

PILBARA QUARTERLY ECONOMIC UPDATE

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Key Messages

The prospects for the Pilbara economy have again strengthened in the last quarter of 2019. On top of previously flagged future investments additional increases in iron ore production and related investments once again illustrate the enduring and always prominent role of this sector to the socio-economic progress of the region. Moreover, the likelihood of additional investments in LNG, oil and fertilisers has increased. **During the December quarter iron ore prices have remained relatively high** and prices for gold, copper, and notably lithium, have improved. LNG prices remain soft.

In this issue we focus on the benefits of the expansion in the resources sector to Australia, the State and the Pilbara and flag labour costs and accommodation constraints that are emerging. This is a theme that we will analyse further in the next Cost of Doing Business in the Pilbara Report (March 2020). Concerns about accommodation costs are reflected by the decision of the City of Karratha to partner with builders and developers and invest up to \$35 million of ratepayer funds to boost local housing stock for an expected industrial boom next year.

Downside risks have changed in the short term, with some progress between the USA and China concerning trade issues and stimulation measures taken by China in early January 2020, which underpins an improved economic outlook and consequently a more buoyant environment for WA's key mineral commodities. In terms of financial risks, the "Global Wave of Debt" is the largest and fastest in 50 Years, according to the World Bank¹. Debt in emerging and developing economies (EMDEs) climbed to a record US\$55 trillion in 2018, marking an eight-year surge that has been the most broad-based in nearly five decades. Policymakers have been urged by the World Bank "to act promptly to strengthen their economic policies and make them less vulnerable to financial shocks. It underscores why debt management and transparency need to be top priorities for policymakers".

Benefits to the Nation of the Strength of the Resources Sector

The benefits of the strength of the resources sector to the nation and WA are formidable. The Pilbara contributes more than any other region in Australia in this regard. For this reason, policies that enhance further development

Legislation

- The Pastoralists and Graziers Association and influential farmers in WA have called on the government to **reduce the burdens of red tape, high taxes, licence fees and stamp duties**, by adjusting policies to allow for a more prosperous agricultural industry after four years of major drought. Further, there is a view that rather than legislating for another national park on the Fitzroy and Margaret Rivers in the Kimberley a small amount of the available water should be used to foster agricultural development in the north.

- Close to 7,000 submissions have been made to the consultation process initiated by the State Government on Greenhouse gas emissions suggesting the Environmental Protection Agency (EPA) **should not release new guidelines until after the McGowan Government reveals its new climate policy in 2020** to avoid non-complementary policy approaches between the EPA, WA State Government and the Federal Government, and avoid disproportionately penalising projects in WA relative to projects established in other parts of Australia.



need the ongoing attention of government agencies at all levels. There has been considerable support given to the sector, however, more could be done in relation to labour availability, accommodation options and economic diversification in particular.

Federal data shows that **Australia's resource and energy export earnings** are forecast to hit a **record \$281 billion in 2019/20**, up from \$279 billion in 2018/19. The mining sector accounted for a **very high proportion of the country's GDP** in the year to the September quarter (9.5%). The WA Chamber of Minerals and Energy (CME) has estimated that the number of **workers employed in WA's resources sector rose by 12,000 last financial year to a record 124,010**. The proportion of WA's workforce employed in the resources sector is 6.7%, compared to the national average of less than 2%. It should be noted that there has been a very significant increase in contract employment since 2012/13 and estimates are that more than **10,000 additional workers** will be needed by 2024² in WA.

As pointed out by the West Australian newspaper "**the budgets of both the Federal and WA State coffers** are swelling more than expected. The WA Government's Mid-Year Economic and Fiscal Outlook **indicated an increased 2019/20 budget surplus from \$1.2 billion to \$2.6**

billion, due partly to higher iron ore royalties resulting from elevated iron ore prices. The gold price reached record highs in Australian dollar terms in September 2019 and nickel prices reached a peak of about US\$18,000/ton. A survey of 41 CME members revealed that in 2017/18, their **total direct economic contribution to WA was \$38 billion**, which included salaries and wages, payments to government, business purchases and community contributions.

The Federal Government estimates that "**there are over \$240 billion of projects** at the publicly announced and feasibility stages that we consider 'possible' or 'likely' to receive a final investment decision". **Investments in the Pilbara could account for nearly 50% of this amount**. Exploration spending for all commodities grew by 19% in 2019 to reach \$897 million in the September quarter.

