

PILBARA QUARTERLY ECONOMIC UPDATE

ISSUE No 7 DECEMBER 2020

Key Messages

In this issue we focus on the **overall outlook for Australia's energy and resource commodity exports**, which are the main determinant of economic activity in the Pilbara. According to the Resources and Energy Quarterly December 2020, the outlook has improved despite further waves of COVID-19 in many of the world's major economies. The global supply of some commodities had declined as the low prices of the June and September quarters forced plant closures, and as COVID-19 outbreaks impacted on workers at various mining and refining operations around the world.

However, there has been strong demand from China for resources as its economy continued to grow in 2020 and the IMF is projecting very strong growth of 8.2% in 2021, helped by stimulatory policy actions and improved foreign demand for goods. Moreover, there has also been some recovery in American, Japanese, South Korean and European demand. Whilst the International Monetary Fund (IMF) forecasts a contraction in the world economy of 4.4% in 2020, a resumption in growth of 5.2% in 2021 is predicted, with upside opportunities to these forecasts, due to the likely positive impact of COVID-19 vaccines.

At State level WA's mining and resources sector has continued to underpin the local economy, contributing more than \$8.6 billion from mining royalties and North West Shelf grants, making it the State's third biggest revenue stream. **In the Pilbara** iron ore producers shipped a record 874 million tonnes (mt) in 2020 representing a 3% increase on the 850mt shipped in 2019 and well clear of the previous record of 851mt shipped in 2018. Exploration and investment in gold, lithium, fertilizers, copper, salt and manganese production is ongoing.

However, **costs of production in the Pilbara continue to rise** and labour shortages are becoming evident. The Chamber of Commerce and Industry WA, after an analysis of some 30 current or approved projects, forecasts that over the next two years those projects alone will require a workforce of nearly 17,000. WA businesses identify skills shortages as the number one barrier to growth in the coming year, particularly in the resources and construction sectors. COVID-19 international and interstate border restrictions have meant WA is not easily accessing workers from outside the state.

Other downside risks include the possibility of

- Further disruption to Australian trade with China, although this appears to be unlikely for most of the commodities produced in the Pilbara.
- A proposal for a moratorium on the WA government issuing new approvals for projects that damage Indigenous heritage, by a Federal Parliamentary Committee investigating Rio Tinto's destruction of 46,000-year-old cultural heritage in Juukan Gorge, would delay projects proposed by all sections of the economy if it was implemented. In particular future development of iron ore mines will need to be carefully negotiated with relevant stakeholders to mitigate risks from any legislative changes in the future.

- The strengthening of the Australian dollar will partly diminish the positive impact on export earnings of rising commodity prices.

However, mitigating these risks is the continuing highly competitive nature of production of companies operating in the Pilbara in the production of key commodities, which are likely to continue to invest further in the resources sector given the strength of the overall outlook.

Summary of Sector Developments

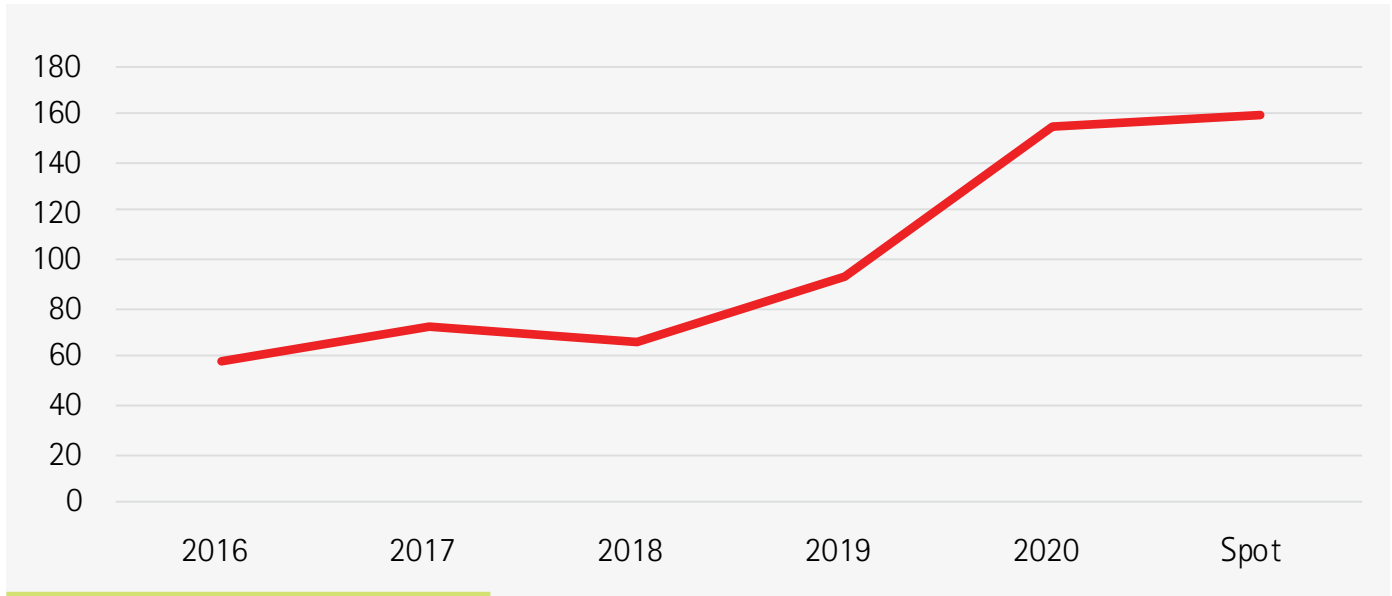
- **Iron ore has continued to benefit from strong price rises**, as exports from Brazil have not increased as expected and demand from China remains strong. In 2019–20 the value of iron ore exports was over \$102 billion. Export earnings are forecast to be \$123 billion in 2020–21.
- **Gold prices are still high in historical terms**, despite declining prices in the December quarter and Australian export earnings are expected to set a new record of about \$30 billion in 2020–21. The pace of exploration has continued to accelerate, and continuing signs that the gold sector is likely to play a stronger role in the economy of the Pilbara in the future.
- **Copper prices have continued to rise strongly** and the likelihood of further investments in the Pilbara has increased further.
- **Oil and natural gas prices in Asia and Europe have strengthened considerably in the December quarter.** Spot LNG prices are now well above pre-COVID-19 levels, due to a cold Northern Hemisphere winter and the impact of supply cutbacks and disruptions.
- **Total annual resource and energy exports** are forecast at \$279 billion in 2020–21 and \$264 billion in 2021–22.
- **Lithium prices have flattened out, and are expected to increase sharply in the medium and long term.** There are increasing signs that production levels in the Pilbara will rise as a result, with increasing levels of employment.
- **Significant investments of billions of dollars in fertiliser and salt** in the Pilbara continue with the creation of hundreds of operational jobs.
- Beef prices have declined from very high levels globally, **but Australian prices for cattle are high** with stock shortages due to strong demand in the Eastern States.



