

# Resources and the Regions Developing a Growth Strategy

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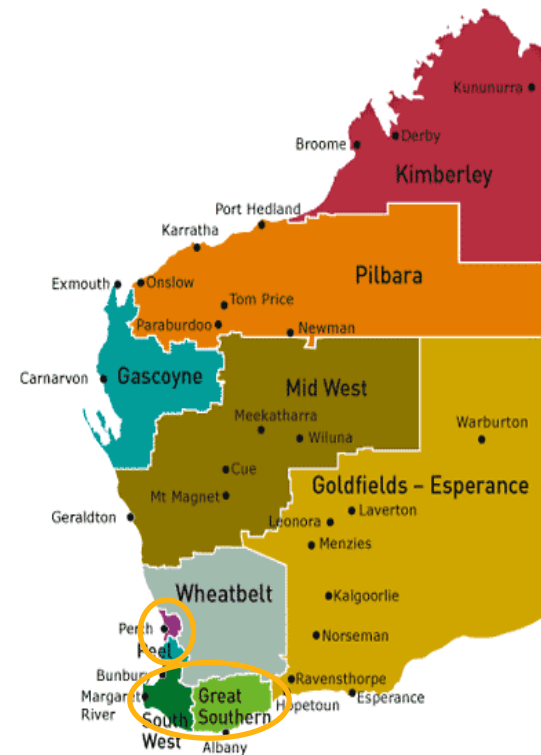
Chairman Peel Development Commission

SEGRA Conference

27 October 2009

81 projects, representing 65% of those planned as at June 2008 across all commodities, were surveyed to establish projections for water, energy and labour demands, extrapolated to represent 100% of the planned projects.

Commodities Covered	Regions covered
① Alumina	① Gascoyne
② Coal	② Goldfields - Esperance
③ Diamond	③ Kimberley
④ Gold	④ Mid West
⑤ Heavy Mineral Sands	⑤ Perth - Peel
⑥ Iron Ore - Hematite	⑥ Pilbara
⑦ Iron Ore - Magnetite	⑦ South West - Great Southern
⑧ Molybdenum	
⑨ Nickel	
⑩ Oil and Gas	



65 % of the planned Mining and Resources projects for the State<sup>1</sup> were directly surveyed.

<sup>1</sup> \$106b of planned projects. Department of Industry and Resources - Prospect Magazine June 2008

# The Western Australian Resources Sector

Western Australia's resources sector accounted for:

- \$58.6 billion in production value \*
- \$2.95 billion in exploration \*
- 83% of the State's merchandise export income \*
- Around 37.3% of WA's Gross State Product \*
- \$2.3 billion in State royalties \*
- \$1.69 billion in Federal Petroleum Royalties \*
- More than \$75 billion of resources projects are either committed or under consideration in WA \*



Photo courtesy of BHP Billiton Iron Ore

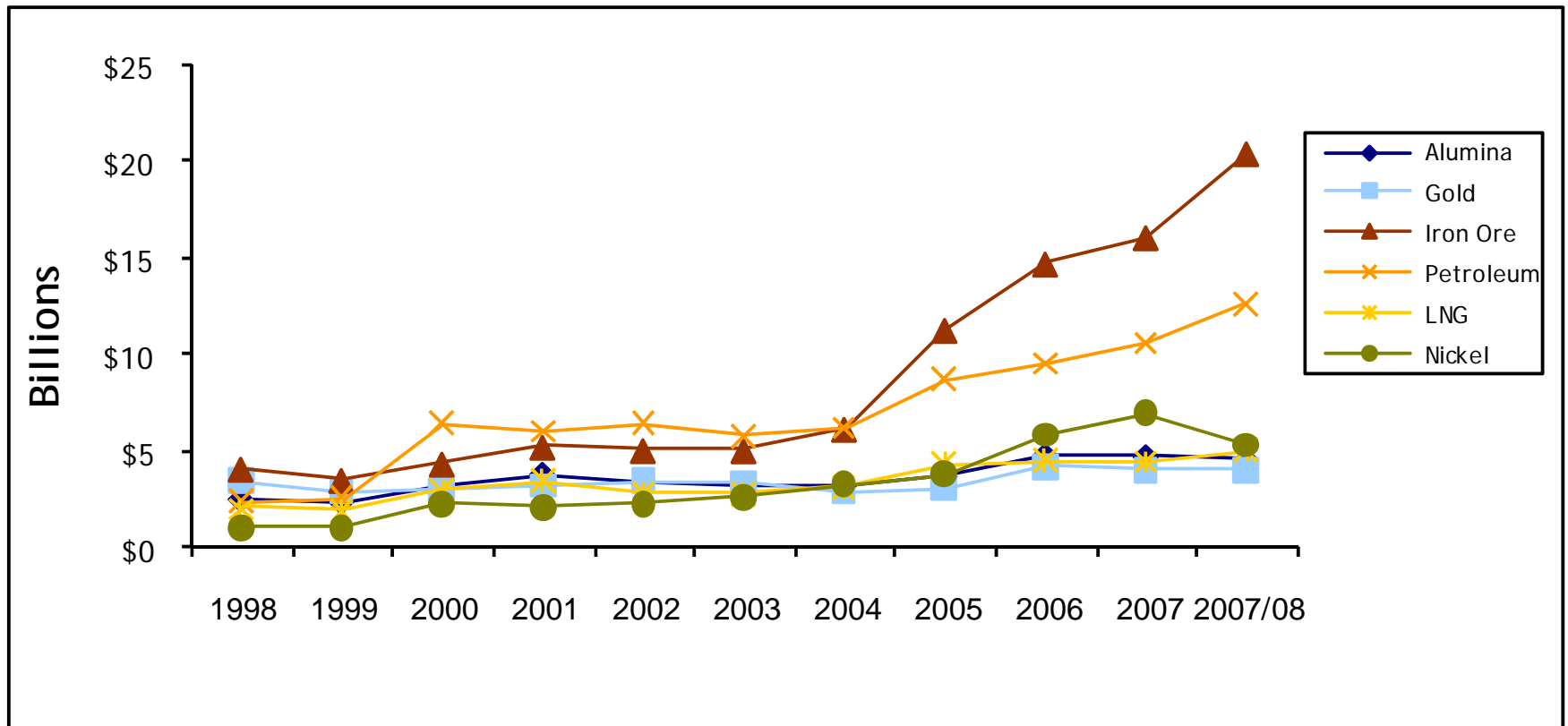
\* 2007-08 Department of Minerals and Petroleum