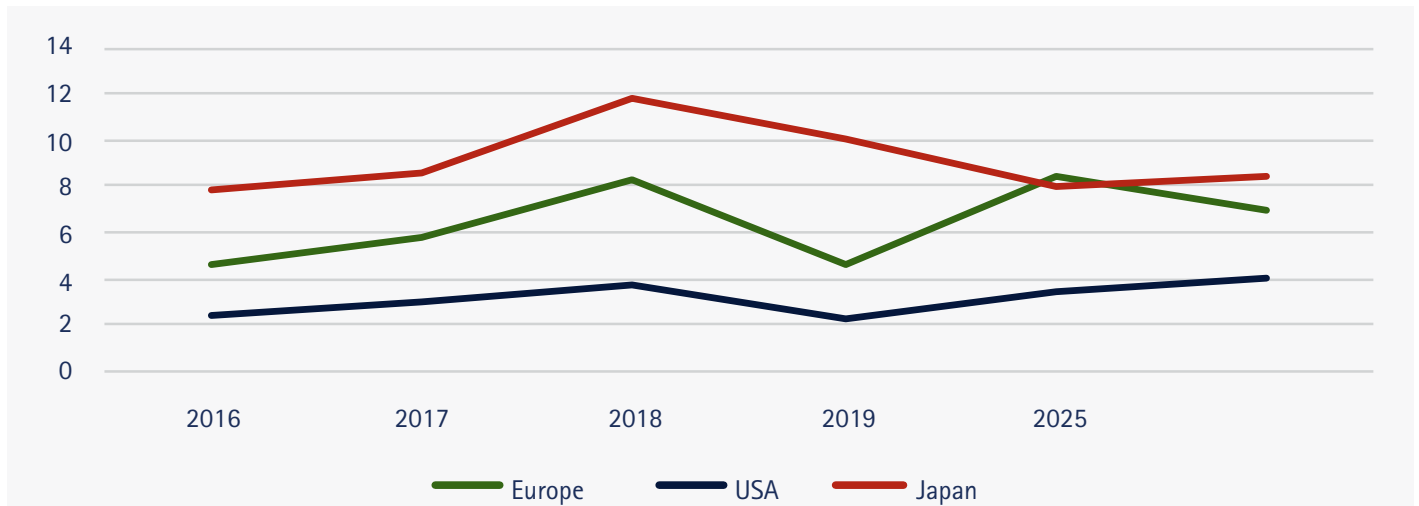
Australia is now the world's largest LNG exporter by overtaking Qatar, with a record 77.5 million tonnes shipped in 2019, earning an estimated \$49 billion, according to consultancy EnergyQuest². **Western Australia continued as the dominant export region**, accounting for 57% of shipments, with the Woodside Petroleum-managed North West Shelf venture the country's single biggest exporter, followed by Chevron's Gorgon and Wheatstone operations.



Commodity Prices and Resource Sector Investments

LNG & Renewables

LNG PRICES: EUROPE, USA, JAPAN - 2016 TO DECEMBER 2019 (US \$MMBTU)



SOURCE: WORLD BANK

- Over the last quarter LNG prices have remained soft, with spot prices on Asian markets at between US\$5 to US\$6 per MMBtu and low prices in Europe and the United States. There is no change in forecasts that **short-term supplies will continue to exceed demand, before prices move up again in the medium term.** Wood Mackenzie is forecasting that global demand for LNG will increase by 8% by 2025 to about 463 million tonnes a year, up from 313 million tonnes in 2018.

Continuing lower prices short term, price recovery medium term, increased likelihood of large-scale investments

- Despite more uncertainty regarding future price increases and growing competition from renewables **the outlook for additional investments in energy in the Pilbara has improved.**
- A 52% increase in the contingent resources at the Scarborough LNG field markedly improves the financial viability of the option for proceeding with the \$16 billion expansion of the Pluto LNG plant by Woodside on the Burrup Peninsula, with approval

expected in the first half of 2020 and first production in 2023. Moreover, Woodside has agreed a **13-year supply deal** with German power company Uniper. The company already has a supply agreement in place with Indonesia's Pertamina and a heads of agreement with China's ENN. The three deals cover more than 50% of Woodside's production from Scarborough with 2.4 Mtpa of supply still to be negotiated with potential customers.