Commodity Prices and Resource Sector Investments

Iron Ore

IRON ORE PRICE: 2016 to December 2020 (US\$ DMT 62% fines)



SOURCE: WORLD BANK AND BUSINESS INSIDER

High prices continue with record shipments from the Pilbara

- **The iron ore price has increased significantly during the quarter to levels above US\$160/t.** High prices are the result of less than expected supply from Vale in Brazil and continuing strong demand from China. The longer-term outlook for Vale is improving with the company making significant progress on its US\$1.5 billion Serra Sul 120 project, which is expected to be complete by 2024. Australian iron ore earnings appear set to record an all-time high in 2020–21. After topping \$102 billion in 2019–20, iron ore export earnings are forecast to be \$123 billion in 2020–21.
- **Iron ore developments in the Pilbara include:**
 - **Atlas Iron** has received Western Australian Environmental Protection Authority (EPA) backing for its Miralga Creek iron ore project. Atlas Iron will mine 8 million tonnes of iron ore. The project is approximately 100 kilometres southeast of Port Hedland.
 - **Roy Hill Holdings** has announced a 60% increase in earnings to \$2.2b on revenue of \$6.4b.
 - **CZR Resources** has agreed a memorandum of understanding with the owners of the port facilities at Onslow, for its Robe Mesa iron ore projects located about 150km south-west of Karratha, which will reduce the haulage distance from the mine gate to port and should positively impact on costs.

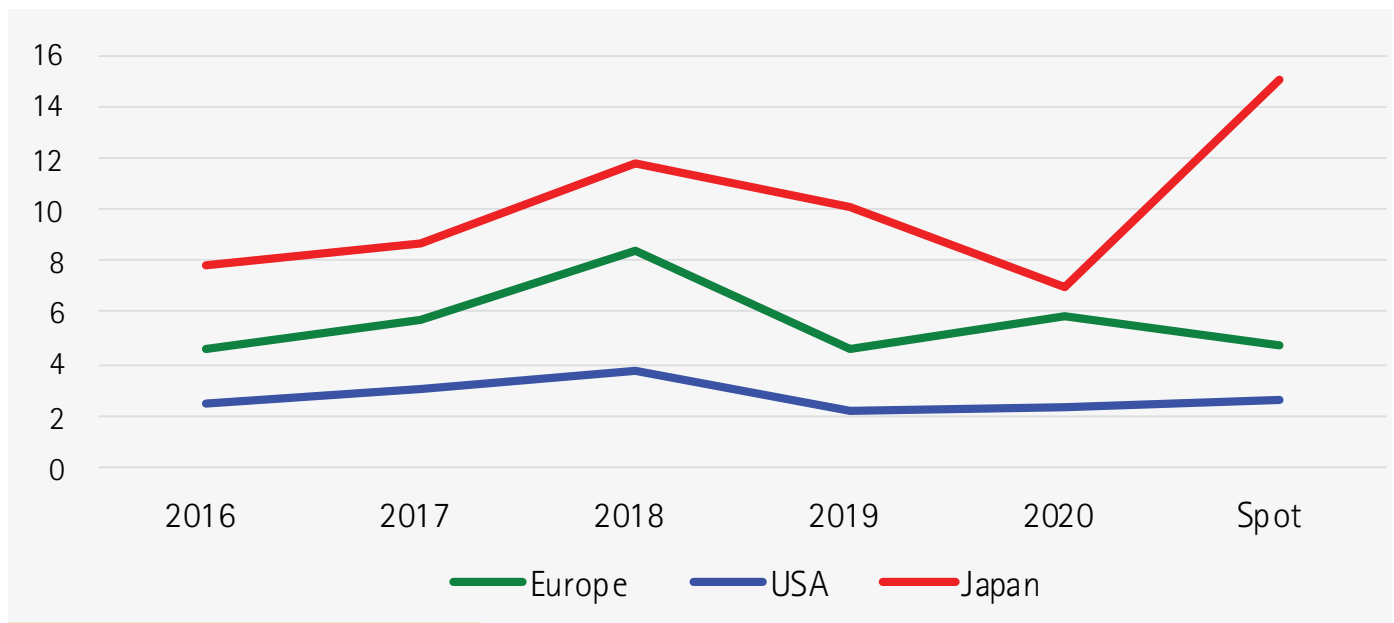
- **Fortescue Metals Group** has posted record quarterly shipments of 44.3 million tonnes in December, representing a 5% jump on the previous corresponding period, with production costs of \$US12.74/t down 2% on the previous corresponding period. FMG has also secured new agreements with Chinese steel mills, procurement partners and financial institutions during the China International Import Expo 2020.
- **Strike Resources** has completed a Feasibility Study for its Paulsens East iron ore project in the southern Pilbara, with likely production of 1.5 million tonnes of ore per annum, with an initial four-year mine life.
- **Rio Tinto** has shipped its 200 millionth tonne of iron ore from Cape Lambert in Western Australia to China. Together with this milestone, Rio Tinto achieved its three billionth tonne of iron ore shipped to China during September. This comes 47 years after Rio Tinto delivered its first Pilbara iron ore project.
- **BHP** has confirmed guidance for first ore production from its South Flank project by the middle of 2021. BHP noted in its September quarter update that the \$4.4 billion project in the Pilbara was 84% complete and remained on budget and schedule.
- **Mineral Resources** has outlined ambitious plans to double the size of the business over the next three years through long-term sustainable operations, mainly in the Pilbara, with the intent to produce more than 90 million tonnes of iron ore per year.





