Aussie Mine 2019

Unmined Opportunities

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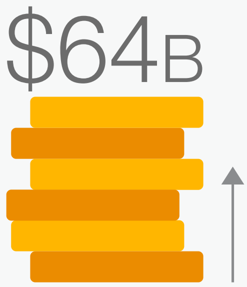
An overview of the MT50 in 2019

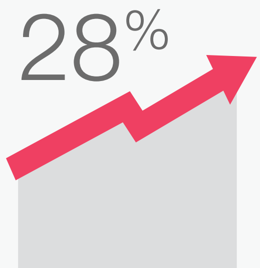
Overall it was a positive year for the group, however huge opportunities remain to help improve their standing.

Gold miners represent the largest group – making up a third

A big war chest – cash up to >$8B (up 11%)



Market capitalisation at $64B (up 9% from last year) – the highest in nearly a decade



Revenue continues to rise – 28% up from 2018

17% increase in exploration expenditure

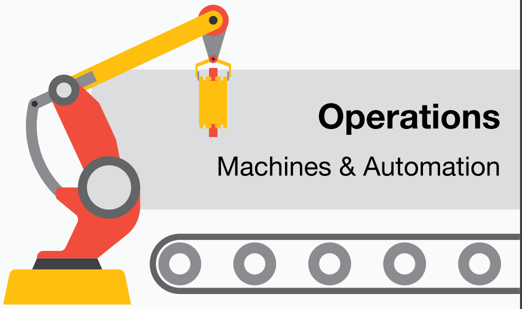
$7.3 billion of debt being repaid (almost double prior year)

Deal volume up to 25 transactions in 2019 vs 21 in 2018 (total deal volume $4.6B)

The unmined opportunities for the group

Strategy
Emerging Asia

Social license
E.S.G.



Operations
Machines & Automation

Regulation
Tax Transparency

Challenges

- Operating costs up 39%
- Trust & Transparency a growing challenge
- Weaker coal, copper and lithium prices
- CapEx slowed to 15% this year (vs 28% last year)
- Gross Margin down 6%, with falls of 21% for copper, 14% for gold
- Diversified companies saw a drop of 21% in operating cash flows
- Impairment reversals low: only 1 company recognising a reversal in 2019

Overview

We're pleased to present the 14th edition of Aussie Mine, 'Unmined Opportunities'.

Aussie Mine provides industry and financial analysis on Australia's mid-tier mining sector as represented by the mid-tier 50 (MT50) – the largest ASX mining companies with a market capitalisation of less than $5 billion at 30 June 2019.

Some of the highlights from this year's group include:

- Collectively, market capitalisation has continued to grow for the MT50, increasing by 9% to $64 billion. This is the highest it's been for any of our MT50 since the boom times of 2011. Individual commodities - lithium and coal in particular - have faced some challenges leading to the top four companies feeling the pain from a substantial decrease in market capitalisation over the year. In fact, the market capitalisation of almost half (24) of the MT50 fell this year, compared with only four last year, 17 in 2017 and 13 in 2016 – hopefully not a 'canary in the coal mine' situation for future years.
- On one level, the industry is enjoying pricing not seen for nearly a decade. A significant strengthening of prices across select commodities has driven a 28% increase in revenue period on period, and a 46% increase in profit before tax. Impairments have also continued to drop, down 31% to their lowest levels since 2011. However, overall gross margin percentage fell 6% as increases in revenue have not translated into lower per unit operating costs.
- Healthier balance sheets as a result of repayment of debt and rewarding shareholders with payment of dividends, yet cash in the vault is up 11%.

Australia's mid-tier mining sector has continued along a growth trajectory that began in 2017, bolstered by improving gold and iron ore prices. Still, we believe significant opportunities for the MT50 remain:

- New export markets in emerging Asian nations;
- Turning the dial in elevating mining's brand through effective ESG reporting;
- Increasing competitiveness and safety through decision automation;
- Focussing on good corporate citizenship through implementing best practice to pay their fair share of taxes, ensure smooth ATO audits and avoid penalties.

Forty-five of the MT50 are in production (up from 35 in the prior year) and make up 96% of the list's market capitalisation. While overall, producers saw their market capitalisation increase by 17% on average, it was a story of mixed success with many rising standouts in gold and some in iron ore but mostly falls among the coal and lithium producers.