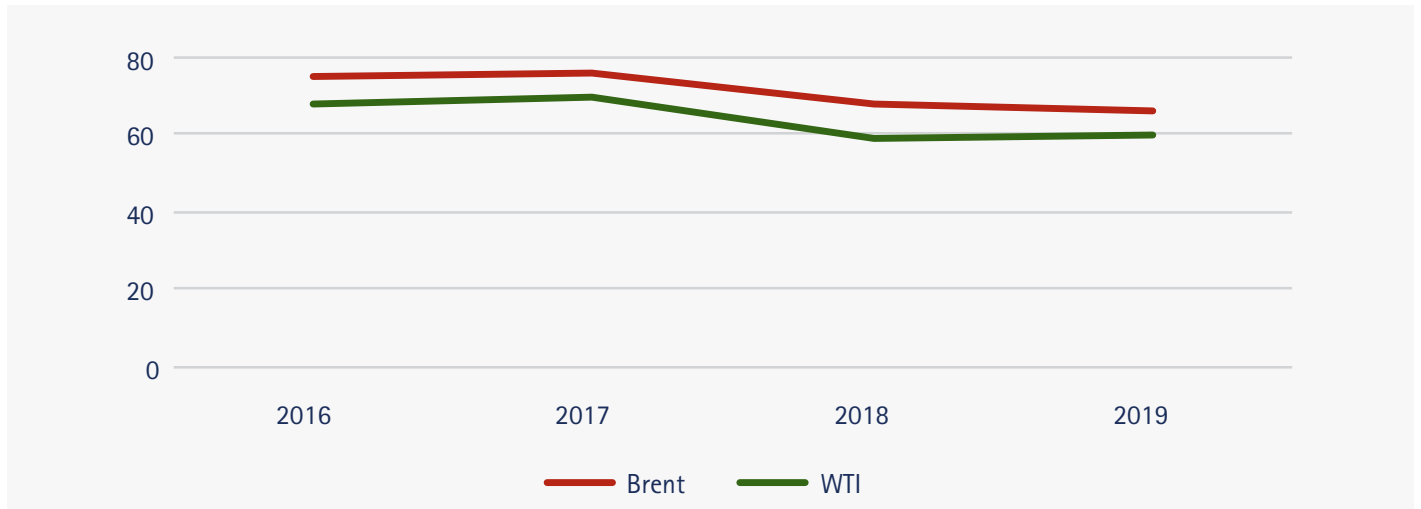
- Negotiations continue for both the Scarborough and Browse developments led by Woodside, regarding the terms for processing of the gas through the Pluto infrastructure. Regarding the **\$30 billion Browse project it is hoped that a decision to start initial engineering work can be taken soon.** Pressure to progress with the investments by both the Federal and State Governments continues.
- **Chevron continues to target increased output** from its Gorgon and Wheatstone projects with additional trains, depending on market demand, and is planning further carbon capture in 2020.

- Longer term **the growing share of renewables in the energy mix** and the increased use of electric vehicles (EVs) is likely to begin to displace fossil fuel demand in power generation and oil demand in transportation over the next decade, many analysts say.
- An interesting renewables development in the Pilbara involves a **Biomass Based Renewable Energy Initiative**. Woodie Woodie manganese mine will potentially be the first fully green energy powered mine in the Pilbara by generating its power exclusively from low cost biogas. A renewable energy developer, AgGrow Energy Resources, has been awarded a grant to resuscitate an adjacent agricultural precinct to irrigate 120 ha of sweet sorghum from mine dewatering bores. There is sufficient water and land to generate more than 12 MW of power – more than three times the current power consumption of the mine at less than half the price of diesel. The target date for first power supply is March 2021. The project could attract up to \$4 million of investment into the East Pilbara and would create new jobs. The modular concept could be replicated wherever there is available water and the Newman, Nammuldi and Marandoo areas in particular are excellent potential sites, as are a number of sites in the Kimberley.



Oil

OIL PRICES: 2016 TO DECEMBER 2019 (US\$/BBL.)