\* ABS

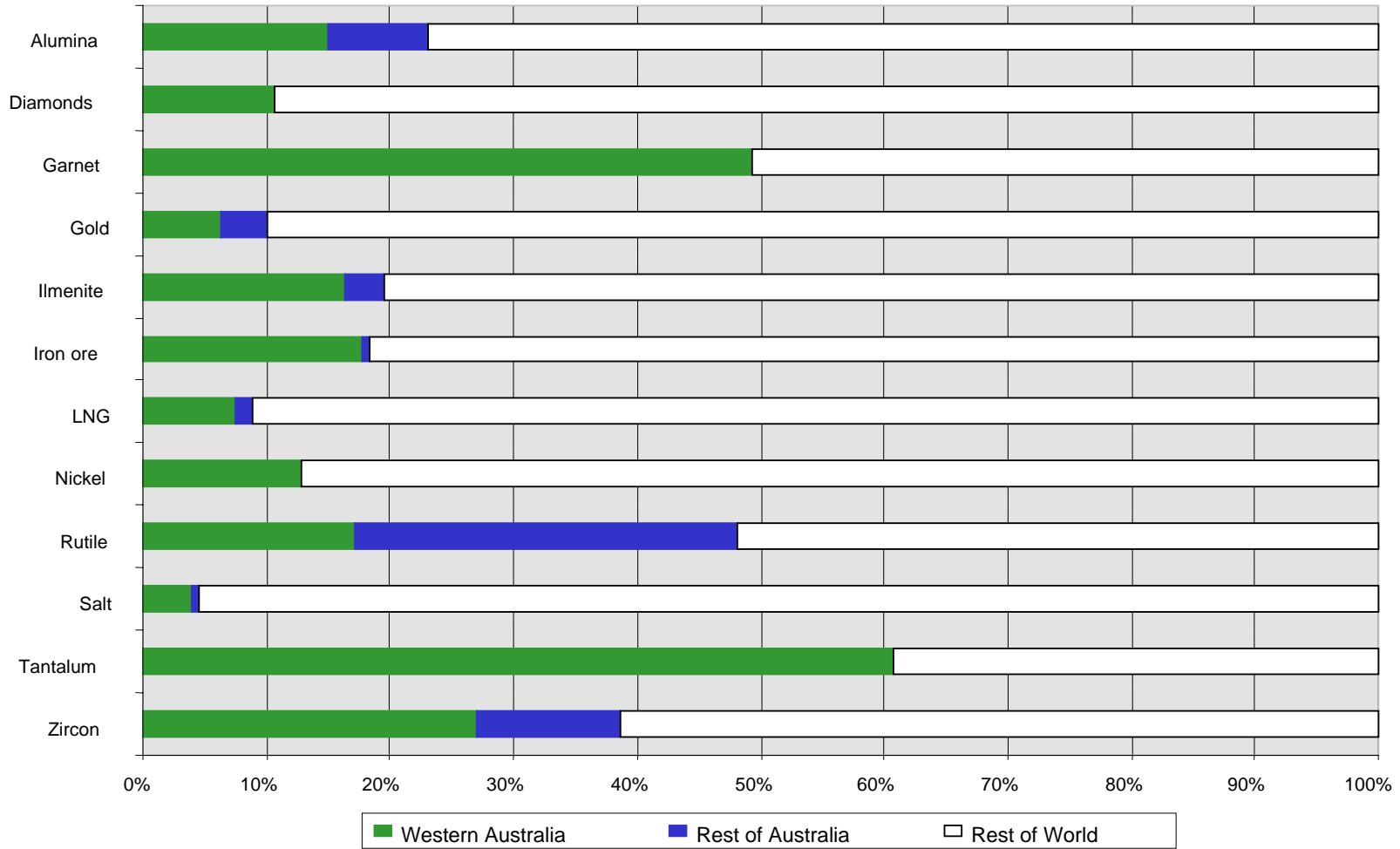
\* APPEA/DOIR 06-07

\* Dec 08 - Feb 09 Prospect Magazine

# Growth in Key Commodity Export Value



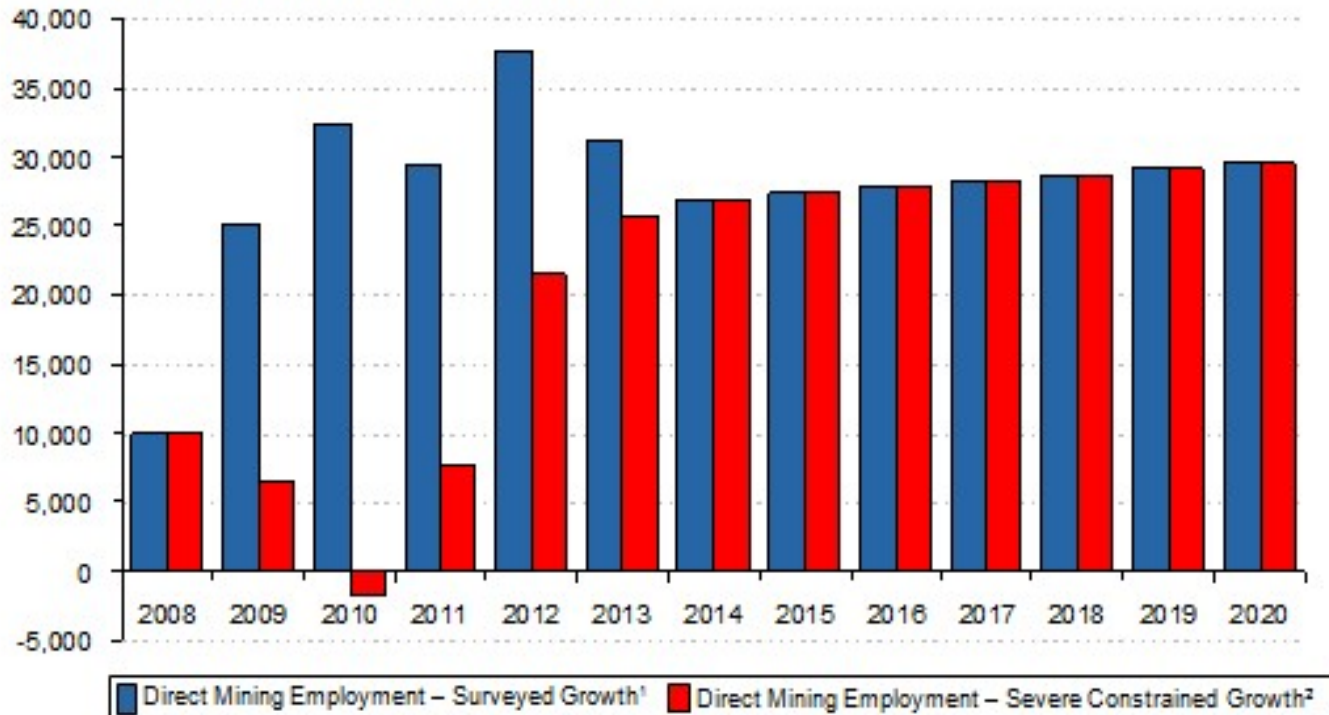
## WA COMMODITIES RELATIVE TO WORLD PRODUCTION



Incremental Labour Demand - Under the severe constrained growth scenario, direct minerals & energy sector labour demand is significantly lower with no peak demand periods in 2010 and 2012.

### Incremental Labour Demand – State wide – Severe Constrained Growth Scenario

(Headcount Incremental to 2007 levels, 2008 – 2020)



#### Constrained Growth

- Under the constrained growth scenario, incremental direct employment sector demand in 2010 is **-1,700** compared to 32,400 for the survey data.
- The constrained growth scenario predicts similar incremental labour demand of around 27,000 by 2014 to that of the survey data.