The escalation of the US-China trade tensions, which is likely to continue at least for the short term, presents a significant risk to the global outlook and uncertainty for Australian miners. The increasing unpredictability in trade policies has helped fuel what the Organisation for Economic Cooperation and Development (OECD) is forecasting to be a slowing in global economic growth from 3.6% in 2018 to 2.9% and 3.0% growth in 2019 and 2020, respectively. Growth in China and India is predicted to fall by 0.9% and 0.5%, each, moving into 2020. Further, the ongoing uncertainty over Brexit and other geopolitical problems will lower business and consumer confidence over the coming year, as seen in our Global CEO survey where 81% of executives cited geopolitical uncertainty as a major risk to growth. These external global factors are having an increasing direct impact on demand and prices in both directions.

There are opportunities, and Australian mid-tier miners are in a good position to use their banked capital and convert recent balance sheet discipline and increases in production into longer-term competitive advantage. The question is, will they?

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1. PwC Global CEO Survey, 2018

Contents

The MT50

The 50 largest mining companies listed on the Australian Securities Exchange with a market capitalisation of less than $5 billion as at 30 June 2019, with an average market capitalisation of just over $1.2 billion.

2019 Rank	Change to 2018 rank	Company Name	Primary Commodity	Producer	Market Capitalisation at 30/06/2019 $AUDm	Market Capitalisation change 2018 to 2019
1	-	Iluka Resources Ltd	Mineral Sands	✔	4543.04	-3.5%
2	Returning	Yancoal Australia Ltd	Coal	✔	4119.77	-33.1%
3	Returning	MMG Ltd	Diversified	✔	4015.00	-47.3%
4	Returning	Whitehaven Coal Ltd	Coal	✔	3630.81	-36.7%
5	New	Coronado Global Resources Inc.	Coal	✔	3508.46	-
6	▼ 1	OZ Minerals Ltd	Copper	✔	3248.38	7.8%
7	▲ 4	Saracen Mineral Holdings Ltd	Gold	✔	3019.12	68.5%
8	▼ 2	Mineral Resources Ltd	Iron Ore	✔	2807.00	-6.3%
9	▼ 5	Independence Group NL	Diversified	✔	2787.06	-7.6%
10	▼ 3	Regis Resources Ltd	Gold	✔	2681.54	3.8%
11	▼ 1	OceanaGold Corporation	Gold	✔	2428.93	4.9%
12	▼ 3	New Hope Corporation Ltd	Coal	✔	2252.73	-9.4%
13	▼ 5	St Barbara Ltd	Gold	✔	2045.22	-18.7%
14	▼ 2	Lynas Corporation Ltd	Rare Earths	✔	1716.25	10.7%
15	▲ 4	Alacer Gold Corp.	Gold	✔	1461.75	99.2%
16	▲ 4	Champion Iron Ltd	Iron Ore	✔	1303.30	135.6%
17	▲ 4	Mount Gibson Iron Ltd	Iron Ore	✔	1150.94	141.3%
18	▼ 4	Sandfire Resources NL	Copper	✔	1067.45	-26.4%