SOURCE: WORLD BANK AND OIL PRICE NOW

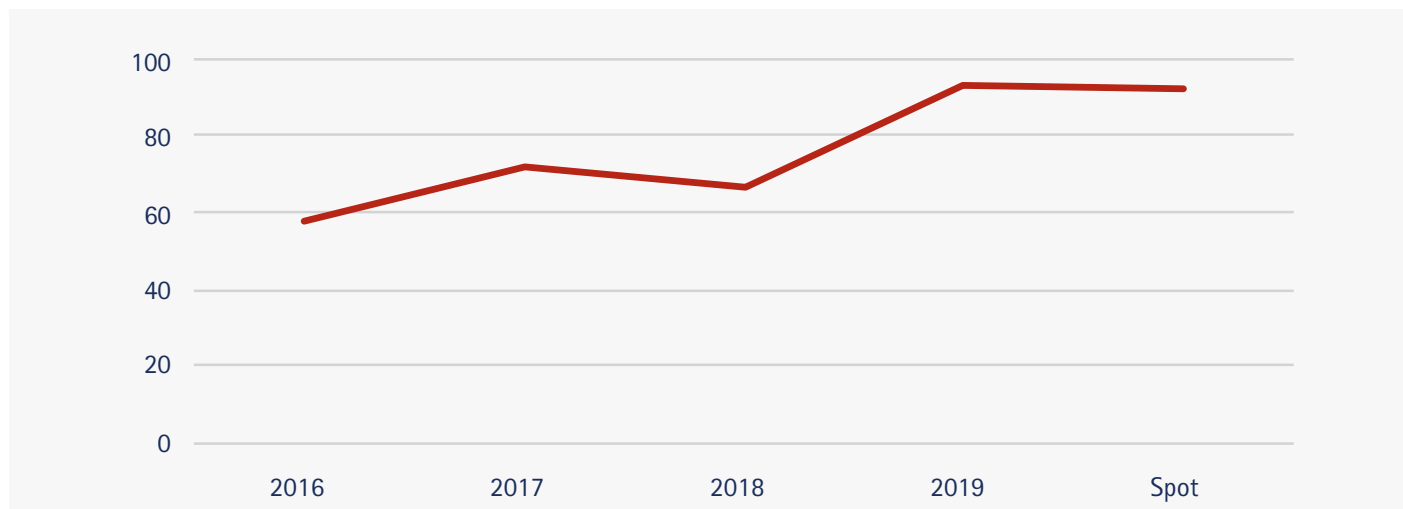
Fluctuating prices impacted by Middle East tensions, medium term demand less certain

- **After price fluctuations in the early part of the December quarter, prices have risen in December 2019**, due to further OPEC agreements to reduce production and an improved global economic outlook.
- In a potentially significant policy development, **the Federal Government has approved the exploration of untapped oil resources in the State's north that could create "hundreds of thousands" of jobs** and provide fuel security for the nation. Geoscience Australia estimates the site holds 43 billion barrels of recoverable shale oil, which is almost 50% more than the current 29 billion barrels recovered globally. The estimate for the entire reserves in the Canning Basin is 860 billion barrels, however, not all of that will be recoverable. Additionally, there are recoverable shale gas resources of 390 trillion cubic feet with additional potential for tight gas resources (natural gas produced from reservoir rocks) of 48.5 trillion cubic feet. The exploration drill site is 214 km east of Marble Bar and 51 km west-north-west of the Telfer gold mine.
- **Santos has upgraded its 2025 production outlook** to 120 million barrels of oil equivalent and expects capital expenditure in 2020 to increase to a total of \$1.45 billion, up 45% from 2019. The company has forecast initial oil production, from its **Dorado field off Port Hedland**, would be between 75,000 and 100,000 barrels per day (bpd), up from an earlier estimate of 50,000 bpd. Santos owns an 80% stake in Dorado and anticipates that the development of the oil field will cost between \$1.9 billion and \$2.2 billion.



Iron Ore

IRON ORE PRICE: 2016 TO DECEMBER 2019 (US\$ DMT 62% FINES)



SOURCE: WORLD BANK AND BUSINESS INSIDER

Relatively high prices continue, investments in replacement mines and some new production

