

PILBARA QUARTERLY ECONOMIC UPDATE

ISSUE No 1

JULY 2019

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Key Messages

The Pilbara economy has strengthened further in 2019 and business opportunities are expanding. The resources sector continues to deepen and broaden. Australia's commodity exports earned a record \$275 billion over the past 12 months, much of it from the Pilbara, and forecasts for resource and energy commodity earnings in 2019/20 are \$285 billion, which would be another record.

Further capital investments of over \$65 billion are possible in the medium term with iron ore replacement mines, investments in new mines, increased volumes of iron ore production, likely new investments in LNG on a significant scale, together with expanding activities in lithium, gold and fertiliser. **The demand for labour is expected to continue to increase** quite markedly during the construction phases. The Reserve Bank of Australia has noted that urbanisation and increasing GDP in India could help ensure demand for Australia's resource industry continues for decades to come.

However, there are global downside risks. Policy failure in the USA; slow growth in Europe and China, debt issues; geo-political risks; trade friction; and household financial stress in Australia.

Legislation

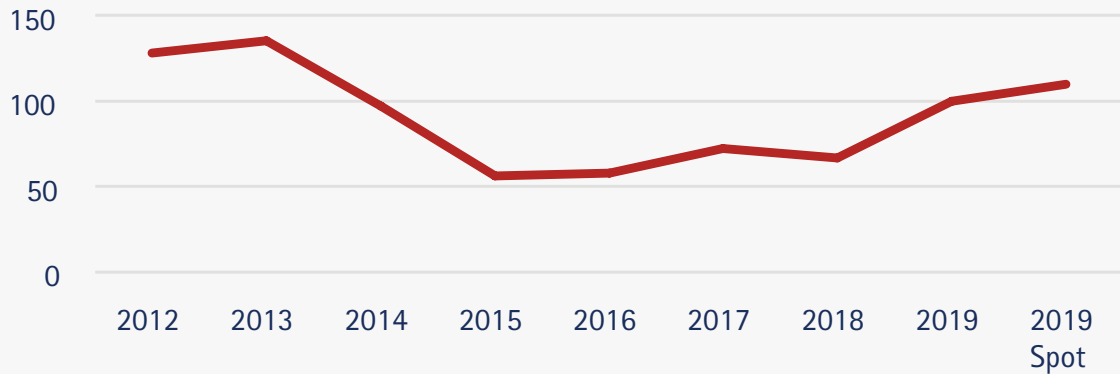
The Federal government has announced their intention to improve the legislative framework of agencies, such as WA's Environmental Protection Authority, to improve investment approval times, which would boost the resources sector, However, it is likely that over the medium to longer term **future resources projects**, including LNG will need to be **carbon neutral** and this may increase costs for investors.





Iron Ore

IRON ORE PRICE (US\$ DMT 62% FINES)



SOURCE: WORLD BANK AND BUSINESS INSIDER

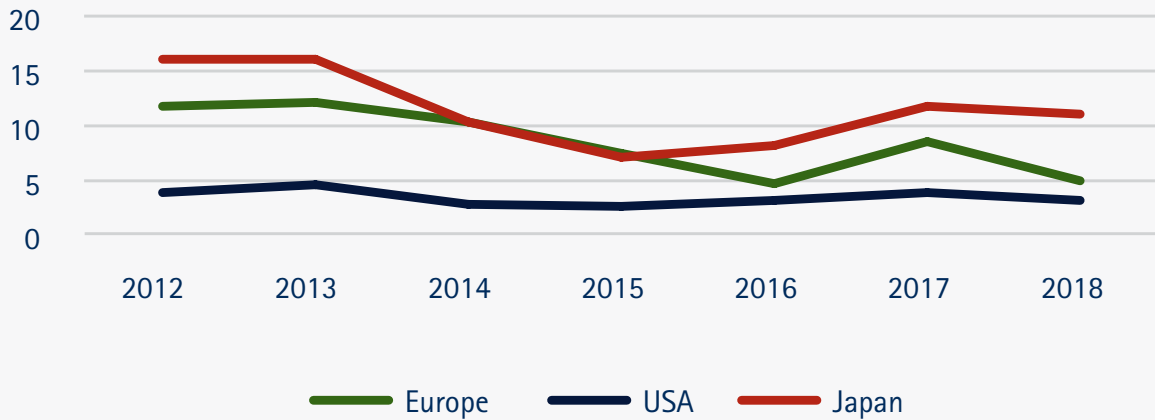
High prices, investments in replacement mines, possible investments in new production

