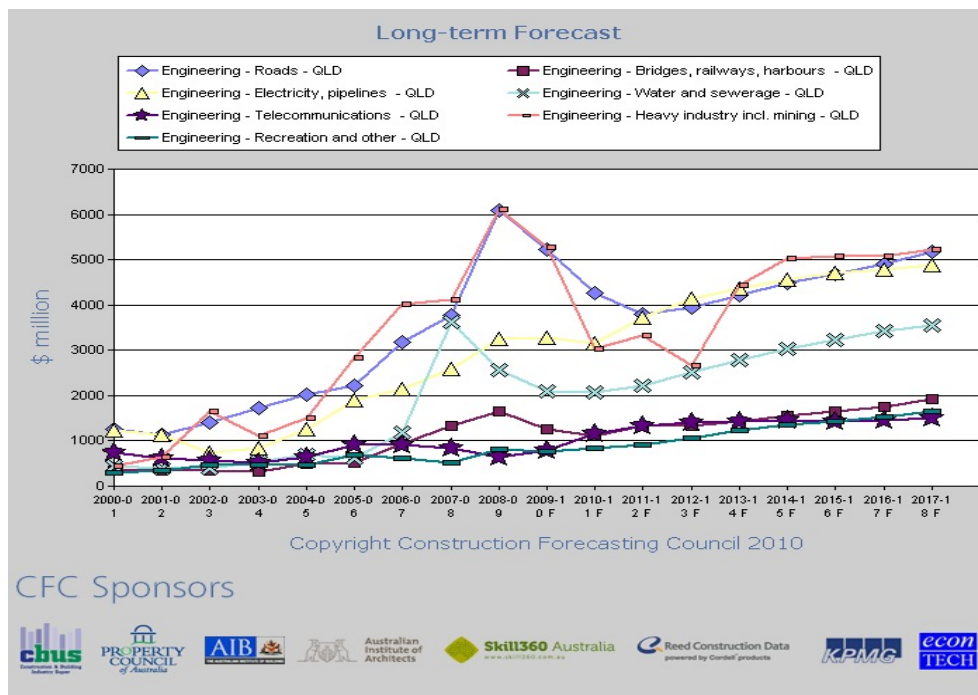
this does not mean that there are not currently shortages in specific skills on a State level or general shortages at a regional level.¹⁴

5. QUEENSLAND ENGINEERING CONSTRUCTION FORECASTS

5.1 Overview

The Construction Forecasting Council (CFC) has advised in its November 2009 forecasts that engineering construction work done had peaked but long project lags in the sector mean that work done has continued to hold up as the pipeline of existing projects has been slowly completed. CFC believes that the main impacts of the global financial crisis (GFC) have not been completely reflected in the engineering construction work done figures but the impacts are expected to flow through over the next 12-18 months.¹⁵

The CFC long-term forecasts for Queensland engineering construction are in the following chart. A synopsis for each sector of engineering construction forecast by CFC¹⁶ is also provided as a strategic backdrop to the 2010 Major Projects Report.



5.2 Roads

Queensland's capital outlay expenditure for Main Roads in the State Budget was \$3.53 billion, which is down from \$3.83 billion on 2008-09¹⁷. This is not expected to improve over the next few years when viewed against the number of unfunded projects identified in the QMCA Major Projects List.

CFC notes that the Building Australia Fund (established in Australian Government Budget 2008-09) is funding the \$1 billion Ipswich Motorway in Queensland. Another project in the construction phase is the \$613 million Cooroy to Curra (new 4-lane road).

¹⁴ *ibid*

¹⁵ Construction Forecasting Council 2010 (November 2009 Forecasts)

¹⁶ *ibid* CFC

¹⁷ Queensland State Budget 2009-10 Capital statement , page 4

5.3 Bridges, Railways and Harbours

Major Queensland projects either in or about to enter the construction phase include the \$920 million Northern Missing Link (construction of a 69 km rail link between the North Goonyella and Newlands rail systems in the northern Bowen Basin coalfields) and the \$450 million Abbot Point Coal Port Terminal Expansion at Bowen.