1 Direct Survey Data, GEM Analysis above 2007 employment

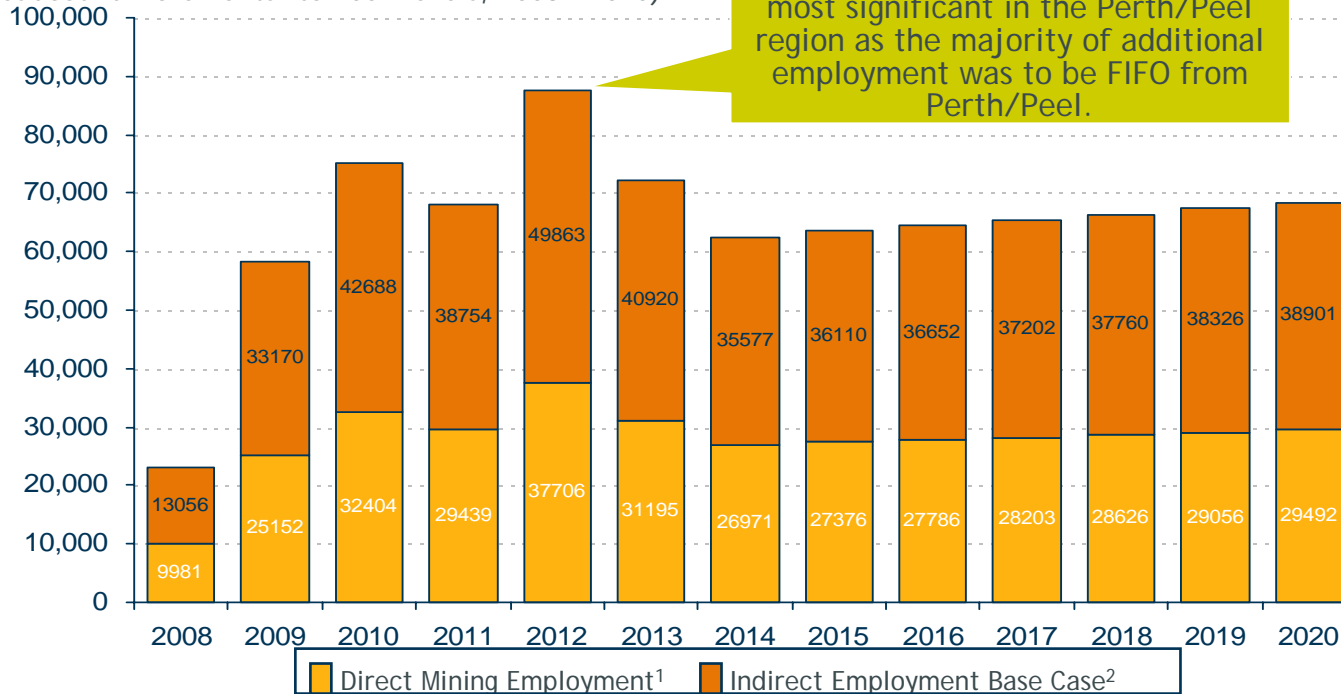
2 Direct Survey Data, GEM Analysis above 2007 employment. The Severe Constrained Growth Scenario represents a severe, long lasting impact of the current financial crisis on the sector and closely reflects the downturn in mining capital expenditure seen in the Asian Banking Crisis.

## PEOPLE - Finding (June 2008 Survey)

The June forecast for State wide growth for the minerals & energy sector implied an additional ~ 37,500 direct employees being required by 2012, in addition to stimulating significant indirect employment.

### Incremental Labour Demand - State Wide

(Headcount Incremental to 2007 levels, 2008 - 2020)



The population impact was to be most significant in the Perth/Peel region as the majority of additional employment was to be FIFO from Perth/Peel.

### Total Labour Demand

- Employment was forecast to peak in 2012 with an additional ~37,700 minerals and energy sector employees required above 2007 levels.
- Indirect employment stimulated in the economy was forecast to peak at a range of ~50,000 additional employees.

1 Direct Survey Data, GEM Analysis above 2007 employment

2 Using Type 2A Employment Multipliers: "Planning for Growth in the Pilbara", PICC 2007.

## LABOUR FORCE ISSUES

Industry growth delivers increased social and economic benefits to regions and State.

- Rapid growth in both direct and indirect employment in the sector.
- Increased Government revenue streams (royalties, payroll tax etc)

Perth and regional WA should seek to reverse their declining attractiveness to better support required population growth.

- In regions - improved access to affordable housing and civil infrastructure (hospitals, police, schools etc.) will remain key issues.
- In Perth - affordable housing, transport and social infrastructure (the arts, nightlife etc.) appear to be key issues.

Growing population is placing pressure on urban infrastructure. This is likely to increase the pressure to move towards higher density living.

Industry is increasingly reliant on FIFO sourced labour.

- Additional pressure on Perth and regional airport infrastructure.
- State and community needs to explore ways to meet the sometimes differing needs (training, education, entertainment etc) for this growing segment of the population.

Minerals & energy sector labour demand impacts on other industry resources during periods of labour shortage. High growth drives increased pressure on balance between conservation and development.