- **Prices continue to firm** as a result of supply shortages from Brazil and economic stimulus measures in China. Recent spot prices (US\$110 for 62% Fe, US\$101.74 for 58% Fe and US\$123.70 for 65% Fe) translate into \$160, \$147.4 and \$179 per tonne at the current exchange rate. These prices are at levels last seen in the period 2011/12 at the height of the last boom. Prices will decline over time as higher levels of production resume in Brazil and there are production increases in the Pilbara, however, the timing of price decreases is uncertain.
- **Current high prices** are unambiguously good news for the iron ore miners, the Pilbara, WA and Australia. **Replacement investment and maintaining high levels of production** in the iron ore sector is ongoing. Production volumes will increase slightly in the medium term. Low average free-on-board (FOB) costs estimated to be of the order of US\$21 per tonne at present, gives Australian producers a competitive advantage and will have a favourable impact on future investment decisions.
- **Possible new investments** include: FMG proposed \$1.5 billion Iron Bridge magnetite project about 110 km south east of Port Hedland - Atlas Iron (Hancock Prospecting) development of the Corunna Downs project (23.3 million tonnes of iron ore over about six years) near Marble Bar at a cost of \$47 million to \$53 million - first stage of Rio Tinto's \$2.2 billion expansion of its Robe River iron ore operation to maintain output at 65 million tonnes a year expected to start later in 2019, creating 1,200 jobs, with first ore due in 2021, subject to further government approvals.



LNG

LNG PRICES (EUROPE, USA, JAPAN - 2012 TO MARCH 2019 (US\$MMBTU))



SOURCE: WORLD BANK

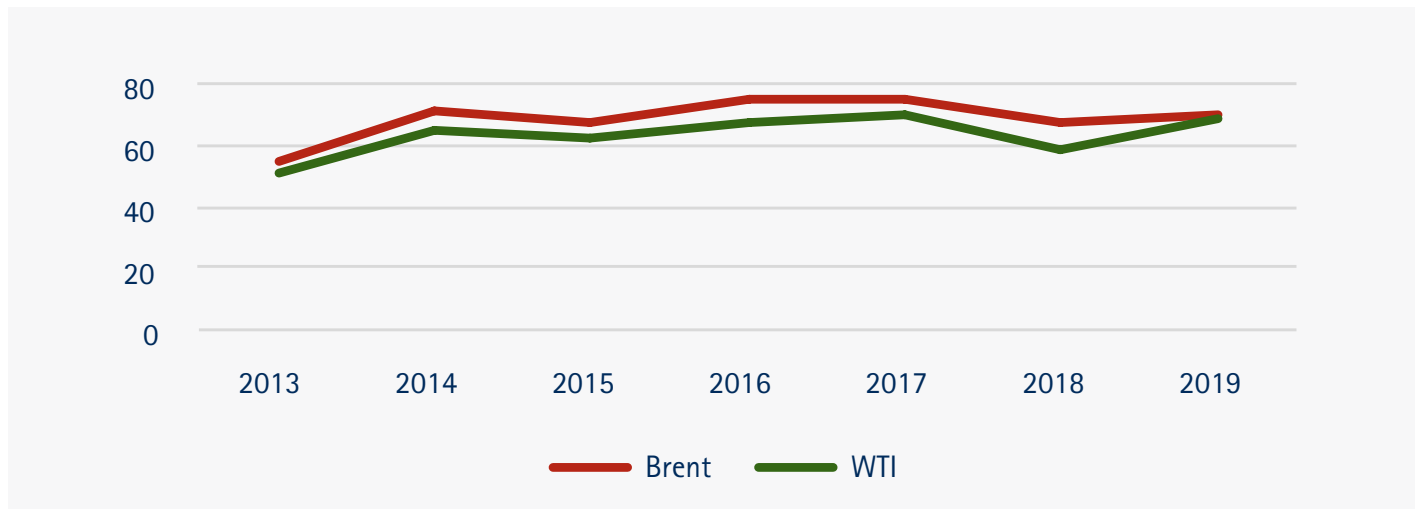
Lower prices short term, price recovery medium term, possible large-scale investments

