



# Not all 'booms' are created equal: Western Australia's next resources boom

25 January 2019

## 1. The optimistic outlook

Recently, people on St Georges Terrace (the financial hub of the Perth CBD) are starting to speak a certain 'b' word that is synonymous with Western Australia (WA). This chat is fueled by speculation that the State is on its way to experiencing a major wave of project development and investment.

Australia's three major iron ore producers have recently committed to a total of almost A\$9 billion (US\$6.5 billion) worth of investment on mining projects across WA's Pilbara region. Combining this with the general 'uptick' of activity surrounding existing liquefied natural gas (LNG) projects and other mineral resources ventures, approximately a further A\$60 billion (US\$43 billion) seems likely to also hit the WA economy.

It appears, once again, and for the third time in less than two decades, WA is poised to ride the economic wave that its unrivaled abundance of natural resources affords the State; *boom!*<sup>1</sup>

The major projects that appear to be underpinning the hype and speculation are:

### **BHP South Flank**

In June 2018, the mining giant revealed the construction of a new A\$4.7 billion (US\$3.4 billion) mine in WA's central Pilbara region after the company's board gave it the tick of approval.

BHP has said that the 100 percent BHP owned South Flank project would create about 2,500 jobs during construction, and a further 600 ongoing operational roles.

The South Flank project is proposed to fully replace production from the 80 metric tons per annum (mtpa) (100 percent basis) Yandi mine, which is reaching the end of its economic life. The project is due to become operational by 2021, running through until at least 2046.

The South Flank project is set to expand the existing infrastructure at 'Mining Area C'. BHP has said that it will involve construction of an 80mtpa crushing and screening plant, an overland

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<sup>1</sup> A 'boom' is the term used in local parlance to describe a significant increase in resources (mining, oil, gas, and associated/ancillary sectors) investment and output, which goes on to generate significant positive consequences for the economy.

conveyor system, stockyard, and train loading facilities, procurement of a new mining fleet, and substantial mine development and pre-strip work.

### **Rio Tinto Koodaideri iron ore mine**

Rio Tinto has confirmed it will spend A\$3.5 billion (US\$2.6 billion) developing the Koodaideri iron ore mine near Newman, in what the company has said is set to become the most technologically advanced iron ore mine in the world.

Koodaideri is 100 percent owned by Rio Tinto and is located approximately 35 kilometers northwest of Rio Tinto's Yandicoogina mine site, and about 110 kilometers (km) from the town of Newman in the Pilbara region of WA.

Koodaideri is proposed to deliver a new production hub for Rio Tinto's iron ore business in the Pilbara, incorporating a processing plant and infrastructure with a 166km rail line connecting the mine to the existing network. Construction is planned to start next year with first production expected in late 2021. Once completed, the mine is stated to have an annual capacity of 43 million tonnes, and will underpin the production of the 'Pilbara Blend,' Rio Tinto's flagship iron ore product.

### **FMG Eliwana mine**

It was recently announced that Fortescue Metals Group (FMG) has approved the development of its A\$1.7 billion (US\$1.275 billion) Eliwana mine, which is scheduled to commence production in late 2020. This is said to include development of 143km of rail, a new dry ore processing facility and other associated infrastructure. It is proposed that Eliwana will replace Fortescue's depleting Firetail mine and is expected to operate at 30mtpa with capacity for up to 50mtpa over a mine life of at least 24 years.

The Eliwana mine, west of FMG's existing Solomon Hub operation, would maintain the miner's low-cost status and allow it to supply a premium product to the market from existing operations in the second half of the 2019 financial year.

Applications lodged with the Environmental Protection Authority earlier this year showed the Andrew Forrest-controlled miner wants to build an accommodation camp, access roads, an airstrip, and water pipelines at the site.

FMG has also sought approval for two worker camps, access roads, water pipelines, and two bridges crossing existing rail and road infrastructure as part of its plans to extend its existing railway line 120km west from Solomon to Eliwana.