# ENERGY - Implications and Opportunities

## Growth and Competitiveness:

- Cost of energy supply is set to continue to increase.
- Proposed NWIS offers the potential for capital productivity improvement and may deliver some GHG reductions but needs more credibility before industry is likely to commit.
- Timing of ETS and RETs ramp up will influence the choice of technology and the nature of challenges facing the industry.
- Outlook for domestic gas will be shaped by increasing trend of prices following international energy prices, contract time frames, and pipeline infrastructure (capacity and quality specifications<sup>1</sup>).
- Reducing GHG emissions whilst sustaining strong growth will require significant investment in the deployment of energy efficiency technologies, renewable energy generation and transmissions networks to support increased renewable energy usage but reduced margins create equally demanding challenges.

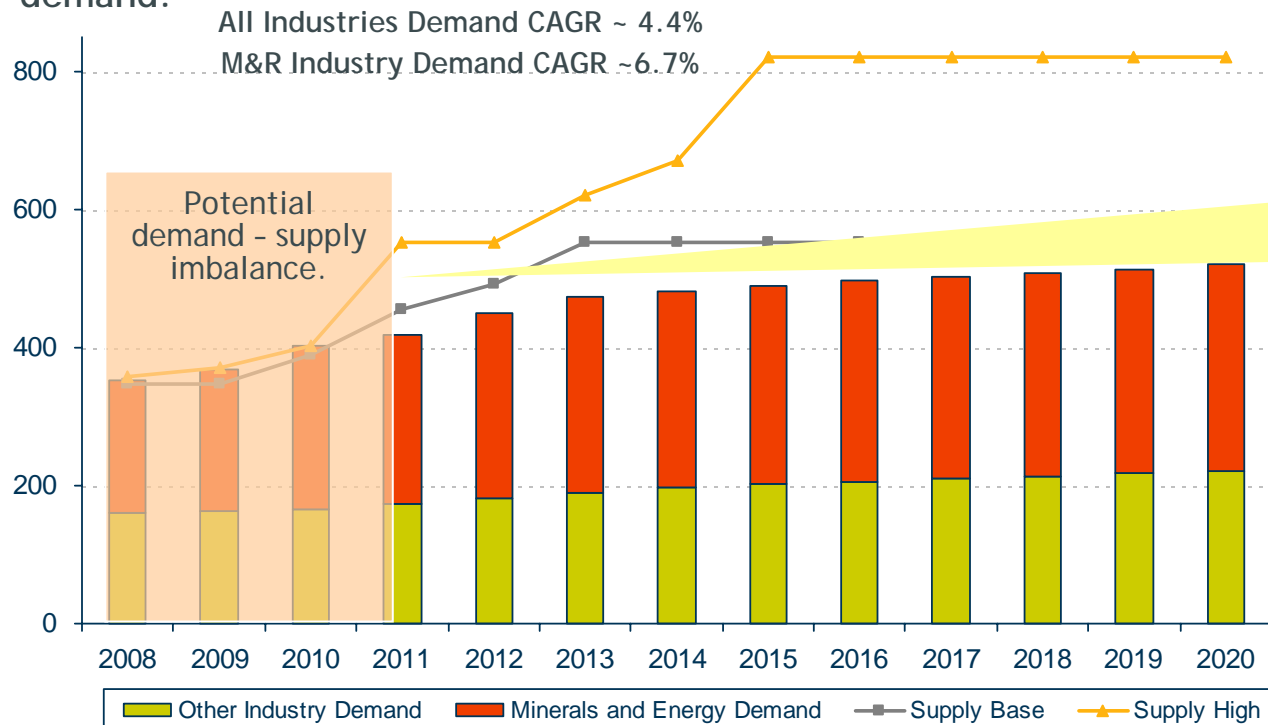
## Environment and Liveability:

- Increasing fuel and energy costs will have a direct and indirect effect on the cost of living.
- Current low density living will become increasingly costly to sustain.

<sup>1</sup> In December 2008, the State Government announced plans to introduce legislation into Parliament to regulate the make up of gas in the State pipeline network and subsequently broaden the gas characteristic for the domestic market ([www.mediastatements.wa.gov.au](http://www.mediastatements.wa.gov.au)).

## GAS - All Industries - State wide - June Survey

While there was the potential for an initial shortfall in domestic gas supply if high supply projections were not met, projects scheduled to come on line from 2011 appeared to meet future demand.



The June survey found additional gas demand was to be driven by the Pilbara, with the region forecast to require ~ 88 of the additional ~100 PJ required by the Minerals and Energy Industry by 2020.