- **Over the last quarter LNG prices have softened considerably** with spot prices on Asian markets falling to about US\$5 per mmbtu. In the short-term supplies are likely to exceed demand, before prices move up again after 2021.
- **Billions of dollars are being spent on developing LNG facilities all over the world.** For example, the construction of a US\$20 billion LNG export terminal in Mozambique and a US\$20 billion project in Indonesia. The biggest increase in production is from the USA. LNG export capacity stood at 3.6 billion cubic feet per day (Bcf/d) in 2018. In 2019 export capacity is expected to be around 8.9 Bcf/d. That makes the U.S. the third-largest LNG exporter in the world behind Australia and Qatar.
- **Most of the increased demand in the medium term will come from China**, which is expected to account for some 40% of global demand growth over the next half-decade, however, that growth will halve to 8% annually going forward as the Chinese economy is growing at a slower pace.
- **One major new investment** by Chevron is underway on Barrow Island, with a capital cost of about \$5 billion. **Of major significance to the economy of the Pilbara is the Woodside led consortium Final Investment Decisions** on the Scarborough and Browse developments in 2020/21. If approved, production levels will increase significantly in the medium term. The capital cost of both projects is about \$40 billion. Woodside has been negotiating long term offtake agreements with customers that will provide a cushion against softer short-term prices. **Coordination of maintenance schedules** allows companies to plan better and the WA State Government continues to promote WA as an LNG service centre.



Oil

OIL PRICES (2012 TO MARCH 2019 (US\$/BBL)



SOURCE: WORLD BANK

Fluctuating prices, globe awash with supplies, demand trend less certain, possible new offshore investment

- After rising in early 2019 prices have fallen recently to levels that most producing countries feel are too low at around US\$60 per barrel, notably Saudi Arabia. **The world has ample supplies of oil.** There has been a major change in global oil production over the last few years, which is the significant increase in supplies from the USA. Although supplies have been curtailed by events in Venezuela, Iran and Libya and production cuts by OPEC and Russia, these falls in output have been mitigated by increased production in the USA.
- A potentially major oil and gas resource find by Santos and Carnarvon Petroleum with the Dorado discovery "shows high quality reservoirs and fluids with a shallow-water setting, which should facilitate a cost-competitive development". The resource is about 160 km north of Port Hedland. A final business decision is to be made by the end of 2020, with production scheduled for 2024.



Lithium

PRICE (2018 TO JUNE 2019 (US\$/TONNE)