- **Prices have steadied during the quarter at reasonably high levels and announced levels of investment and production have increased.** China's iron ore imports have gained during the quarter. Australia exported a record \$77 billion worth of iron ore in 2019 most of it from the Pilbara, and the Department of Primary Industries and Regional Development (DPIRD) has indicated that a new record will be set in fiscal 2020 of \$81 billion worth of ore. China produced 928 million tonnes of steel in 2018 and is tipped by UBS to produce 983 million tonnes in 2019 and both UBS and Platts believe that one billion tonnes will be breached in 2020.
- **From an economic and employment perspective the iron ore sector remains a bedrock for future prosperity:**
 - **Rio Tinto is entering a phase of elevated spending on new and existing mines⁴** with its mines "becoming deeper, wetter and generally more expensive to run after half a century in operation". Rio has stated that depletion of mines would occur swiftly, meaning new greenfield mines would need

to be built and perhaps even new greenfield iron ore provinces will be explored, with expensive infrastructure like railways to be constructed. "We have a large amount of renewal ahead, we have six major projects in the conceptual or order of magnitude phase, and a further eight in the pre-feasibility and feasibility stage, this is on par with the number we had during 2010." In addition to already well-documented capital expenditure over the last year, investment in the Western Turner Syncline Phase mine will allow the mining of existing and new deposits. Pending final government approvals, construction will start in the first quarter of 2020 with first ore from the crusher expected in 2021. Rio Tinto will spend US\$749 million (\$1 billion) at its Greater Tom Price operations in the Pilbara to help sustain the production capacity of its iron ore business in WA. Rio expects to ship between 320 million and 330 million tonnes in 2019, and indicated its exports in 2020 are likely to be about 342 million tonnes.

- **Hancock Prospecting has recorded WA's biggest profit by a private company**, making \$2.6 billion last financial year due to stronger iron ore prices. Roy Hill has begun commissioning a new plant at its Pilbara iron ore mine, with commencement of operations in February 2020, supporting its plans to boost output from a run rate of 55 Mtpa to 60 Mtpa.
- **BHP's South Flank iron ore** project is on track for initial production in 2021, replacing production from the 80 Mtpa Yandi mine near Newman.
- **Flinders Mines** has formed an incorporated joint venture with BBI Group for its flagship **Pilbara Iron Ore Project (PIOP)**. PIOP is west of the Fortescue Metals Group's Solomon iron ore precinct. As the PIOP is developed, BBI Group will develop **the Balla Balla infrastructure project** (BBI Project). In combination the development of both mines will provide an integrated mine, rail and port system.
- **Fortescue Metals Group US\$2.6 billion Iron Bridge magnetite** project about 110 km from Port Hedland is on schedule with the intention to produce 67% iron grade concentrate in the first half of 2022. Fortescue Metals Group is also developing the **Queens Valley mining area** in the Pilbara after receiving the environmental and heritage approvals it requires. The Queens Valley development is within the Solomon Hub operations with a planned start-up of production in 2022.
- **Coziron** will commence an infill and extensional drilling programme at its **Ashburton magnetite iron ore project in the West Pilbara** soon, with soft, high-quality schistose iron ore product with low sulphur content, low impurities and no blue asbestos.



Lithium

LITHIUM PRICE: 2018 TO DECEMBER 2019 (US\$/TONNE)



SOURCE: TRADINGECONOMICS.COM | OTC

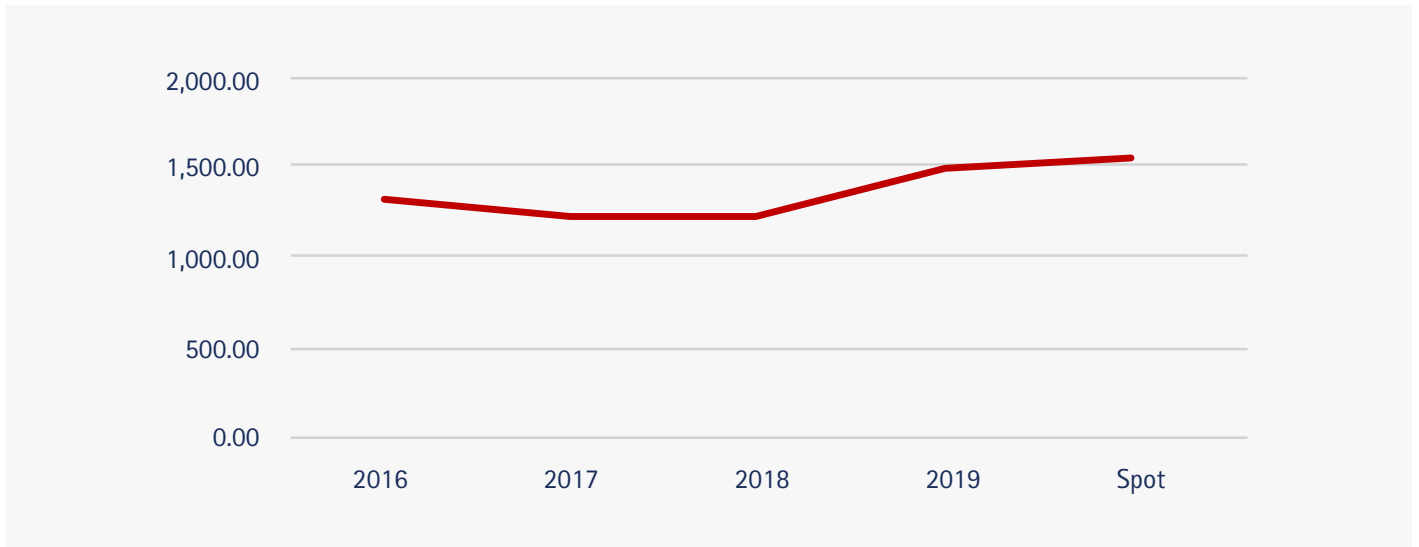
Short term prices starting to rise, long term increase in demand & prices, increased investment medium term