LNG

LNG PRICES: Europe, USA, Japan – 2016 to December 2020 (US\$MMBtu)



SOURCE: WORLD BANK AND GLOBAL LNG HUB

Prices in Europe and Asia rise strongly, significant recovery medium to long term possible, large-scale investments look more likely

- **The LNG investment landscape in the Pilbara has improved considerably** for the first time since the onset of the COVID crisis and this is likely to continue as demand returns. Spot LNG prices in Asia dropped to record lows below US\$2 per mmBtu in May when lockdowns reduced demand for gas from industries, but prices rebounded in the fourth quarter and have risen sharply since November due to supply issues. **Spot market prices in Japan have risen six fold** during the quarter to above US\$15 per million British thermal units (mmBtu).
- Although higher LNG spot rates are normal during the northern winter, the improvement goes beyond weather to the **recovery in gas demand in key markets across the Asia-Pacific region**. Overall, the medium-term outlook for LNG is favourable. According to the International Energy Agency (IEA), global gas demand is expected to not only recover in 2021 but also experience steady growth through 2025. Demand for LNG in heating and power generation is growing faster than for any other fossil fuel as nations look for a reliable and cleaner alternative to coal. PetroChina, China's largest natural gas supplier has predicted that demand will double over the next 15 years despite the effects of the pandemic and the rising importance of renewables.

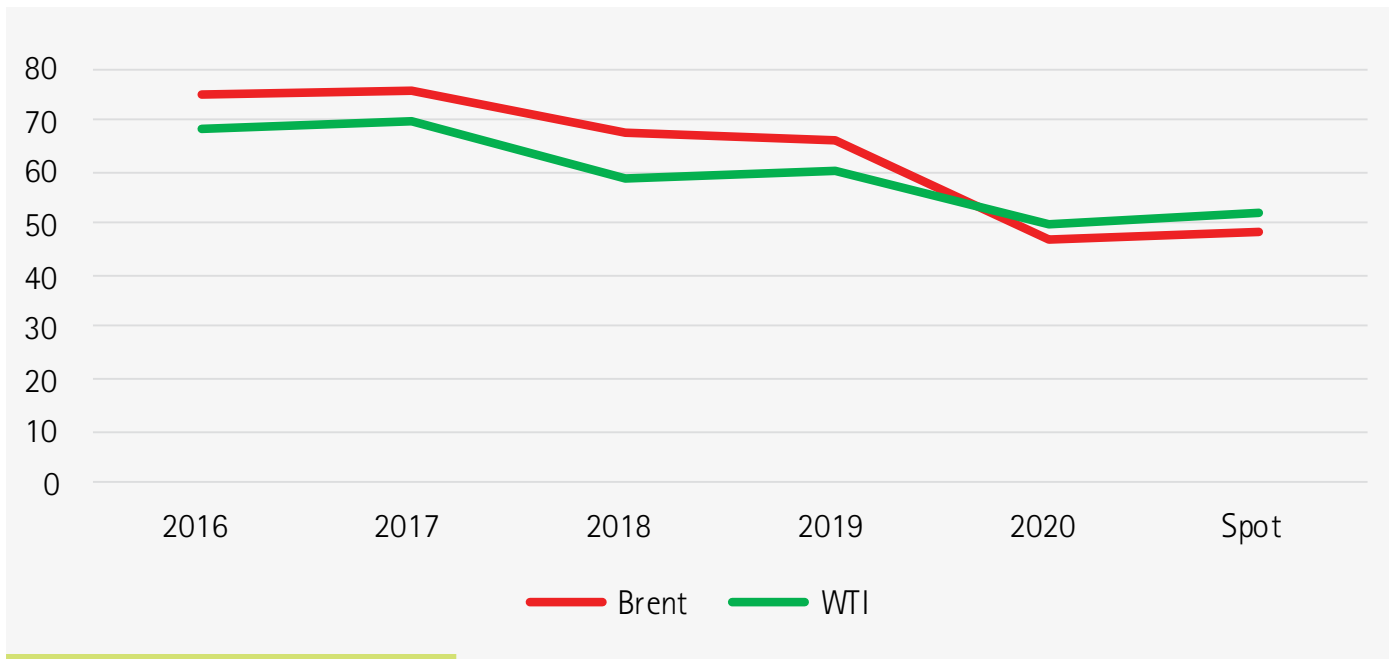
- In the Pilbara, the final investment decision by **Woodside on Scarborough** and the proposed plan to develop an integrated Burrup LNG hub is to be made in the second half of 2021. Given the more positive price outlook in the medium term the financial case for making the investments has become stronger.
- Moreover, Woodside has cleared the final major government approvals for Scarborough with the offer of production licences over their titles, securing “the key primary Commonwealth approvals required to support a final investment decision”. However, the Conservation Council of WA has introduced a legal action that aims to overturn environmental approvals granted 18 months ago, which Woodside Petroleum needs to defend.
- Woodside believes that Scarborough will produce US\$35 billion of net cash flow over its life and says its US\$16 billion plan to build a second LNG production train at its Pluto plant near Karratha will save about 30% in capital costs. Scarborough is tipped to create more than 3,200 jobs during construction and will require about 1,300 workers to operate once built.





Oil

OIL PRICES: 2016 to December 2020 (US\$/bbl.)



SOURCE: WORLD BANK AND OIL PRICE NOW

Some increase in prices, medium term prices may continue to increase, as COVID impact is reduced, long-term decrease in oil demand likely

- **Prices have risen** due firstly to an increase in demand, particularly in Asia, where governments have been more successful in containing the spread of the COVID-19. In this regard, China's total imports during the first nine months of the year jumped by 13%, despite the pandemic, as refiners bought up cheap crude oil from wherever they could.
- Prices have also been supported by cuts in production by OPEC + members and US producers, notably the shale oil extraction companies. There has been a **35% cut in spending on investments by oil and gas companies** in response to the effects that the COVID-19 pandemic is having on demand, according to the IEA.
- In the **medium-term prices are likely to increase** somewhat from current levels, however within 5 years it is possible that global oil demand will peak as renewables increase market share. In this regard Europe's large oil majors are moving into renewables and plan to reduce the contribution of oil to their earnings.