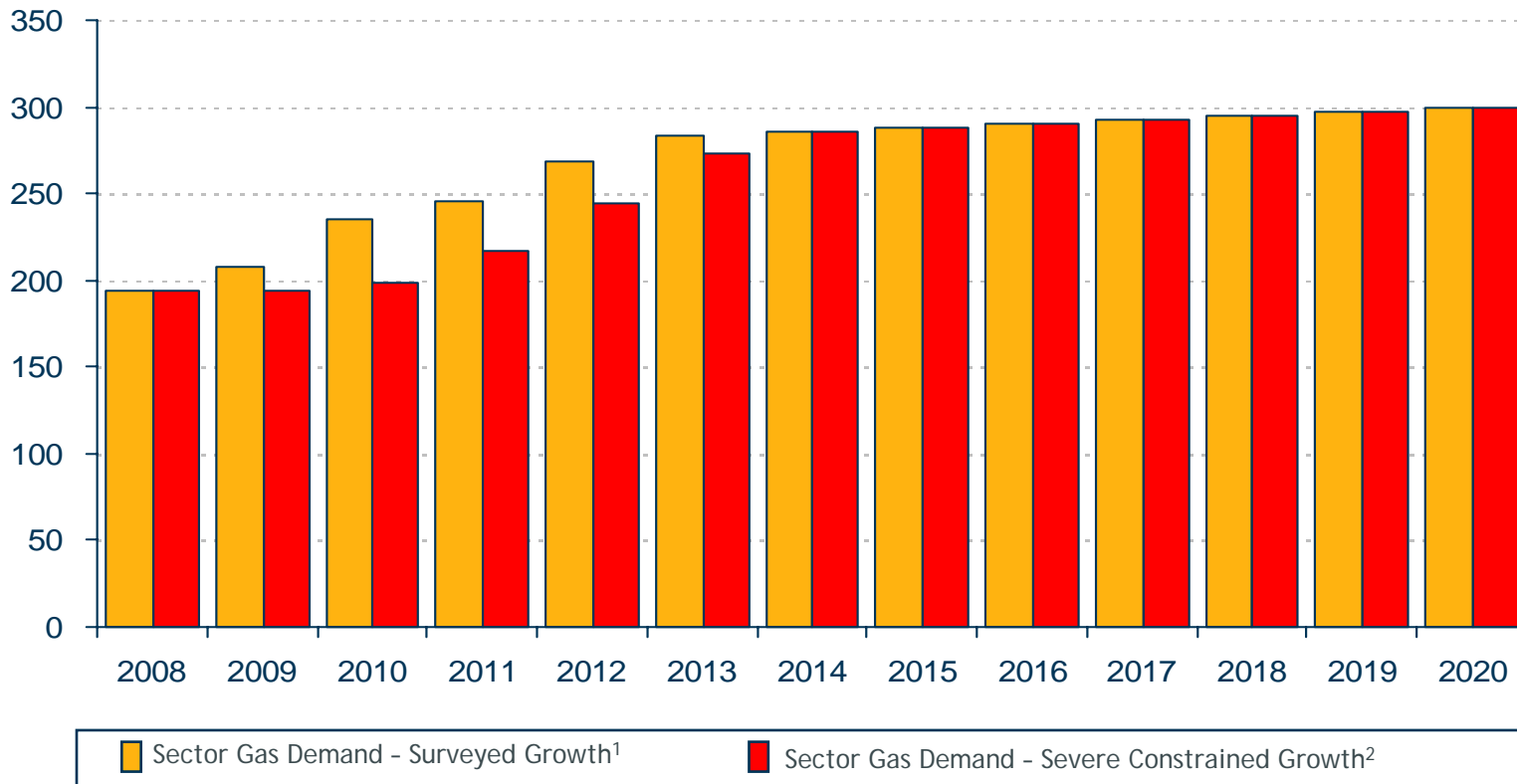
1 Direct survey data with extrapolated growth, GEM Analysis

2 GEM Analysis, Woodside Energy Ltd. 'High Supply' projection based on production and timing targets in line with current company projections, 'Base Supply' projection based on conservative production and timing targets.

# Gas Outlook - Minerals & Energy - Severe Constrained Growth Scenario

## Total Minerals & Energy Sector Gas Demand<sup>1</sup> - State wide

(PJ/a, 2008-2020)