- The steady fall in lithium prices since early 2018 has ceased with prices rising modestly in the December quarter. The longer-term price forecast remains intact with price increases anticipated by most analysts.
- Extraction companies have continued with their cautious approach in the short term. Albemarle and Mineral Resources have placed their Wodgina lithium operation on care and maintenance due to challenging market conditions for the commodity.



Gold

GOLD PRICE: 2016 TO DECEMBER 2019 (US\$/OZ)



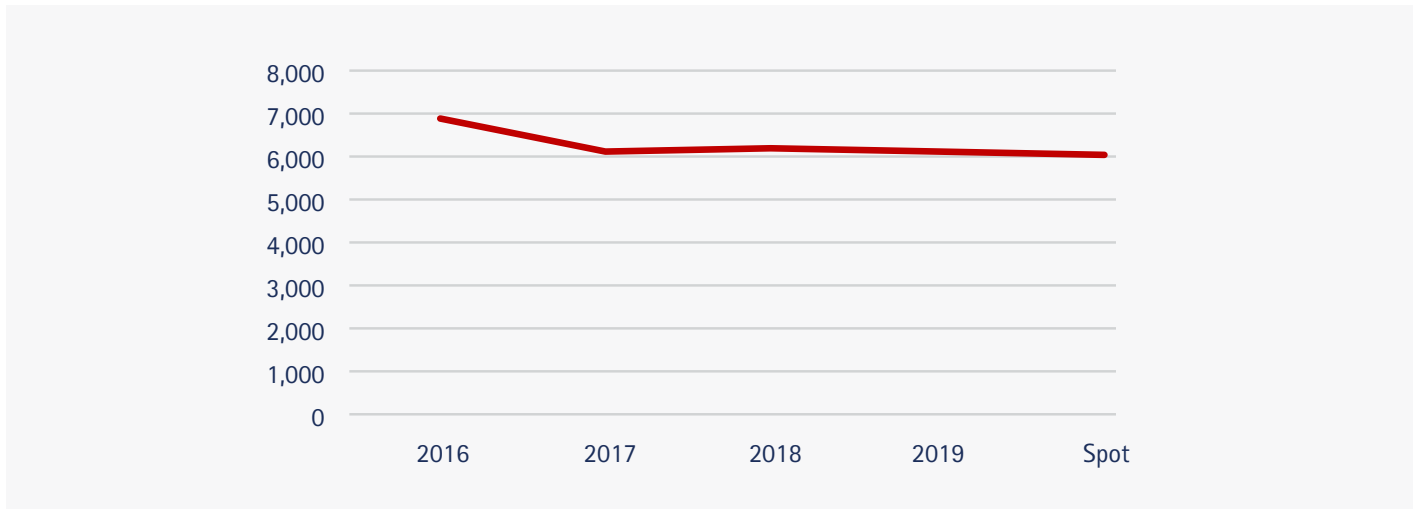
SOURCE: WORLD BANK

Sharp increase in prices continues, increased investment and employment

- **Gold prices have continued to increase** in the December quarter, with tensions in the Middle East sparking further upward movements. According to the World Gold Council exchange-traded fund (ETF) volumes hit an all-time high in September as investors increased their exposure to gold in response to low interest rates, low yields and geopolitical and economic uncertainty.
- **Developments in the Pilbara** include:
 - **Calidus Resources has continued to achieve good drilling results** at its Warrawoona gold project in the East Pilbara region.
 - **Newmont Goldcorp**, which has some operations in the Pilbara, has increased production by 28% compared to the same period last year, as gold prices continue to rise.
 - **Novo Resources** has identified new areas of gold-bearing terraces at the South Egina and Paradise areas.
 - **Rio Tinto has a joint venture agreement with gold and base metals explorer Carawine Resources.** Rio Tinto will explore the Baton and Red Dog tenements, which are part of Carawine's Paterson gold-copper and copper-cobalt project 350 km south east of Port Hedland.

Copper

COPPER PRICE: 2016 TO DECEMBER 2019 (US\$/MT)



SOURCE: WORLD BANK

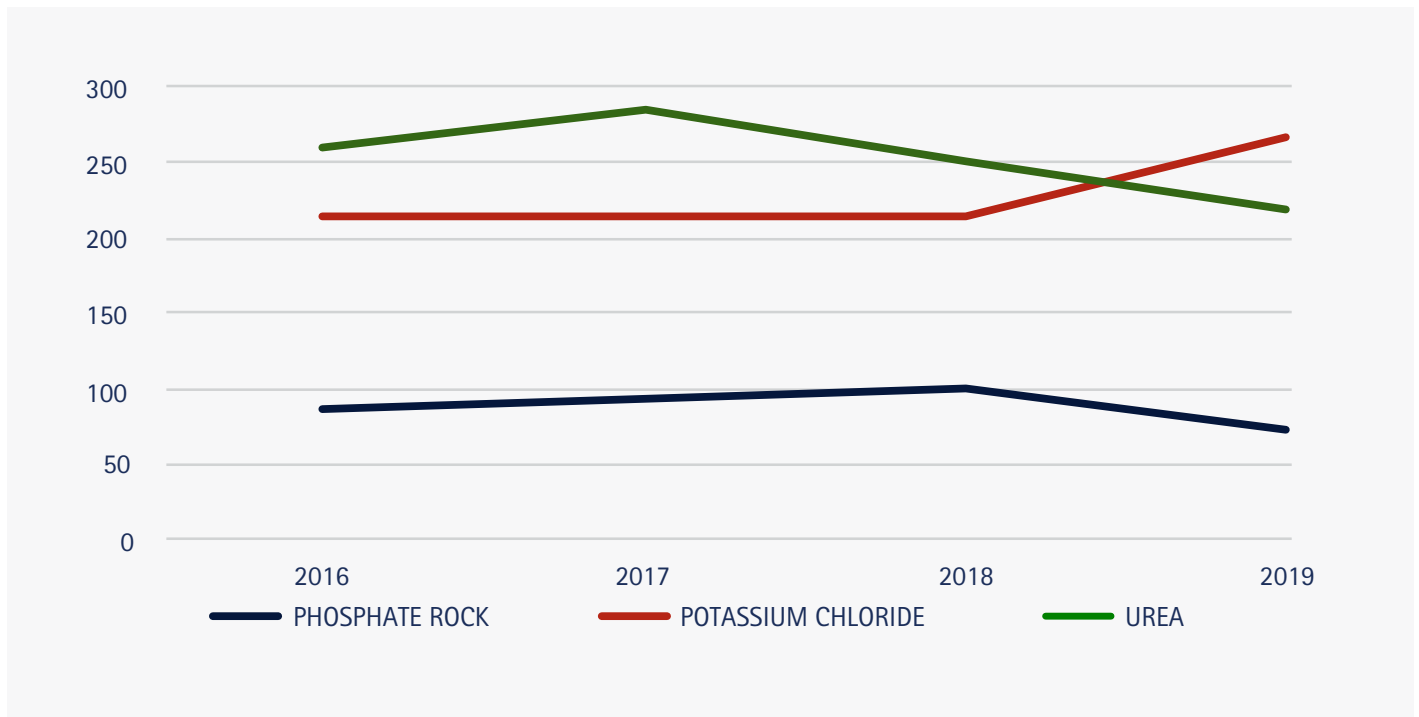
Prices rising, large scale investments possible

- As the global economic outlook has improved slightly the price of copper has flattened out in this quarter.
- New exploration developments include options for **Venturex Resources** to add additional volume to its Sulphur Springs copper-zinc project near Port Hedland.