Renewables

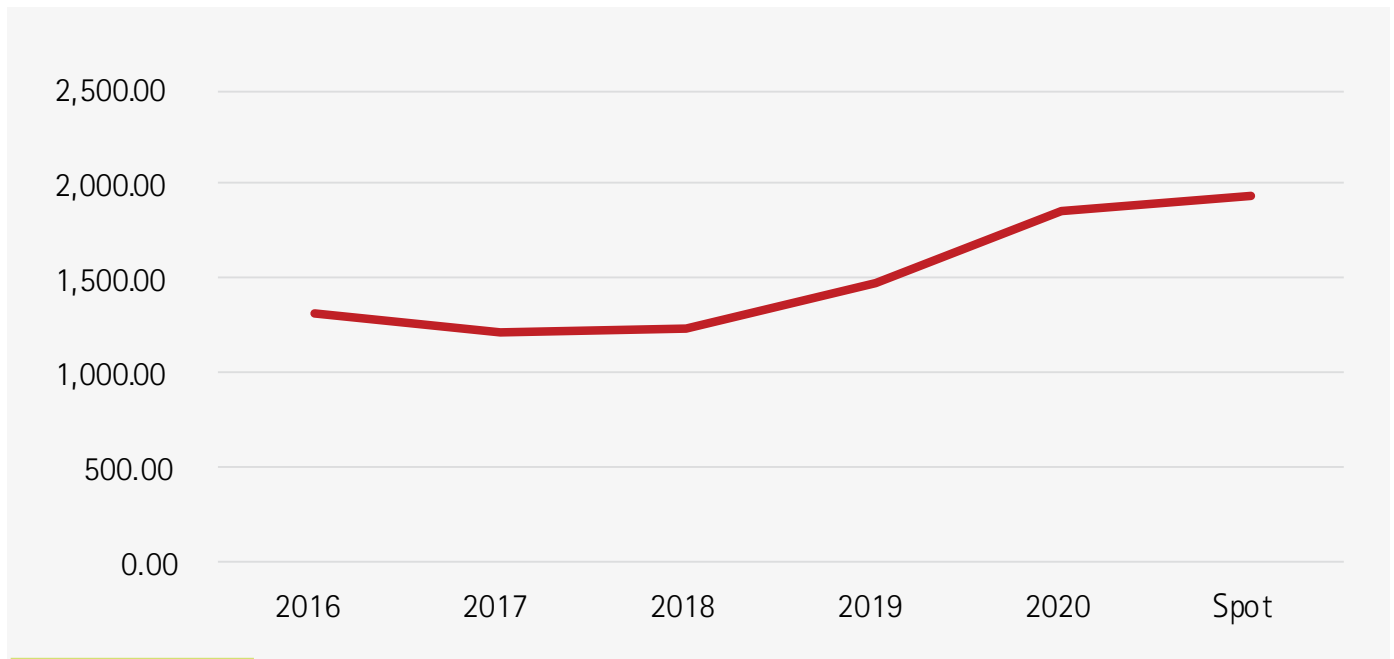
- The **global movement to eliminate fossil fuels** is gathering pace. Goldman Sachs has predicted that global capital spending on renewable energy will surpass fossil fuel capex for the first time ever in 2021. According to the investment banker, renewable power will reach 25% of the total energy supply capex in 2021, which will be more than hydrocarbons for the first time ever.
- The renewable energy sector will receive a major boost under the **incoming Biden administration with a US\$5 trillion clean energy plan** to enable the U.S. to achieve net zero status by 2050. Biden's plan calls for US\$1.7 trillion in federal spending over the next decade, with the balance coming from private sector investments.
- **In the UK** the government has pledged, as part of its plans for a "green industrial revolution" that it intends to end sales of new gasoline and diesel cars and vans by 2030, though hybrid vehicles can be sold until 2035.
- **China** plans to reach carbon neutrality by 2060, costing up to US\$5 trillion. China is the biggest emitter of carbon dioxide, but it is also the biggest investor in renewable energy projects.
- **In the Pilbara** the proposed \$US36 billion (\$51 billion) Asian Renewable Energy Hub aims to generate enough electricity from wind and solar farms to produce zero-emission green hydrogen for the local and export markets and has been awarded Federal Government "major project status". The approval of the Environmental Protection Authority marks a major step forward for the project, which plans to ramp up to 26GW from renewable wind and solar.
- **Fortescue Metals Group** intends to become a global giant of renewable energy aiming to develop green hydrogen and ammonia projects around the world.
- Newly released modelling predicts **at least 70% of WA's main electricity network will be fuelled by renewable energy in 2040**. Energy Minister Bill Johnston launched a landmark 20-year blueprint, known as the Whole-of-System Plan in December for the State's South West Interconnected System, and outlines that coal generated power will be scaled back by at least a third within four years.





Gold

GOLD PRICE: 2016 to December 2020 (US\$/oz)



SOURCE: WORLD BANK

Prices decrease slightly, increased investment and employment in the Pilbara continues

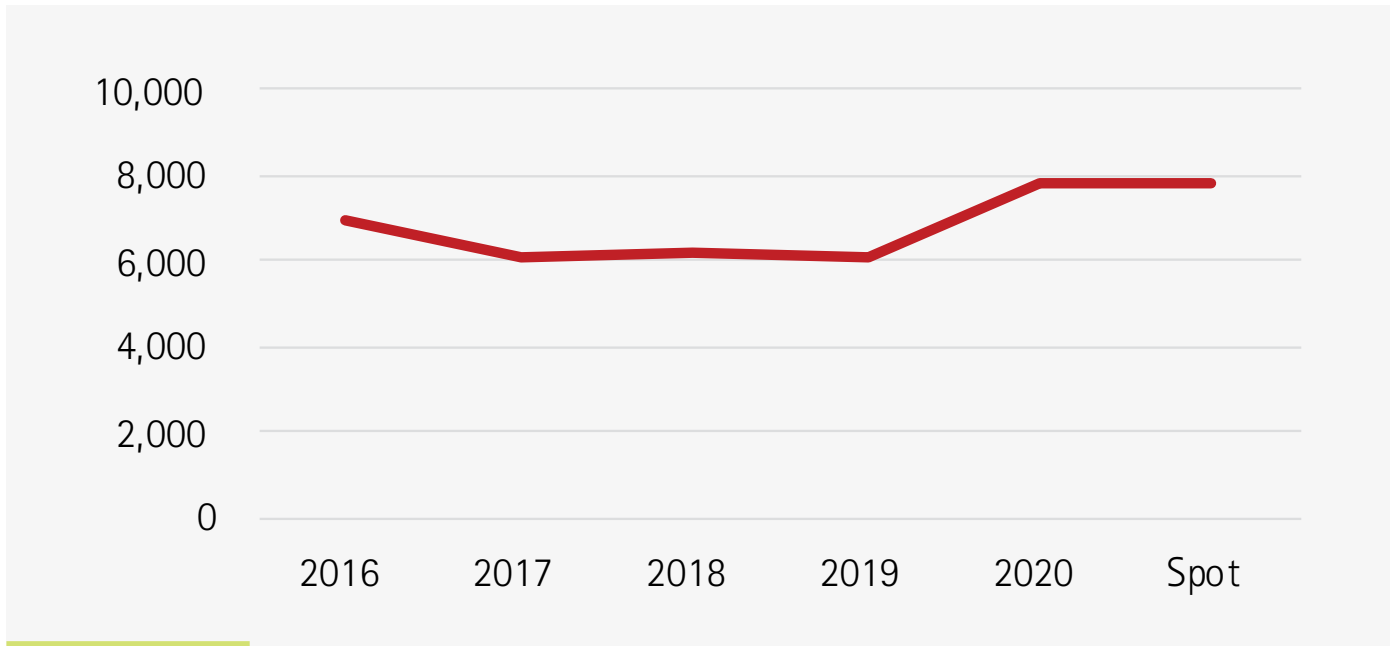
- **Gold prices decreased from very high levels in the December quarter**, as risks from COVID-19 in the medium term have decreased. Data from the Resources and Energy Quarterly indicate that gold earnings in Australia are expected to reach a record \$30b this financial year, up from \$24b last financial year. **Exploration for gold in Australia increased by 17% to \$356 million** compared with the 6% quarter-on-quarter increase across all minerals, according to Australian Bureau of Statistics data. Western Australia's minerals sector continues to lead the nation's expenditure. As the global economy recovers, the **gold price is forecast to fall** in 2021 and 2022; the price is expected to average US\$1,695 an ounce in 2021 and US\$1,560 an ounce in 2022.
- **Relatively high prices have continued to encourage additional activity in the Pilbara** with promising results:
 - **Aruma Resources** has commenced drilling at its Saltwater project in the Ashburton Basin, southwest of Newman.
 - **Calidus Resources** is moving towards its production start-up at the rapidly developing \$120 million Warrawoona gold mine in the East Pilbara and has identified a strategy to accelerate exploration work over the company's Pilbara tenure. Calidus has also added one of the richest-grade gold mines in the Pilbara to its portfolio of projects after striking a deal with Canadian miner Novo Resources Corporation for the Blue Spec gold mine near Nullagine.