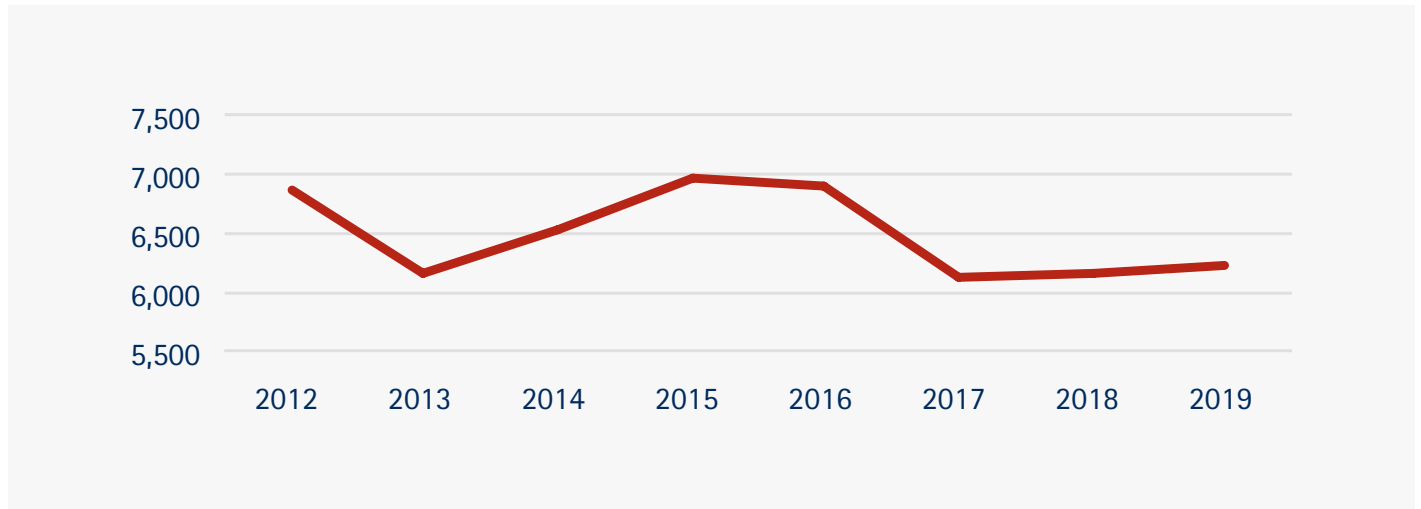
SOURCE: TRADINGECONOMICS.COM | OTC

Short term prices falling, long term increase in demand & prices, increased investment medium term

- The steady fall in Lithium prices since early 2018 has been caused by increased supplies, mainly from Chile and Australia and levels of demand that have not reached expectations. **Spodumene** comprises the output from lithium mines in WA. **Lithium spodumene prices have fallen** in May 2019 to about US\$600-670 per tonne from US\$900 in 2018. Triggering the price fall in 2018 was the wave of new hard rock mines arising out of Western Australia.
- Although the market will likely remain in oversupply in the near-term, **forecasts are that demand will outpace supply after 2020** primarily due to the accelerated uptake in electric vehicles across the globe.
- Responding to softer short-term prices **Pilbara Minerals** has reduced exports from its Pilgangoora operations. It is trying to sell up to a 49% stake in Pilgangoora. However, **Australia is set to dominate the lithium carbonate** market with its hard rock operations estimated to account for 80% of global supply. The value of lithium spodumene concentrate exports has soared 168% to \$1.6 billion in 2018/19.

Copper

PRICES (US\$/MT)