Others projects include the Wiggins Island Coal Expansion Terminal (WICET), and the new major Cruise Terminal at the Port of Townsville (part of the \$1 billion Breakwater Quays project). Whilst there is some uncertainty associated with the Cruise Terminal project, it has been included in the 2010 Major Projects List as a key project.

5.4 Electricity and Pipelines

Electricity and pipeline construction is set to be a major growth area overcoming years due to:

- The development of Australia's natural gas deposits in Queensland and on the North-West Shelf.
- The need to replace the coal-fired electricity generation network, and to replace them with "greener" electricity generation.

Miners tapping into the natural gas deposits will need to invest in gas pipelines to transport the gas. This is set to take place over the next decade.

5.5 Water and Sewerage

Even though the Traveston Dam development in Queensland has been withdrawn due to environmental concerns, Premier Anna Bligh has indicated that the Queensland government will need to consider other forms of water infrastructure, such as desalination plants, in order to ensure that they can meet the water needs of Queensland's growing population.

5.6 Telecommunications

Telecommunications construction activity (includes all transmission towers, telephone lines and coaxial cables) have risen strongly over the past few years due to the rollout of Telstra's Next G network. The next major project is the installation of the Government's National Broadband Network (NBN). It is expected that the building of the NBN will sustain solid levels of spending in telecommunications infrastructure well into the next decade.

5.7 Heavy Industry

Heavy industry construction, which includes mining construction, is the largest category of engineering construction. The recent commodity price resurgence is encouraging the development of mining infrastructure, which, coupled with the medium term emergence of projects related to gas developments in Western Australia, and Queensland is seeing a surge in construction activity.

6. QUEENSLAND MAJOR PROJECTS

6.1 Basis of the QMCA Major Projects List

The QMCA 2010 Major Projects List is presented in Appendix 1 of this report. The Major Projects List is for projects in excess of \$100 million and was developed using an extensive range of information sources and QMCA member knowledge to March 2010.

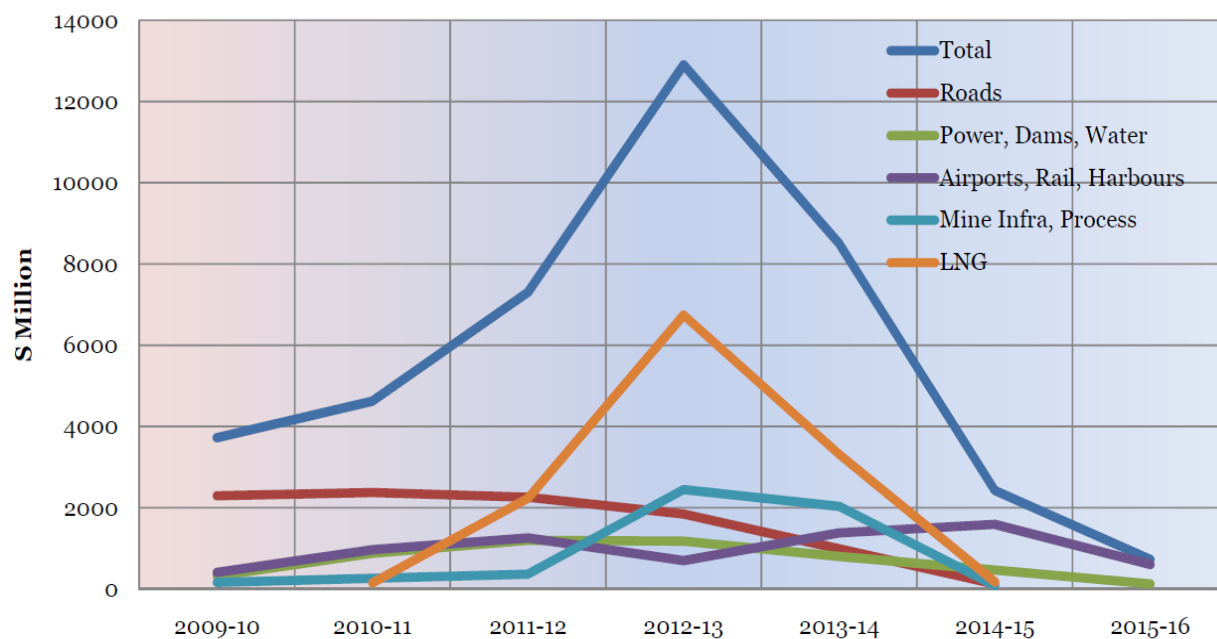
To ensure there was confidence in the Major Projects List, it was subject to robust testing as follows:

- Only projects that were identified in two information sources were included in the Major Projects List e.g. projects identified in Industry Papers and Forecasts were not included unless the project could be verified by a second source (e.g. websites, other forecasts, etc).
- Expenditure was distributed on a pro rata across anticipated construction period.
- If different costs were identified for a particular project, the lower cost was adopted.

6.2 Major Projects Commitments

The following graph highlights the current activity projections for major projects (greater than \$100 million) that are committed for the period 2010-2011 to 2015-2016. This is based on data available to March 2010. The graph also compares the activity projections for the key engineering construction sectors.

2010 Major Projects Demand

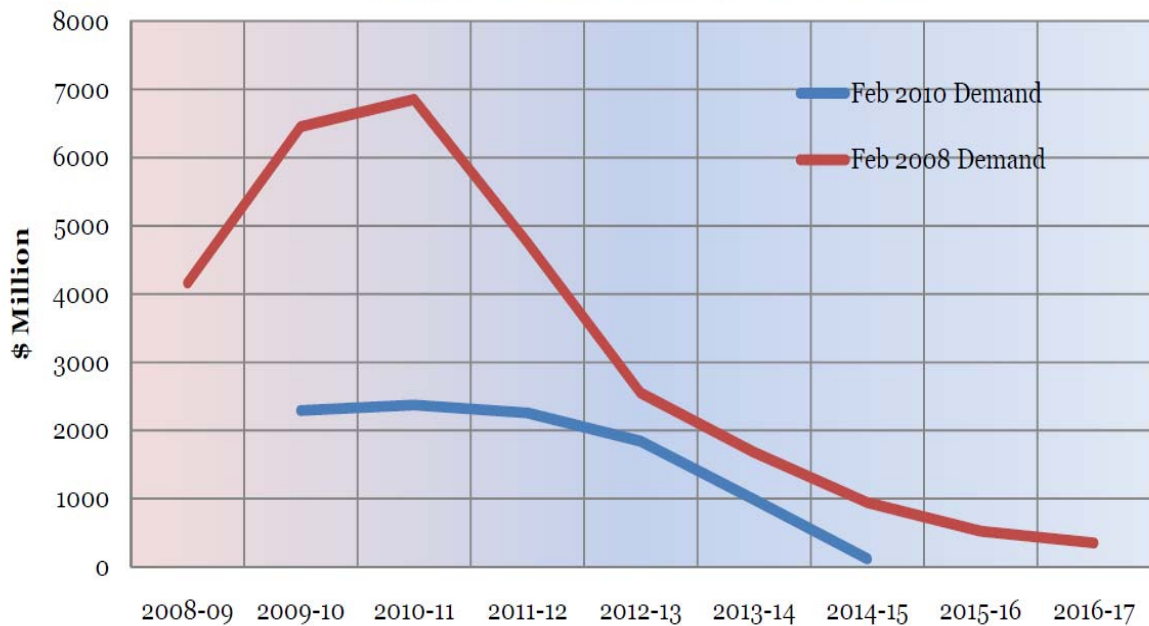


Trends and issues evident from the above projections are:

- There will be a major increase in engineering construction activity in the short term with activity then falling away rapidly after 2013-14. The increased activity is a result of a significant increase in investment in LNG, mines and processing plant infrastructure.