- **Kairos Minerals** has had promising exploration results at its Croydon project, which in turn forms part of the company's overarching Pilbara gold projects "hub" about 100km south of Port Hedland.
- **Novo Resources** has found a new gold-bearing conglomerate reef discovery at its developing Beatons Creek gold project near Nullagine in the East Pilbara. Novo has also completed test work on the bulk samples from its Karratha gold project, successfully recovering fine nuggety gold from the conglomerate ores found at both the Purdy's Reward and Comet Well deposits.
- **Caeneus Minerals** has a number of drill targets across its Mallina tenure located in the emerging Pilbara goldfield, 50km southwest of Port Hedland. The company's extensive tenure of more than 475 square kilometres lies adjacent to De Grey Mining's developing multi-million-ounce gold discovery at Hemi.
- **Capricorn Metals** says it is on track to pour first gold by mid-2021 at its under-construction, stand-alone Karlawinda gold mine about 60km southeast of Newman, with the development proceeding on time and budget.
- **Newcrest Mining** has formed a joint venture with Greatland Gold at the Havieron gold-copper project, 45 kilometres east of its Telfer gold mine in Paterson Province.
- **CZR Resources** has made another high-grade discovery at the Top Camp prospect at its Pilbara-based Croydon project, located 75km west south west of De Grey Mining's major Hemi gold deposit.



Copper

COPPER PRICE: 2016 to December 2020 (US\$/mt)



SOURCE: WORLD BANK

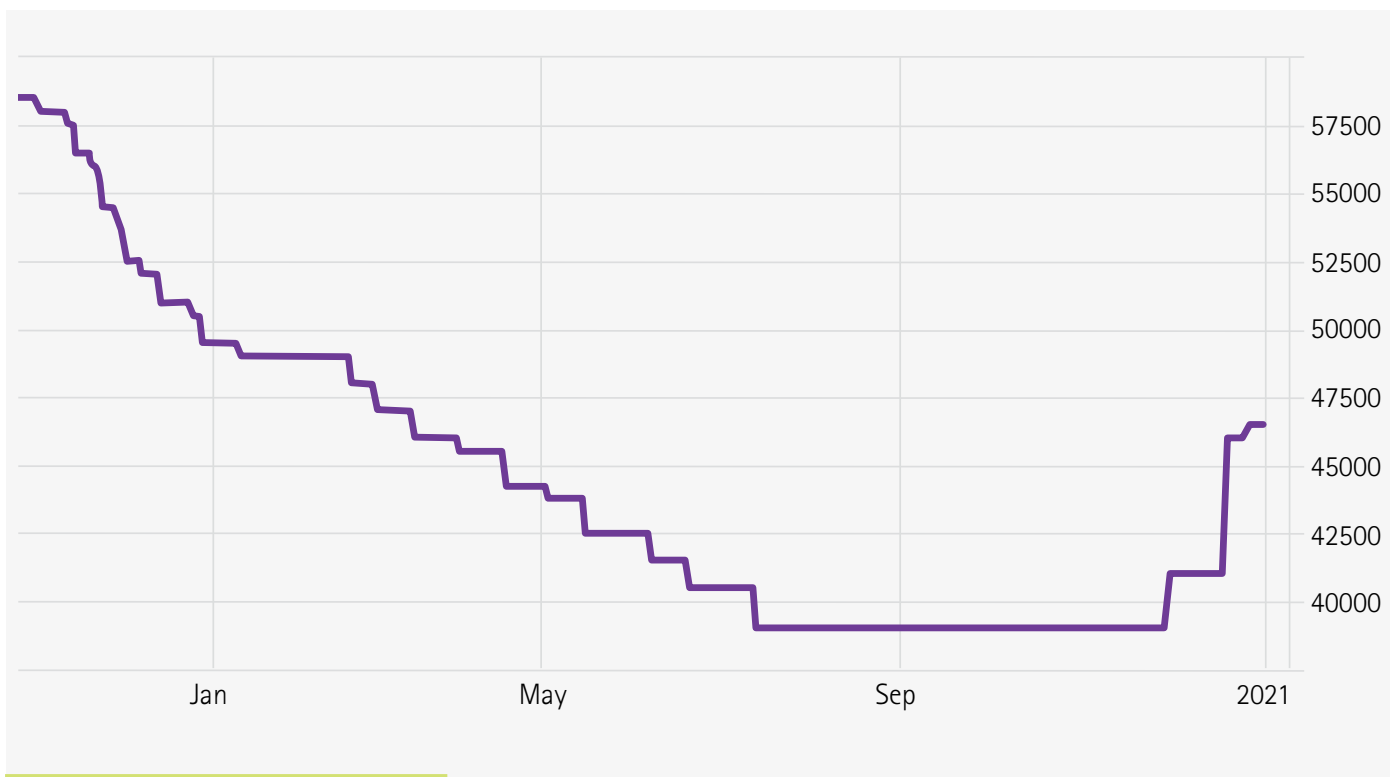
Prices rising further, large scale investments possible