Fertiliser

FERTILISER PRICES: 2016 TO DECEMBER 2019 (US\$/MT B)



SOURCE: WORLD BANK

Urea and Phosphate Prices falling, but large-scale investments likely

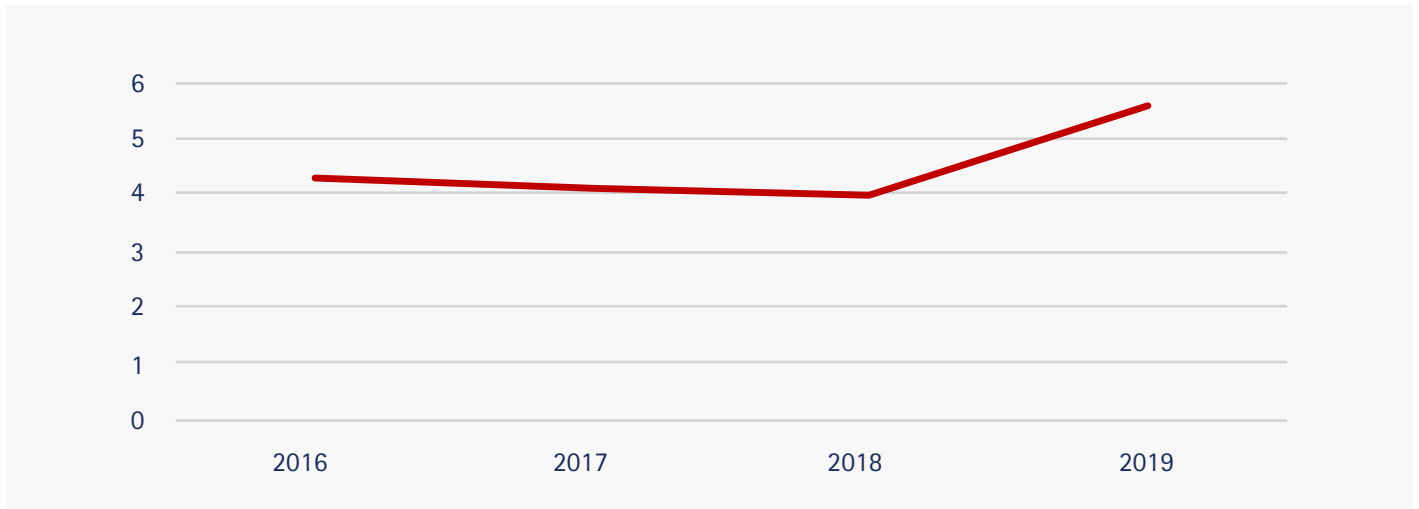
- The \$4.5 billion **Perdaman Chemicals and Fertilisers urea project** near Karratha⁵ has been boosted by a gas purchase contract with Woodside Petroleum and Perdaman has signed a binding deal with SNC-Lavalin for the construction of the plant, which will produce about 2 million tonnes a year of urea, mostly for the export market. BCI Minerals Limited has completed a pre-feasibility study for its Mardie project (about 30 km from Karratha) based on production of **4 Mtpa salt and 100,000 tpa sulphate of potash via solar**

evaporation of seawater over an operating life of 60 years. A definitive Feasibility Study is currently underway and due to be completed in Q1 2020. **Kalium Lakes' sulphate of potash mine** will start commercial production in 2020. The \$216 million enterprise, 160 kms south east of Newman is expected to produce 90,000 tpa with an initial mine life of 30 years.



Beef

BEEF PRICE: 2016 TO DECEMBER 2019 (US\$/KG)



Prices fluctuating at reasonable levels, with recent increase

- **Beef prices have continued to support the industry in the fourth quarter of 2019 as prices have risen sharply**, whilst live cattle prices have continued to fluctuate in 2019, but at reasonably high levels. The high value of Australia's red meat and livestock industry is illustrated by the 2017/18 turnover at \$65.7 billion,

up 38% since 2012/13⁶. The value of the Pilbara beef industry is expected to increase with integrated feedstock and beef operations on the rise.

1 World Bank Report, December 19, 2019

2 Australian Mines and Metals Association

3 Financial Review January 2020

4 Financial Review: Nov 1, 2019

5 Australian Financial Review

6 ABARES & IBIS World

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