### **Talison's Greenbushes expansion**

Talison Lithium is planning an AU\$600 million (US\$431.5 million) expansion to its Greenbushes mine in the South West region of WA. Once the necessary approvals are in place, this expansion is forecast to create approximately 350 local jobs.

The planned expansion is in addition to the A\$320 million (US\$230 million) upgrade already underway at the mine, which is due for completion this year.

The two-stage Greenbushes mine expansion will involve developing two new processing plants as well as a new crusher, a larger tailings dam, and expanded waste dumps. Once the expansion is completed, the Greenbushes mine is expected to double its production capacity by up to 2.3mtpa of lithium concentrate from 2021.

Assuming Talison wins the required approvals, it would lift the total investment in WA lithium underpinned by Greenbushes to about A\$2 billion (US\$1.5 billion).

### **Mineral Resources lithium expansions**

Mineral Resources has stated that it is planning on spending A\$610 million (US\$439 billion) on expanding its Wodgina lithium concentrate plant near Port Hedland comprising A\$230 million (US\$165.5 million) on infrastructure, including a gas pipeline, an expanded power station, water supply, an expanded accommodation village, and an airport and is spending a further A\$380 million (US\$273.3 million) on the mine and process plant, including three identical concentrate trains. Mineral Resources has also earmarked spending A\$800 million (US\$575.5 million) towards the Mt Holland lithium mine and refinery near Southern Cross.

### **Browse LNG**

The latest iteration of the Browse LNG project (with previous unsuccessful proposals including onshore facilities at James Price Point and three floating LNG vessels) appears set to proceed, with an announcement that nonbinding agreements were signed on 6 November 2018 between North West Shelf (NWS) project participants and Browse joint venture participants, clearing the way for gas produced from Browse to be processed by existing NWS facilities at Karratha. Likely to cost A\$28 billion (US\$20.2 billion), the latest proposal sees gas produced from the Browse fields (located about 400km north of Broome) transported through a 900km pipeline to Karratha. Woodside is the operator of both projects and Woodside, Shell, BP, and MIMI hold interests in both projects.

This is a step towards keeping the five LNG trains of the North West Shelf Karratha gas plant operating at full capacity, as gas supplies from the North West Shelf joint venture's own fields declines early next decade.

### **Scarborough LNG**

Woodside has recently tapped Bechtel for a major contract to build a second LNG train at the Pluto LNG facility in order for Woodside to develop its A\$15.5 billion (US\$11.2 billion) Scarborough project. Currently, the Scarborough assets are held 75 percent by Woodside and 25 percent by BHP, which also has an option to acquire an additional 10 percent interest from Woodside.

LNG expansion projects have traditionally provided cost competitive new LNG capacity into the market and attractive returns on investment, and this is the case with Pluto, where development of a second LNG trains has been on the cards since the project's inception, without any progress. Extensive onshore development studies for Pluto LNG expansion were undertaken in 2010/11, including a complete front-end engineering and design phase for a second LNG train at Pluto.

To develop Scarborough, Woodside is proposing 12 subsea, high-rate gas wells tied back to a semi-submersible platform moored in 900 meters of water. The onshore development component is a brownfield expansion of the existing Woodside operated Pluto LNG facility. The second LNG train at Pluto is anticipating completion in 2024. The existing Pluto LNG project is owned 90 percent by Woodside, with Japanese utilities holding the remaining 10 percent - ownership of Train 2 is unclear.

A transfer pipeline will also link the Scarborough LNG project with Pluto's domestic gas supply facilities.

## Gorgon expansion

In mid-2018, Chevron received the go-ahead for an A\$5.1 billion (US\$3.7 billion) Gorgon expansion project. This is the second part of the Gorgon development plan, which includes the expansion of the existing subsea gas network required to maintain long-term natural gas supplies to Barrow Island, including new wells in the Gorgon and Io-Jansz fields and accompanying offshore production pipelines.

Chevron is the chief operator of Gorgon LNG project holding a 47.3 percent stake. Exxon Mobil and Royal Dutch Shell each own a 25 percent interest. The 2.7 percent remaining stakes are held by three Japanese companies, Osaka Gas, Tokyo Gas, and Chubu Electric Power.