- **Demand for copper has continued to increase sharply in the December quarter**, leading to significant price increases. The price for copper is anticipated to continue to rise to over US\$10,000 once the global economy starts to fully recover from the pandemic. In this regard, Goldman Sachs has forecast that copper will experience the tightest market conditions in a decade owing to a substantial supply deficit, followed by continued tight markets into 2022 and 2023.
- **New developments in the Pilbara include Azure Minerals** reporting good drilling results from its Andover joint venture project 30km south east of Karratha.



Lithium

LITHIUM CARBONATE PRICES: Jan–Dec 2020 (Lithium carbonate, 99.5% Li₂CO₃ min, battery grade, spot price c.i.f. China, Japan & Korea, \$/kg midpoint)

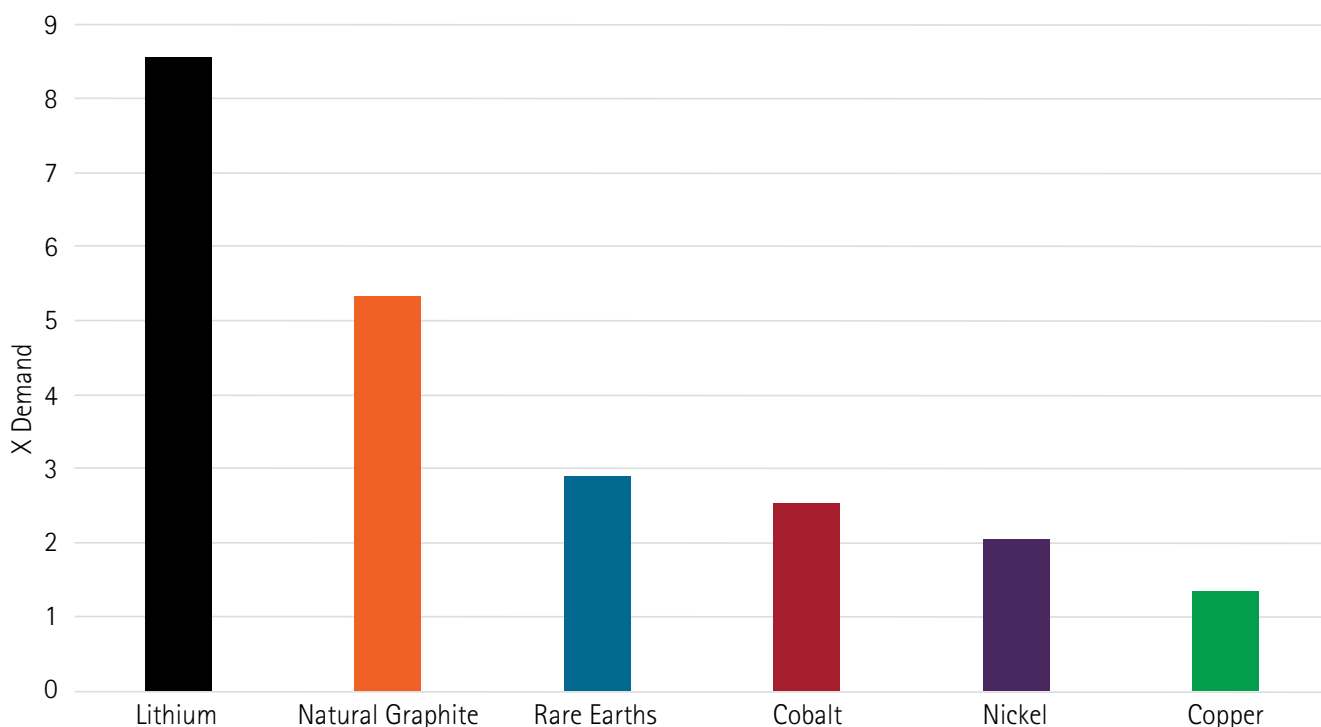


SOURCE: LONDON METAL EXCHANGE (LME)

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

- Lithium prices have flattened out and are starting to rise. Lithium producing companies are gearing up to increase production. The medium to long term prospects for lithium remain promising with demand increasing and a reduction in the raw material and production investment leading to prices increasing.
- According to UBS, lithium demand and production may need to increase 8-fold over the next 10 years. Meeting this rapid demand growth will be a major undertaking given lithium companies have reduced/delayed capital investment in the recent price pullback.

ESTIMATED GROWTH IN MARKET SIZE (DEMAND) TO 2030



SOURCE: UBS, 2020

- **Investment and production developments in the Pilbara include:**

- **Pilbara Minerals** increased production in the September quarter to 62,404t of spodumene concentrate, compared with 34,484t for the June quarter and reduced costs to \$US355/t. The company is bidding for the assets of failed lithium miner and Pilbara neighbour Altura Mining. In this regard, the company has entered a share sale agreement with receivers of Altura, which would give it control of the company's Pilgangoora lithium project.