- While the anticipated peak in engineering construction activity is similar to that identified in 2008, the total volume of projected work is reduced in the period of the report and project construction has also been delayed in a number of cases.
- The period over which the work opportunities are expected has substantially shortened from 6 years to 4 years when compared to the 2008 Major Projects Report. This poses challenges in all aspects of business planning and sustainability. In particular, workforce planning becomes substantially more difficult due to the need to rapidly expand capacity and the almost immediate need to shed resources that are excess to need.
- Some 30% of previously identified major road projects are now unfunded. In the absence of sufficient numbers of funded replacement projects, there will be a substantial drop off in activity in this sector in late 2013. The extent of the drop off will mean that the road construction sector will continue to shed surplus workforce.
- The reduction in public sector investment for major roads projects is illustrated in the following chart which compares the outlook in the 2008 Major Projects List to the 2010 Major Projects List. The 2008 Major Projects List reflects the pre GFC outlook and includes the then anticipated but now unfunded projects.

Road Infrastructure Demand



The reduction in public sector investment in major road projects is underscored by:

- Approximately \$6.12 billion of unfunded major road projects.
- A dramatic reduction in the share that major road projects represent of the total demand for Major Projects. This is illustrated in the following table.

Queensland Major Road Projects as a Percentage of Total Demand						
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Feb 08	51%	53%	53%	45%	47%	45%
Feb 10		51%	31%	14%	12%	5%

- Realignment of the Queensland Government’s public sector procurement and delivery strategies. This involves a move away from the alliance delivery method for major projects to using smaller packages of less than \$100 million. The smaller packaged projects are now likely to be delivered by more traditional ‘hard dollar’ contracts.

In terms of overall activity, the reduction in public sector investment has been offset by the forecast growth in private sector investment in the resource, mining sectors and related areas. Recognising the traditional public – private investment allocation (infrastructure other than heavy industry) occurs on a 53:47 split¹⁸, the overall outlook is now significantly more sensitive to private infrastructure investment decisions or sentiment. This inevitably results in increased uncertainty associated as:

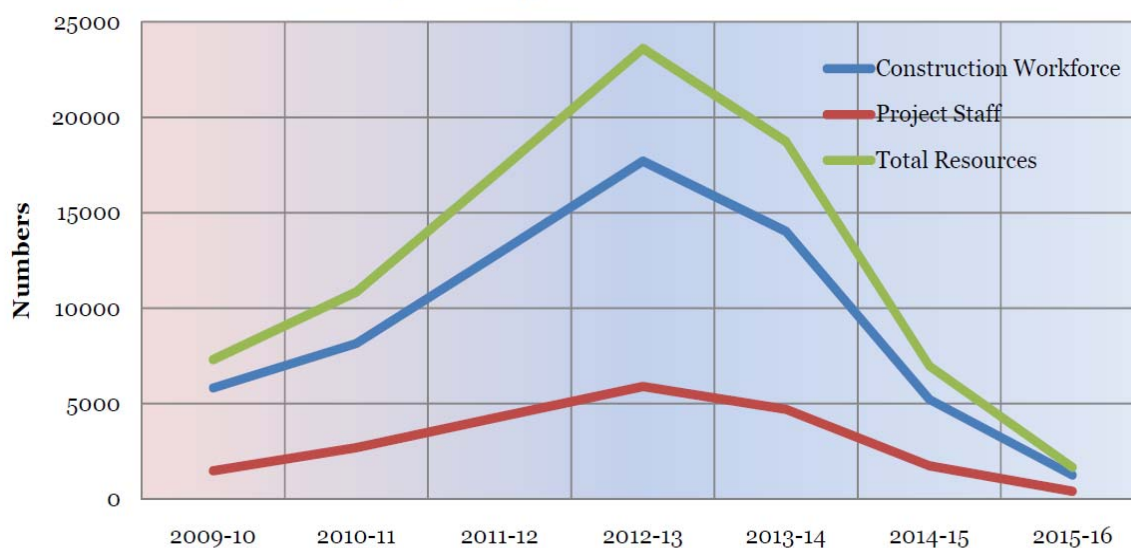
- Future project viability is now sensitive to global economic conditions, such as, commodity prices. Traditional levels of higher public sector infrastructure investment previously provided greater certainty.
- Sustainability and global warming concerns will increasingly influence the willingness to invest. This may delay the making of major resource project decisions, in particular those related to coal and by association rail, port and marine projects.
- The development of other ‘green’ energy technologies e.g. wind, wave, solar, geothermal, etc do not presently appear to be sufficient to bring on line sufficient major projects to offset any delay in the mainstream resource based projects.