SOURCE: WORLD BANK

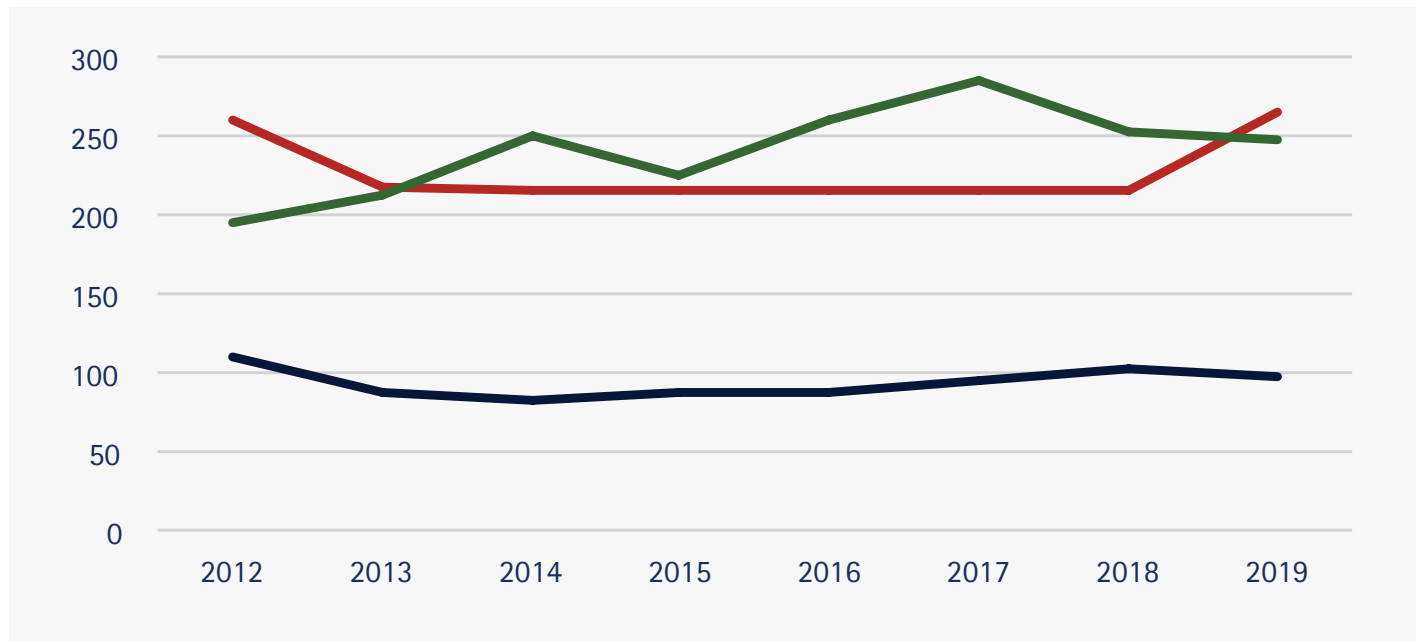
Prices trending upwards, exploration on the rise

- **Copper prices are closely aligned to developments in the global economy** and supply constraints. Recently prices have been rising and this is likely to continue if trade issues are resolved between the USA and China.
- **A potentially significant copper/gold find by RIO Tinto** could support a series of mines, with the Winu mine set to become an open cut mine. Investigations include assessments on the viability of a series of mines in its 10,000 km² area in the Paterson Range, with major expenditure on exploration.



Fertiliser

PRICES (US\$/MT B)



SOURCE: WORLD BANK

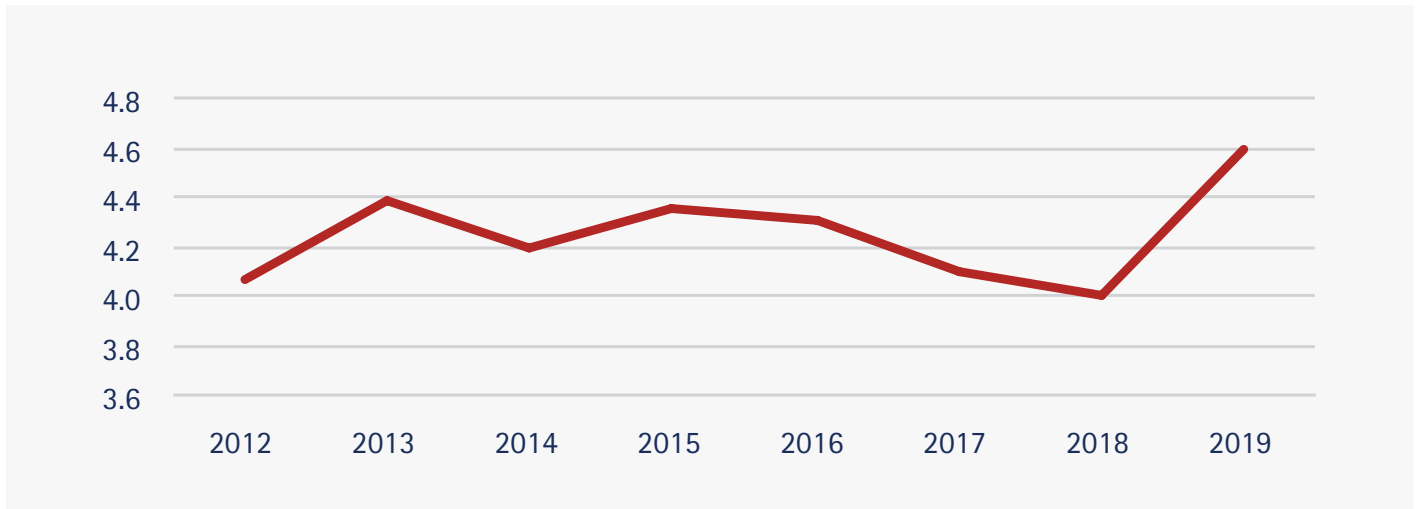
Prices rising, large scale investments likely