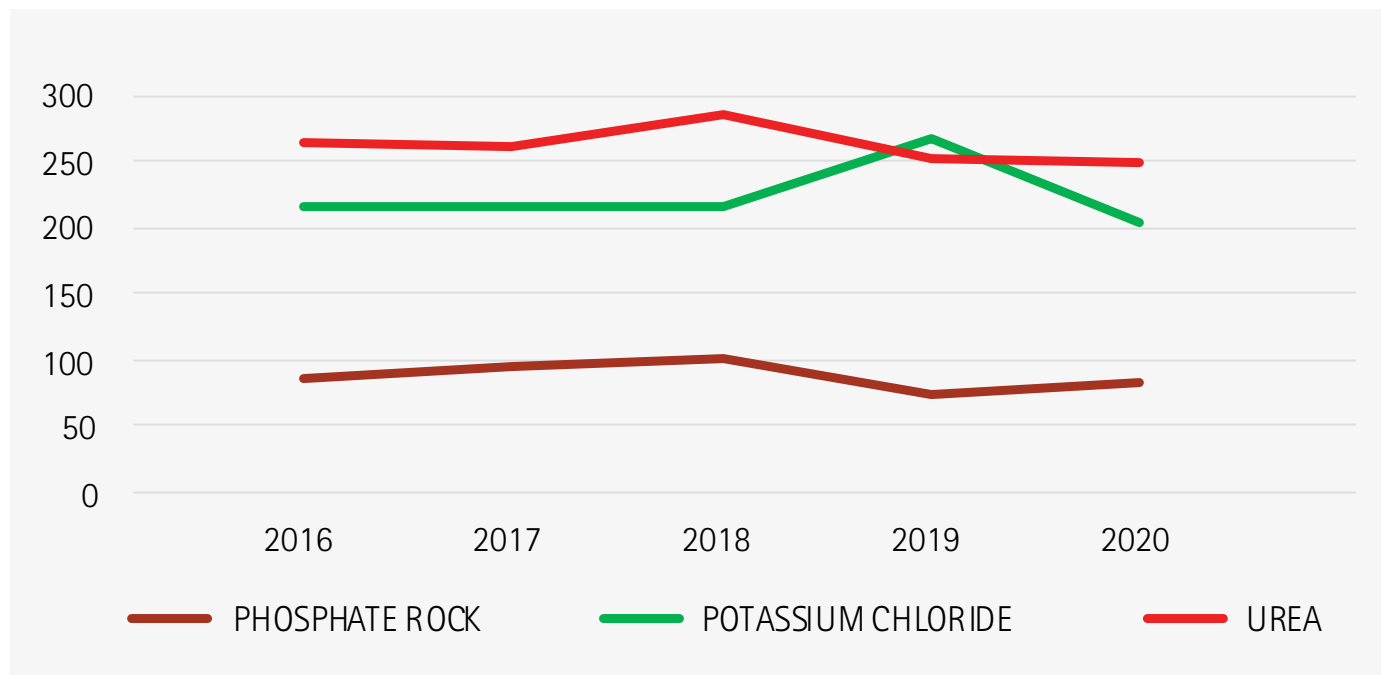
- In August, a joint report by the **WA Chamber of Minerals and Energy** and the **Association of Mining and Exploration Companies** called on the Government for royalty relief to ensure the sector's survival and to guarantee the State could sustain a viable lithium downstream processing industry. Three WA lithium miners will get a 50% royalty break for a year under a \$20 million State Government relief package that aims to ease pressure on the struggling sector. Pilbara Minerals, Galaxy Resources and the collapsed Altura Mining will be able to apply for the relief, which would need to be paid back over two years at the end of the 12-month scheme.





Fertiliser and Salt

FERTILISER PRICES: 2016 to December 2020 (US\$/mt)



SOURCE: WORLD BANK

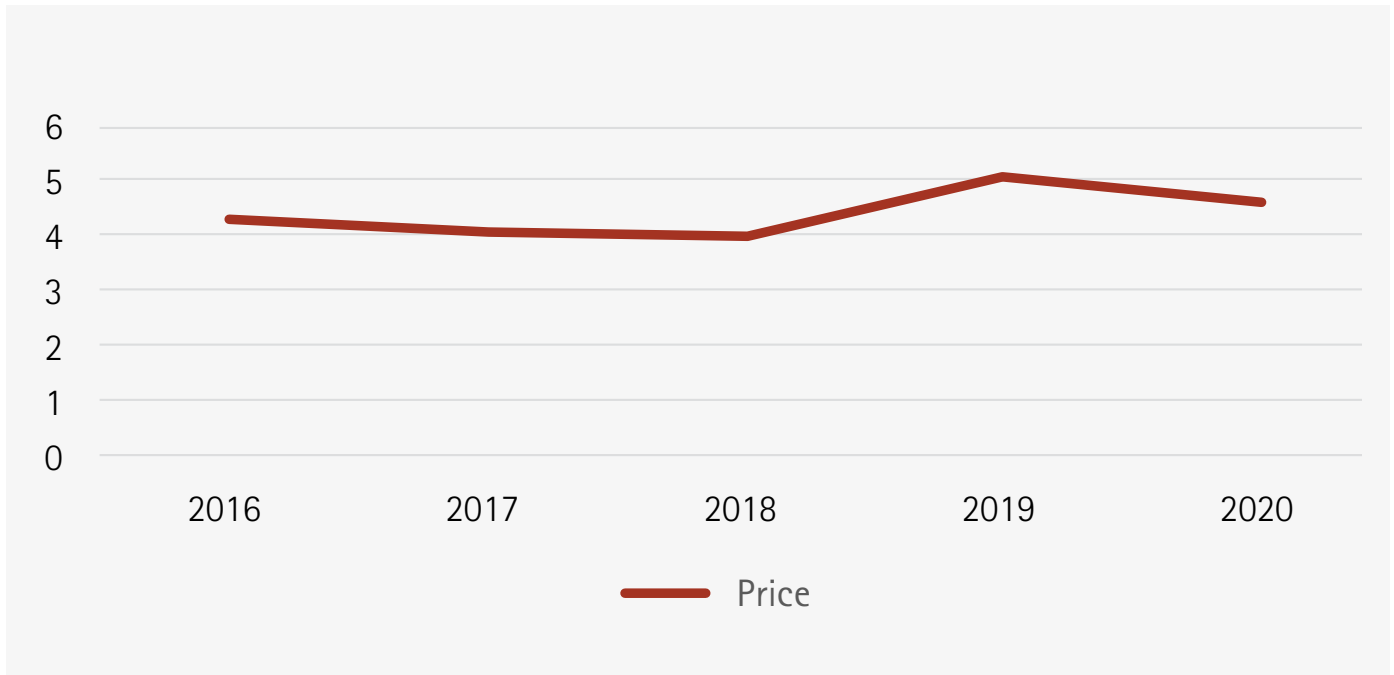
Urea prices stabilising, large-scale investments are taking place in the short to medium-term

- **BCI Minerals** has secured an essential \$450 million low-interest loan from the Federal Government to develop its Mardie salt and potash project near Karratha. It is the biggest loan to a WA company by the Government's Northern Australia Infrastructure Facility and represents a major milestone in the development of the \$779m project. The 15-year loan paves the way for BCI's board to make a final investment decision on the project in the second quarter of 2021.
- **The Kalium Lakes project** focused on developing the Beyondie Sulphate of Potash Project is on schedule and on budget. It is 63% complete and targets first production in the third quarter of 2021. The project is 160km southeast of Newman. In August Kalium Lakes announced a significant 200% boost to its mineral resource estimate.