6.3 Major Projects Workforce Resourcing

The following graph shows the total engineering construction workforce required to deliver Queensland’s major projects. While a significant ramp up is required in the period 2010-11 to 2012-13, the peak four quarter average engineering construction workforce requirement of 17,700 (2012-13) is substantially less than the peak of 24,800 (2010-11) anticipated by the 2008 Major Projects Report and for which major contractors planned, particularly project staffing. Some of this capacity is currently being used in estimating, tendering and pre-contract teams working to secure contracts for resource and mining sector projects.

¹⁸ BIS Shrapnel Engineering Construction in Australia 2008-09 – 2022/23, page 5

2010 Major Projects Workforce Demand



6.4 Future Implications

Overall and in the context of the economic and construction outlook discussed above, the following is concluded:

Activity Levels

- Looking forward, Queensland major project engineering construction activity will peak in 2012-13 at some \$12.9 billion. This can be confidently concluded based on the level of certainty attached to the near term projections 2010-11 to 2012-13.
- There is a significant near term slow down in road construction activity as existing projects are completed. The drop off in activity becomes substantial in late 2013 in the absence of sufficient numbers of funded replacement projects, noting that over one third of the identified major road projects are unfunded. The anticipated drop in activity will mean that the sector will progressively shed its surplus workforce.
- Projects 'filling the gap' left by the lack of upcoming major road projects are the resource developments. The QMCA Major Projects List has anticipated:
 - Two LNG projects in central Queensland with work spread from the Surat and Basins across to Gladstone.
 - Mine, rail and port expansion associated with development of the Galilee, Surat and Wandoan Basin resource projects.
- The need for supporting social infrastructure for the large resource developments has not been individually identified in the 2010 Major Projects List. Nevertheless, there will be a significant challenge for both Government and industry to provide the necessary social infrastructure in a timely manner to support and facilitate the delivery of the major resource based projects proposed.
- If the identified QMCA 2010 Major Projects List is considered a 'work at hand' activity indicator, the most pressing issue is the uncertainty associated with:

- The timing of the LNG projects, in particular the potentially significant start-up requirements in 2011-12 for the broader LNG projects and the Galilee basin coal projects.
- The sharp fall off in committed projects commencing in late 2014, as the LNG project and the Galilee Basin coal projects are completed. This together with the continuing drop off in large road construction projects will result in a high level of 'order book' uncertainty. Without positive investment sentiment towards yet uncommitted projects, the outcome could be a dramatic disruption to construction activity in Queensland.