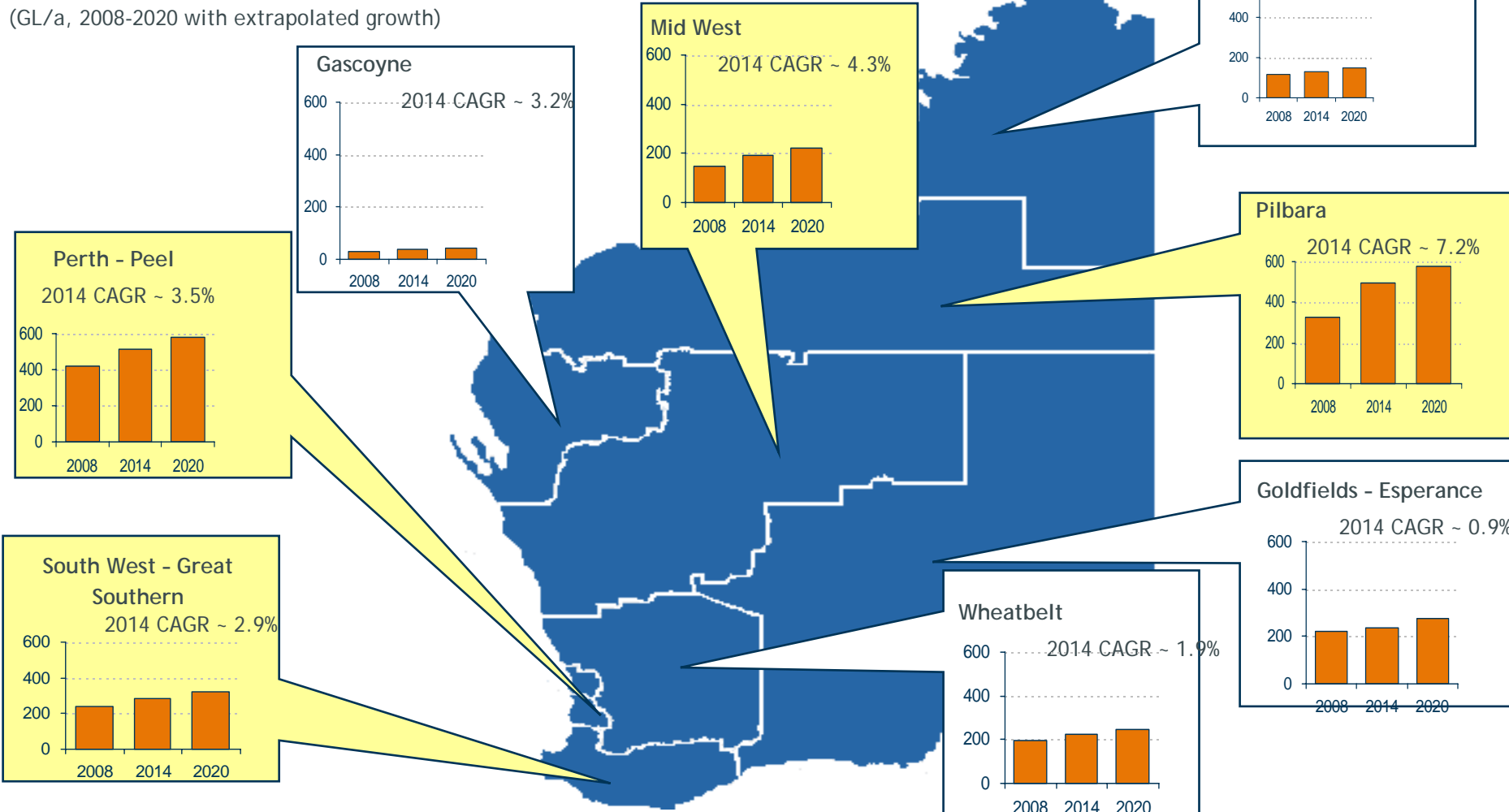
1 Direct Survey Data, Historic Growth Rate 2.15%, ABARE 2007

2 Direct Survey Data, above 2007 employment. The Severe Constrained Growth Scenario represents a severe, long lasting impact of the current financial crisis on the sector and closely reflects the downturn in mining capital expenditure seen in the Asian Banking Crisis.

Overall growth in self extracted water demand in W.A. was to be driven by significant growth in the regions of Mid West, Pilbara, Perth - Peel and South West - Great Southern.