Beef

BEEF PRICE: 2016 to December 2020 (US\$/kg)



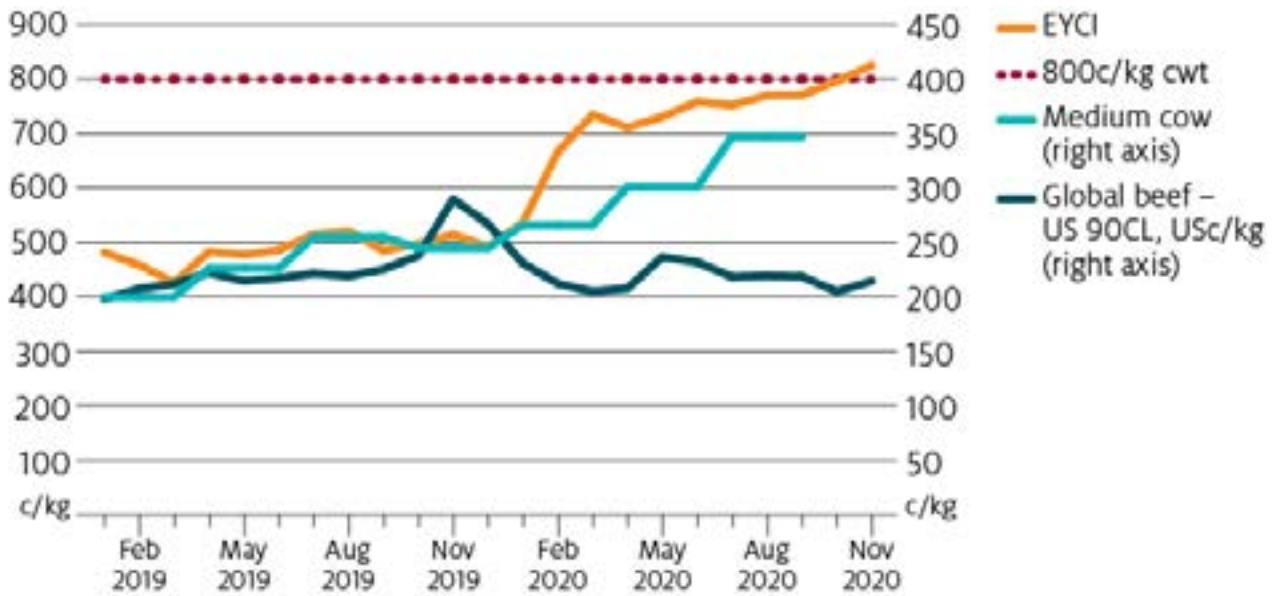
Global prices fluctuating at high levels, very high cattle prices throughout Australia

- While COVID-19 has disrupted some markets, both global and domestic demand for Australian beef remain stable and international demand for Australian red meat remains buoyant.

Manganese

- The global manganese market is estimated to grow strongly over the medium term due to the increasing demand of lithium-ion batteries. Increasing demand of electric vehicles is also likely to augment the market's growth. The Asia-Pacific region is expected to dominate the market during the forecast period.
- In the Pilbara, **Element 25** continues to close in on the scheduled production start-up of early 2021 at its Butcherbird manganese project. The company has now locked in mining contractors, while its new offtake partner, private equity firm and commodity trader Semeru Energy, will buy between 175,000 tonnes and 200,000 tonnes per annum of manganese ore.

AUSTRALIAN CATTLE (EASTERN YOUNG CATTLE INDICATOR) AND GLOBAL BEEF PRICES, JANUARY 2019 TO NOVEMBER 2020



SOURCE: MEAT & LIVESTOCK AUSTRALIA

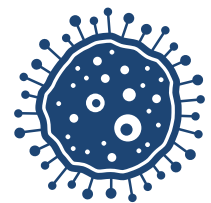
- Australian cattle prices are now the highest in the world** among major producers and the steep rise is posing a headache for the export industry as it looks to hold on to key customers in Indonesia and Vietnam. There are fears the sky-high prices will see Australia's two biggest cattle markets turn to Brazilian beef and Indian buffalo as cheaper alternatives. The break in the drought in the Eastern States has led to a restocking push that looks set to continue after the Bureau of Meteorology forecast a wetter than average spring for most of Australia.
- Meat & Livestock Australia (MLA) figures show 599,000 head of cattle were exported** in the six months to June 30, just 1% down on last year. However, exports to Indonesia fell 16% year on year to 254,000 head, while the Vietnam trade jumped 39% to 167,000 head. MLA expects 2020 cattle exports to fall 16% to 1.1 million head "fundamentally due to contracting supply in the northern regions of Australia". It is predicting that the size of the Australian cattle herd has bottomed out at about 24.5 million head, down from more than 29 million in 2012-13, and will grow to 26.5 million by 2022-23.



Other Investment News in the Pilbara

- **ANL has launched a new regular direct connection** between Singapore and Port Hedland for both containerised and break-bulk/out-of-gauge cargo, offering customers shorter supply chains, with reduced road haulage and the opportunity to source product more cost effectively from other parts of Australia via Singapore. As demand increases, ANL plans to have a number of vessels dedicated to the Pilbara, with increased frequency and accessibility to a range of ports in the region, including Dampier and Onslow.
- A **landmark five-star, 201-room, high-rise luxury hotel in Port Hedland** with a restaurant, bar and resort-style pool have been proposed, by transforming the Walkabout Hotel site on the Great Northern Highway. Construction is to start by the end of 2021, pending approvals.
- The Federal government has outlined details of a **\$1.5 billion Modern Manufacturing Strategy**, of which resources technology and critical mineral processing will be one of six key priorities. One focus of the strategy is battery technology and Australia's potential to move down the global battery manufacturing value chain. The Pilbara with its abundance of hard-rock lithium is well placed to be a major player in this space.
- **Port Hedland and its supply chain injected nearly \$55 billion into WA's economy in 2018/19** according to a recent PHIC report. For every full-time job directly employed by the port and the companies that trade through the port, a further two full-time jobs were created in other parts of the region's economy. **Pilbara Ports Authority (PPA)** has credited upgrades in infrastructure and technology for record iron ore shipments from its ports. Over \$324 million in capital investment has been spent at the PPA's Port of Port Hedland in the five years to 30 June 2020.

In the next issue of the Pilbara Quarterly Economic Update we will take a closer look at the impact of COVID-19 on the local Pilbara economy.



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