Challenges

- There has been a substantial shortening in the period of identifiable forward work opportunities from 6 years to 4 years (compared to the 2008 Major Projects Report). This poses particular business planning and sustainability challenges for contractors, in particular, workforce planning due to the need to expand capacity rapidly followed shortly after by a need to shed resources that are excess to demand.
- The 2010 Major Projects List has identified a number of significant but unfunded projects, in particular road projects worth some \$6.12 billion. This reflects a major change in Queensland's engineering construction market focus, from the major public financed water and road infrastructure projects to private investment resource and mining projects. This means that that the overall outlook is now highly sensitive to private infrastructure investment sentiment that is in turn, driven by global economic conditions such as commodity prices.
- The public sector associated move away from the Alliance contract delivery model to more traditional means of contracting involving smaller packages will require an adjustment in the contracting skill set, contract systems and organisational culture of some of the major contractors.
- The significant shift from the SEQ project bias to a more widespread resource sector focus (Surat and Galilee Basins, Gladstone and Mackay) has major implications in terms of geographical employment (mobility) and significantly different skill requirements.
- The skill set issue is likely to be further exacerbated by the resource 'pull' associated with competing resource sector projects in Western Australia and Papua New Guinea. This situation could be further complicated as improved economic performance of South Australia (anticipated BHP uranium development), Victoria and New South Wales drives the need for infrastructure investment in those states.
- The need to secure work particularly post 2013-14 will place significant pressure on Queensland's major contractors in terms of the increasing competition intensity and the tightening of margins that this brings. The extent to which this diminishes long-term business sustainability will have to be closely monitored by each major contractor.

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- Positive client and/or investor sentiment is required to ensure that major projects are committed for the period post 2013-14. Hopefully, the easing of the GCF will increase confidence and ensure that the necessary investment in Queensland's major engineering construction projects proceeds. This will require close monitoring by industry stakeholders.

End

APPENDIX 1: QMCA 2010 MAJOR PROJECTS LIST

The QMCA 2010 Major Projects List is for projects in excess of \$100 million and was developed using information sources and QMCA member knowledge available up to March 2010. The information sources include:

- Queensland Government Websites including Department of Infrastructure and Planning, Co-ordinator General (Projects), Department of Transport and Main Roads
- Transport and Main Roads “Roads Improvement Program”
- Queensland Rail, Ports Corporation, Environment and Resources
- Queensland Treasury Budget Papers
- Brisbane City Council Website
- National Institute Economic and Industry Research (NIEIR) Forecasts,
- BIS Shrapnel Forecasts
- Construction Forecasting Council
- Engineers Australia, Queensland Division
- Industry Associations
- Mining and Engineering Journals
- IBIS World
- Mining and Energy Services Council of Australia
- Queensland Resources Council
- Power, Energy and Resource Companies Websites including AGL, Arrow, Rio Tinto, Origin Energy, Santos, Syntech
- Water Corporations
- South East Queensland Infrastructure Plan and Program.

QMCA Major Infrastructure Projects Listing >\$100m
(Approx Value and Timing)
Turnover Chart