2019 Rank	Change to 2018 rank	Company Name	Primary Commodity	Producer	Market Capitalisation at 30/06/2019	Market Capitalisation change to 2018 to 2019
19	▲ 23	Silver Lake Resources Ltd	Gold	✔	1026.81	239.6%
20	▼ 2	Resolute Mining Ltd	Gold	✔	1012.06	7.1%
21	▼ 8	Pilbara Minerals Ltd	Lithium	✔	1009.02	-33.1%
22	▲ 5	Zimplats Holdings Ltd	Diversified	✔	888.01	37.5%
23	▲ 3	Gold Road Resources Ltd	Gold	✔	869.20	33.9%
24	▼ 3	Kidman Resources Ltd	Lithium		761.02	-1.3%
25	▼ 10	Orocobre Ltd	Lithium	✔	737.93	-45.3%
26	▼ 2	Westgold Resources Ltd	Gold	✔	729.66	8.6%
27	▲ 8	Perseus Mining Ltd	Gold	✔	682.96	53.5%
28	▼ 6	Jupiter Mines Ltd	Manganese	✔	675.85	-9.9%
29	**New**	Nickel Mines Ltd	Nickel	✔	633.08	-
30	▼ 11	OM Holdings Ltd	Manganese	✔	604.09	-33.9%
31	▼ 14	Western Areas Ltd	Nickel	✔	537.52	-44.7%
32	▼ 16	Galaxy Resources Ltd	Lithium	✔	501.44	-59.4%
33	▲ 7	Ramelius Resources Ltd	Gold	✔	476.96	55.6%
34	▼ 1	Aurelia Metals Ltd	Diversified	✔	429.60	-11.9%
35	**New**	Stanmore Coal Ltd	Coal	✔	364.93	66.6%
36	**New**	Bellevue Gold Ltd	Gold		350.72	417.3%
37	▼ 17	Syrah Resources Ltd	Graphite	✔	303.14	-64.7%
38	▲ 1	Tribune Resources Ltd	Gold	✔	302.49	-4.7%
39	**Returning**	Grange Resources Ltd	Iron Ore	✔	300.91	48.6%
40	**New**	Highfield Resources Ltd	Potash		288.33	16.7%
41	▲ 6	West African Resources Ltd	Gold	✔	282.56	7.6%
42	▼ 5	Base Resources Ltd	Mineral Sands	✔	279.99	-15.8%
43	▲ 2	Brockman Mining Ltd	Iron Ore		274.44	-5.5%
44	**New**	TerraCom Ltd	Coal	✔	259.27	65.4%
45	▼ 20	New Century Resources Ltd	Zinc	✔	245.28	-62.9%
46	▼ 18	Altura Mining Ltd	Lithium	✔	244.43	-58.7%
47	**New**	Alkane Resources Ltd	Gold	✔	230.27	97.8%
48	**New**	Image Resources NL	Mineral Sands	✔	228.43	99.8%
49	**New**	Red 5 Ltd	Gold	✔	223.77	122.7%
50	▼ 4	Flinders Mines Ltd	Iron Ore		219.57	-19.5%

MT50 Movers and Shakers

A healthy variety of commodities has joined the ranks of the MT50, while some telling companies have graduated from the class in 2019.

Graduates (>$5B market cap)

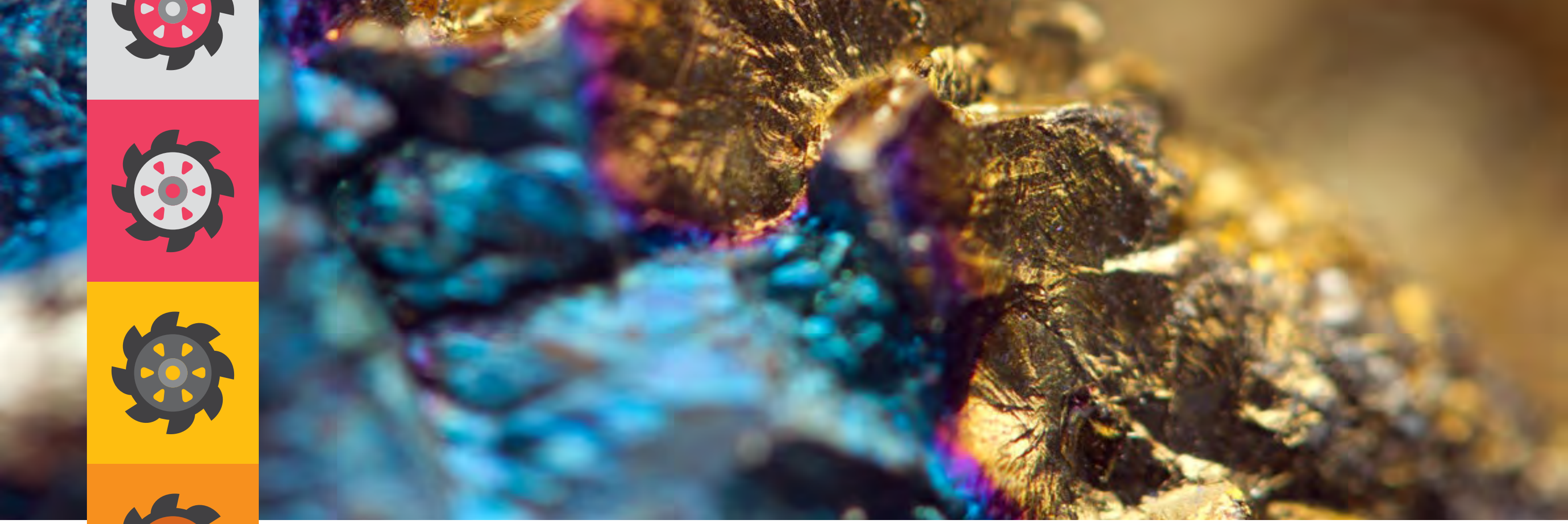
- AngloGold Ashanti
- Northern Star Resources Ltd