- The prices of urea and potassium chloride have been rising. The \$4.5 billion **Perdaman Chemicals and Fertilisers urea project** near Karratha, that could create more than 2,000 construction jobs, has been granted major project status by the Federal Government. A permanent staff of 200 would be required to operate the plant on a non-FIFO basis in Karratha. The company has signed up for 20 years of gas from Woodside. Subject to approvals, construction could start in the first quarter of 2020.
- **BCI Minerals proposed Mardie salt and potash project** is to produce salt and SOP from seawater. BCI hopes to secure its environmental approvals by the end of 2019 and an FID is expected by the first quarter of 2020. **Kalium Lakes may become Australia's first sulphate of potash producer** after sourcing \$102 million in debt funding for its Beyondie project 160 km south-east of Newman and Kalium had also secured a \$74 million loan from the Northern Australia Infrastructure Facility. Kalium Lakes has an offtake agreement with the German chemicals company K+S over an initial 10 years.



Beef

PRICES (US\$/KG)



Prices rising, long term investment increasing

- **Beef prices have risen strongly in 2019** due to increased demand. This provides a sound pricing regimen for the Wagyu beef operation in the Pilbara aimed at creating a \$1.8 billion industry by 2031, with a 100,000 Wagyu herd, employing 750 full-time staff at full production.

Other Economic Indicators

- **The Pilbara Ports Authority (PPA)** is continuing to increase the capacity and diversity of existing infrastructure, including multi-user facilities. The PPA is the world's largest bulk export port authority: 50% of the world's seaborne iron ore exports; approximately 75% of Australia's iron ore exports; approximately 7.5% of global LNG exports; the total value of products exported is \$83.2 billion per annum.
- **Air Passenger traffic** for the year ended March 31 2019 shows that traffic between Perth and Kalgoorlie was up 15.4%, Newman 8.3%, Port Hedland 7.6% and Karratha 2.2%.
- **Residential Property prices and rents** in the Pilbara are gradually firming. The commercial market remains static to soft.



Potential Game Changers

For this first Economic Quarterly we highlight two exciting sectors that have the long-term potential to transform the economic fabric of northern WA. Renewable energies are now under serious development phases with massive potential impacts. Just three examples:

- **Yara Fertilisers and the French company Engie** may build the world's biggest renewable **hydrogen plant** in the Pilbara, integrating a green hydrogen plant into Yara's existing ammonia plant on the Burrup Peninsula. A study will consider a 50 to 60 MW electrolyser powered by more than 100 MW of solar panels to produce enough hydrogen for 28,000 tonnes a year of ammonia nitrate.
- **The Asian Renewable Energy Hub** is looking at a very large-scale production facility east of Pardoo in the East Pilbara using wind and solar to generate up to 15 GW. The project has a 10-year construction time frame.
- **Pilbara Solar** has ambitions to develop renewable energy for local industry in the Pilbara and they are about to start their first project.



What ifthe Fitzroy catchment was developed for agriculture:

It is an area of 94,000 km², and the CSIRO assessment shows a potential of 170 GL from groundwater that could support 30,000 ha of agriculture and 1700 GL from the river or floods that could support 160,000 ha of irrigated agriculture. While this catchment is geographically in the Kimberley it's development would have a huge economic and social impact on all of northern WA.

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