## Other LNG/gas opportunities

In addition to the major projects mentioned above, Western Gas has recently signed a memorandum of understanding (MOU) with McDermott International and Baker Hughes for the engineering, construction, and installation phase of the Equus gas project. There are also reports that Equus would look at the possibility of turning into an export LNG project to respond to increased regional demand. The ConocoPhillips operated Darwin LNG project is also considering options for expanding, although its first priority will be to replace gas supply when its current gas supply from the Bayu Undan field declines.

## 2. The frank reality

It is apparent from these recent investment announcements that WA is witnessing an incremental expansion of existing projects, seemingly with dual objectives of replacing diminishing reserves and increasing production. This is playing out in the two most lucrative industries in WA: *mining and oil and gas*.

As this article has noted, Australia's three major iron ore miners have committed a total of almost A\$9 billion (US\$6.5 billion) to development. However, unlike in previous 'booms,' these mining giants are expanding their existing operations to maintain their production levels rather than committing to brand new 'greenfield' development, which was the hallmark of the last two decades.

A review of the development proposals for each proposed expansion reveals that a large part of the expenditure is earmarked for development which ties in with the existing infrastructure. The effect of this is that the expenditure on infrastructure, while making up a large proportion of the value attributable to the expansion project, pales in comparison to the expenditure on critical infrastructure, which is necessary to achieve initial production at a 'greenfield' site. For example - the cost of construction of the infrastructure required to transport product (iron ore) by rail from the central Pilbara region to the export terminals on the coast.

Similarly, in the oil and gas space, the currently proposed A\$28 billion (US\$20.2 billion) Browse LNG project is flagged to cost less than half of the A\$62.5 billion (US\$45 billion) estimated for the previous proposal. In addition, the A\$5.1 billion (US\$3.7 billion) approved expansion of the Gorgon LNG project, although significant, is only a small investment in comparison to the original capex of A\$75+ billion (US\$54+ billion). Rather than being a new project, the purpose of this latest investment is to increase capacity and to guarantee future supply of gas from the existing project.

Although the current aggregate size of the committed and planned investments in WA's mining and offshore petroleum sectors are significant and encouraging, the current uptick does not come

close to comparing against the wave of simultaneous investment made in the mining and resources (and associated/ancillary) sector(s) experienced between 2004 and 2012.

At the peak of the previous 'boom' in December 2012, WA had A\$287 billion (US\$206.5 billion) in investment projects under consideration, while the value of resources projects committed or under construction was A\$148 billion (US\$106.5 billion). By comparison, the WA Department of Mines, Industry Regulation, and Safety figures for September 2018 showed the State has an estimated A\$108 billion (US\$78 billion) worth of resource projects in the pipeline, while the value of resources projects under construction or committed in 2018 is an estimated A\$36 billion (US\$26 billion).

Whilst all this is, in no uncertain terms, a tremendous boost to the flagging WA economy, it should by no means be compared to the halcyon days of the "once in a generation" mining, resources, petroleum, and construction boom that took place in the early 2000s. When one sees the word 'boom', given the not too faded memory of recent glory days past still lingering, it is understandable for such comparisons to be made. However, caution is encouraged with expectations to be curtailed as not all 'booms' are created equal.

## Contacts



**Michael Brady**<sup>2</sup>  
Senior Associate, Perth  
T +61 8 6208 6555  
[michael.brady@hoganlovells.com](mailto:michael.brady@hoganlovells.com)



**Ian Gordon**  
Partner, Perth  
T +61 8 6208 6553  
[ian.gordon@hoganlovells.com](mailto:ian.gordon@hoganlovells.com)

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<sup>2</sup> Senior Associate, Perth. The author would like to acknowledge the valuable contributions of Ian Gordon (Partner, Perth), Alexander Duffy (Associate, Perth), and Maree Casey (Clerk, Perth) in the preparation of this article. The views expressed in this article are the authors' and do not necessarily represent the views of Hogan Lovells.

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