New Entrants

- Alkane Resources Ltd
- Bellevue Gold Ltd
- Coronado Global Resources Inc
- Highfield Resources Ltd - Potash
- Image Resources NL - Mineral Sands
- Nickel Mines Ltd - Nickel
- Red 5 Ltd - Gold
- Stanmore Coal Ltd
- TerraCom Ltd

Returning Entrants

- Grange Resources Ltd - Iron Ore
- MMG Ltd - Diversified
- Whitehaven Coal Ltd
- Yancoal Australia Ltd



MT50 in perspective

It's been a mixed year for the MT50 in terms of commodity prices. A standout performance for gold and iron ore contrasted with weaker coal, copper and lithium prices.

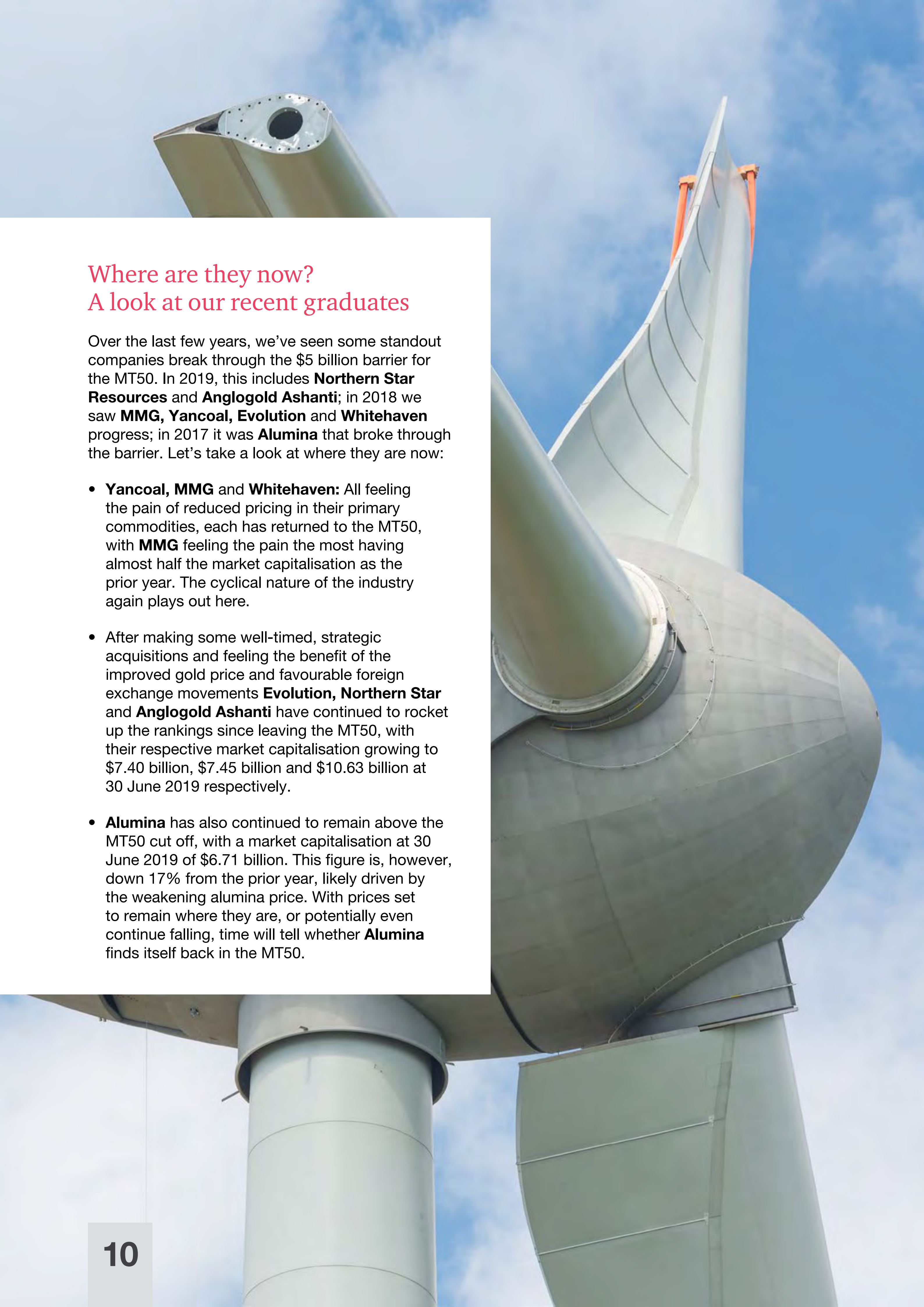
Strong gold and iron ore prices improved the presence of these companies within the MT50. Gold miners continue to represent the largest group in the MT50, making up a third.