Projects	Client	Ttl Contract Value \$m	Ttl Remaining Value \$m	Start Date	Completion Date	Duration	Staffing Average	Manpower Average	2010				2011				2012				2013				2014				2015				2016												
									M	J	S	D	M	J	S	D	M	J	S	D	M	J	S	D	M	J	S	D	M	J	S	D	M	J	S	D									
DAMS																																													
Hinze Dam Stage 3	QBWSA	\$ 350	\$ 80	Q1-2008	Q4-2010	3Yrs	44	133	20	20	20	20																																	
Wyaralong Dam	QWI	\$ 100	\$ 90	Q4-2009	Q3-2011	2 Yrs	29	86	12	13	13	13	13	13	13																														
Connors River Dam	SunWater	\$ 200	\$ 200	EIS in preparation																																									
Nathan Dam (Not Funded)	Sun Water	\$ 150	\$ 150																																										
WATER																																													
Murrumba Downs Water Treatment Plant		\$ 140	\$ 39	Q1 2009	Q3 2010	1.75 Yrs	29	87	13	13	13																																		
Northern Network Alliance	Linkwater	\$ 133	\$ 120	Q2-2010	Q3-2011	1.75 Yrs	38	114	17	17	17	18	17	17	17																														
Coombahah Stapyton Program Alliance	GC Water	\$ 120	\$ 110	Q1-2010	Q2-2012	1.75 Yrs	35	105	16	16	16	16	16	15	15																														
Merrimac Sewer Replacement Alliance	GC Water	\$ 120	\$ 115	Q1-2010	Q2-2012	1.75 Yrs	37	110	17	17	17	16	16	16	16																														
Ipswich Treatment Plant	IRC	\$ 150	\$ 150	Q3-2010	Q1-2012	1.75 Yrs	48	143					21	21	21	21	21	24																											
Wyaralong Water treatment Plant & Pipeline	QWI	\$ 100	\$ 100	Q1-2011	Q4-2012	2 yrs	28	83					12	12	12	12	13	13	13	13																									
Water for Bowen Pipeline	SunWater	\$ 150	\$ 150	Q1-2011	Q4-2012	2 Yrs	42	125					19	19	19	19	19	19	18	18																									
Sunshine Coast Plant Upgrades Alliance	S/Shine Coast C	\$ 150	\$ 150	Q3-2011	Q4-2013	2.25 Yrs	37	111									16	16	17	17	17	17	17	17	16																				
Gladstone - Fitzroy Pipeline	GAWB	\$ 272	\$ 272	Q1-2012	Q4-2013	2 Yrs	76	227									34	34	34	34	34	34	34	34																					
PROCESS FACILITIES																																													
Yarwun Alumina Refinery 2	Rio	\$ 1,400	\$ 36	Q1-2008	Q4-2010	3 Yrs	20	60	9	9	9	9																																	
Ammonium Nitrate Plant Moranbah	Incitec	\$ 245	\$ 245	Q2-2010	Q4-2011	1.75 yrs	78	233					35	35	35	35	35	35	35	35																									
Curragh Wash Plant	Westfarmers	\$ 180	\$ 180	Q2-2010	Q4-2011	1.75 Yrs	57	171					25	25	26	26	26	26	26	26																									
Boulder Steel	Boulder	\$ 1,000	\$ 1,000	Q1-2012	Q2-2014	2.5 yrs	222	667									9	44	103	147	197	197	147	103	44	9																			
MINE INFRASTRUCTURE																																													
Caval Ridge Expansion	BMA	\$ 390	\$ 390	Q1-2012	Q2-2014	2.5 Yrs	87	260									39	39	39	39	39	39	39	39	39	39																			
Roseby Copper Project	URL	\$ 100	\$ 100	Q1-2012	Q2-2013	1.5 Yrs	37	111									16	16	17	17	17	17																							
Alpha Coal Project (Mine Infrastructure and Rail) Have assumed one project will proceed	Hancock	\$ 3,300	\$ 3,300	Q1-2102	Q4-2014	3 yrs	611	1833									19	57	149	258	476	696	696	476	258	139	57	19																	
China First Coal Project (Mine Infrastructure and Rai)	Waratah	\$ 3,300																																											
Wandoan Coal Mine	Xstrata	\$ 700	\$ 700	EIS Prepared																																									
Aurukun Bauxite Mine and Refinery	Chalco	\$ 3,000	\$ 3,000	EIS in preparation																																									
Belvedere Coal Project Development	Aquila	\$ 1,000	\$ 1,000	EIS in preparation																																									
Eagle Downs Longwall Coal	BMA	\$ 600	\$ 600	EIS in preparation																																									
Codrilla Coal Mine	Macarthur	\$ 260	\$ 260	EIS in Preparation																																									
Washpool Coal Mine	Aquila	\$ 240	\$ 240	Feasibility study completed																																									
Ellensfield Coal Mine	Nebo	\$ 290	\$ 290	EIS Completed																																									
Cloncurry Copper	Exco	\$ 100	\$ 100	EIS Prepared																																									
Kestral Long Wall Mine Development	Rio	\$ 1,200	\$ 1,200																																										
Daunia Coal Mine (Contracts cancelled Q4-2009)	BMA	\$ 240	\$ 240																																										
Total Quarterly Turnover \$m									841	908	951	988	1244	1397	1468	1570	1913	2365	2612	3116	3563	3632	3193	2607	1637	1071	815	703	498	411	322	283	65	55	35	20									