### Self Extracted Water Demand - By Region - June Survey

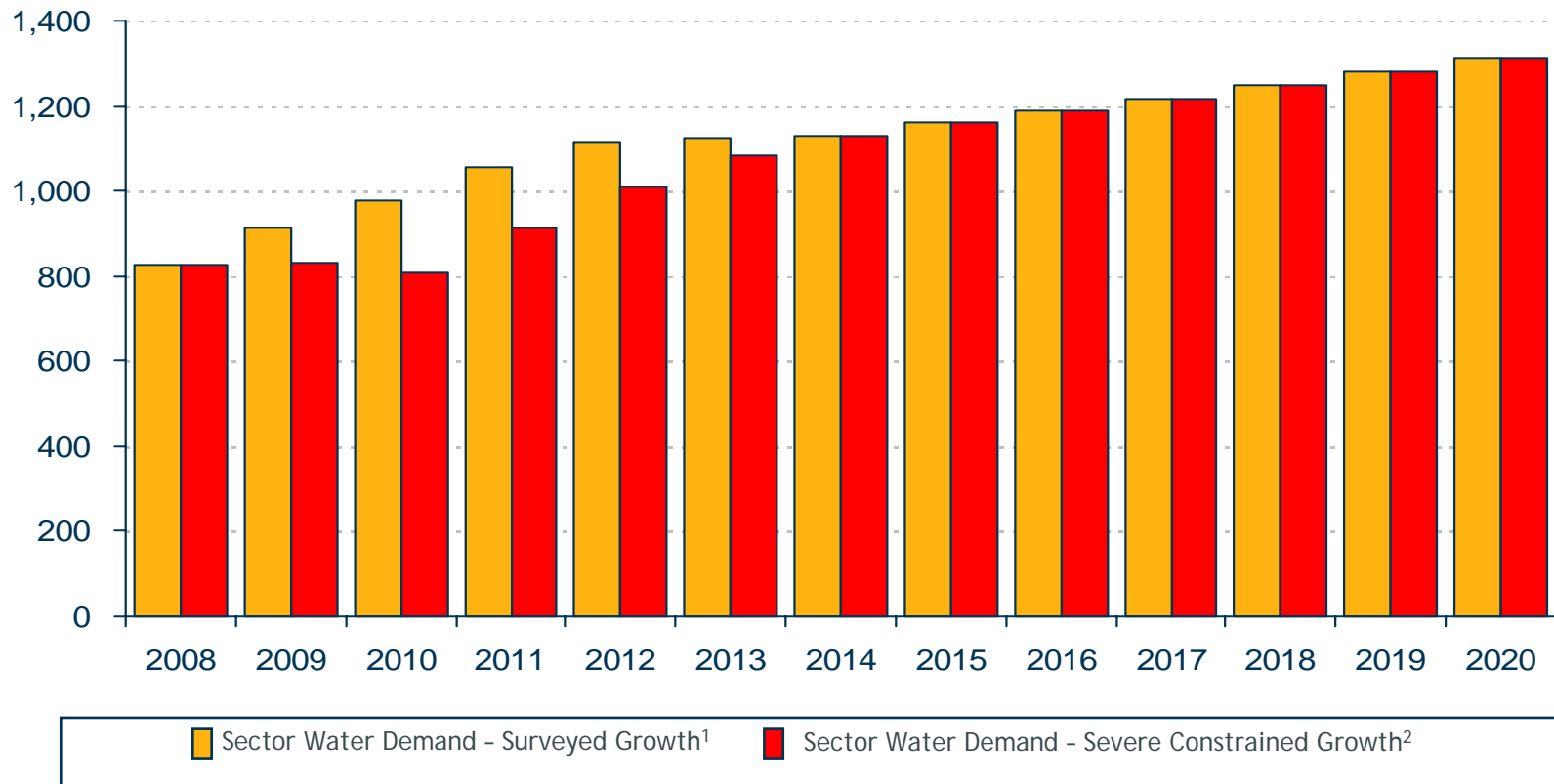
(GL/a, 2008-2020 with extrapolated growth)



# Water - Minerals & Energy - Severe Constrained Growth Scenario

## Total Minerals & Energy Sector Water Demand<sup>1</sup> - State Wide - Constrained Growth

(GL/a, 2008-2020)



1 Direct Survey Data, Historic Growth Rate 2.15%, ABARE 2007

2 Direct Survey Data, above 2007 employment. The Severe Constrained Growth Scenario represents a severe, long lasting impact of the current financial crisis on the sector and closely reflects the downturn in mining capital expenditure seen in the Asian Banking Crisis.

## WATER - Findings (June 2008 Survey)

The minerals & energy sector was projected to drive total State wide growth in water demand, with the Mid West, Perth-Peel, Pilbara and South West/Great Southern emerging as key focus regions.

State-wide demand for water in the minerals and energy sector was projected to grow at a CAGR of ~5% for 2008-2014.

Greatest forecast growth was in the Pilbara, Perth-Peel, Mid West and South West-Great Southern regions.

The minerals and energy sector was forecast to continue to rely heavily on groundwater resources, however, there was also significant demand forecast for scheme water in South West/Great Southern and Pilbara regions.

Currently 4 of the 19 DoW regions are over allocated and the East Pilbara region was forecast to be over allocated in 2013 (based on current allocations).

Current groundwater availability is flat as additional water sources are only identified on an as needed or requested basis.

Overall state rainfall has been stable but the South West has experienced a 10-20% decline over the last 30 yrs.

## WATER - Implications and Opportunities

### Growth and Competitiveness:

- Increasing capital and operating costs of water.
- Competition for water between agriculture and mining likely to intensify.
- R&D investment in water efficiency to become increasingly important.
- More forward planning and collaboration i.e. industry to industry and between industry and government will be valuable.
- The potential of continuously decreasing rain fall in South West requires vigilance and contingency planning.

### Environment and Liveability:

- Increasingly difficult choices between environment, community and industry.
- Increased cost of water increasing the cost living.
- Potential for social amenities to become increasingly under pressure (i.e. parks, sporting grounds).

## THE WAY FORWARD

- Need to focus on a vision for State and regional Western Australia
- Need for an infrastructure planning response from Government and Industry
- Skilled labour demand remains a critical issue