The falling coal price resulted in ex-MT50 graduates **Yancoal** and **Whitehaven** returning to the list, and with the listing of **Coronado** during the year, coal dominates the top five. Some challenges in Peru and a reversal of copper prices saw **MMG** slip back into the MT50, ranking third by market capitalisation.

The top line continued to grow for the MT50 with revenues up 28%. Leading the charge was coal and iron ore, with gold for the first time in a while having a more subdued impact on the uptick of revenue. Revenue lifted off the back of a favourable pricing environment across most commodities and improved production levels.

Compared to 2018, market capitalisation has grown 9% from $59 billion to $64 billion. This growth is the highest since of 2011, showing the industry has well and truly recovered over the last three years. Leading the way has been gold and iron ore miners, with more favourable prices over the year, and some timely acquisitions and mine performance improvements.

Surprisingly, headroom of market capitalisation over net assets has decreased by 21% to $18 billion compared to the prior year, as net assets grew at a higher pace than market capitalisation. This 21% drop reflects a healthier balance sheet of the collective MT50. This wasn't consistent across all commodities, however, with the market capitalisation of gold, diversifieds and iron ore miners outstripping net assets, following improved investor sentiment.



Where are they now? A look at our recent graduates

Over the last few years, we've seen some standout companies break through the $5 billion barrier for the MT50. In 2019, this includes **Northern Star Resources** and **Anglogold Ashanti**; in 2018 we saw **MMG, Yancoal, Evolution** and **Whitehaven** progress; in 2017 it was **Alumina** that broke through the barrier. Let's take a look at where they are now:

- **Yancoal, MMG** and **Whitehaven:** All feeling the pain of reduced pricing in their primary commodities, each has returned to the MT50, with **MMG** feeling the pain the most having almost half the market capitalisation as the prior year. The cyclical nature of the industry again plays out here.

- After making some well-timed, strategic acquisitions and feeling the benefit of the improved gold price and favourable foreign exchange movements **Evolution, Northern Star** and **Anglogold Ashanti** have continued to rocket up the rankings since leaving the MT50, with their respective market capitalisation growing to $7.40 billion, $7.45 billion and $10.63 billion at 30 June 2019 respectively.

- **Alumina** has also continued to remain above the MT50 cut off, with a market capitalisation at 30 June 2019 of $6.71 billion. This figure is, however, down 17% from the prior year, likely driven by the weakening alumina price. With prices set to remain where they are, or potentially even continue falling, time will tell whether **Alumina** finds itself back in the MT50.

Unmined opportunity …in strategy

India, the “forgotten other superpower” and the emerging Southeast Asian nations

Australian miners should view India and emerging Southeast Asia nations (Vietnam, Indonesia, Philippines, Malaysia and Thailand) as a significant destination for MT50 commodities. Together these countries have the largest concentration of middle-income population in the world; they present enormous opportunity.

Middle-income countries typically become more ‘metals intensive’ as they develop. This is particularly apparent during periods of rapid economic growth. ‘Industrial’ (as opposed to precious) metals are used in the construction of buildings and infrastructure that are required for urbanisation. As household incomes grow, demand for durable consumer goods (with a high metal content) such as vehicles, and whitegoods also increases.

China is an example of an emerging middle-income nation that has recently gone through rapid growth in metals intensity. China’s massive spending on construction and infrastructure, as well as its focus on developing its manufacturing industry, contributed to this growth which has been a lifeline for the Australian economy.

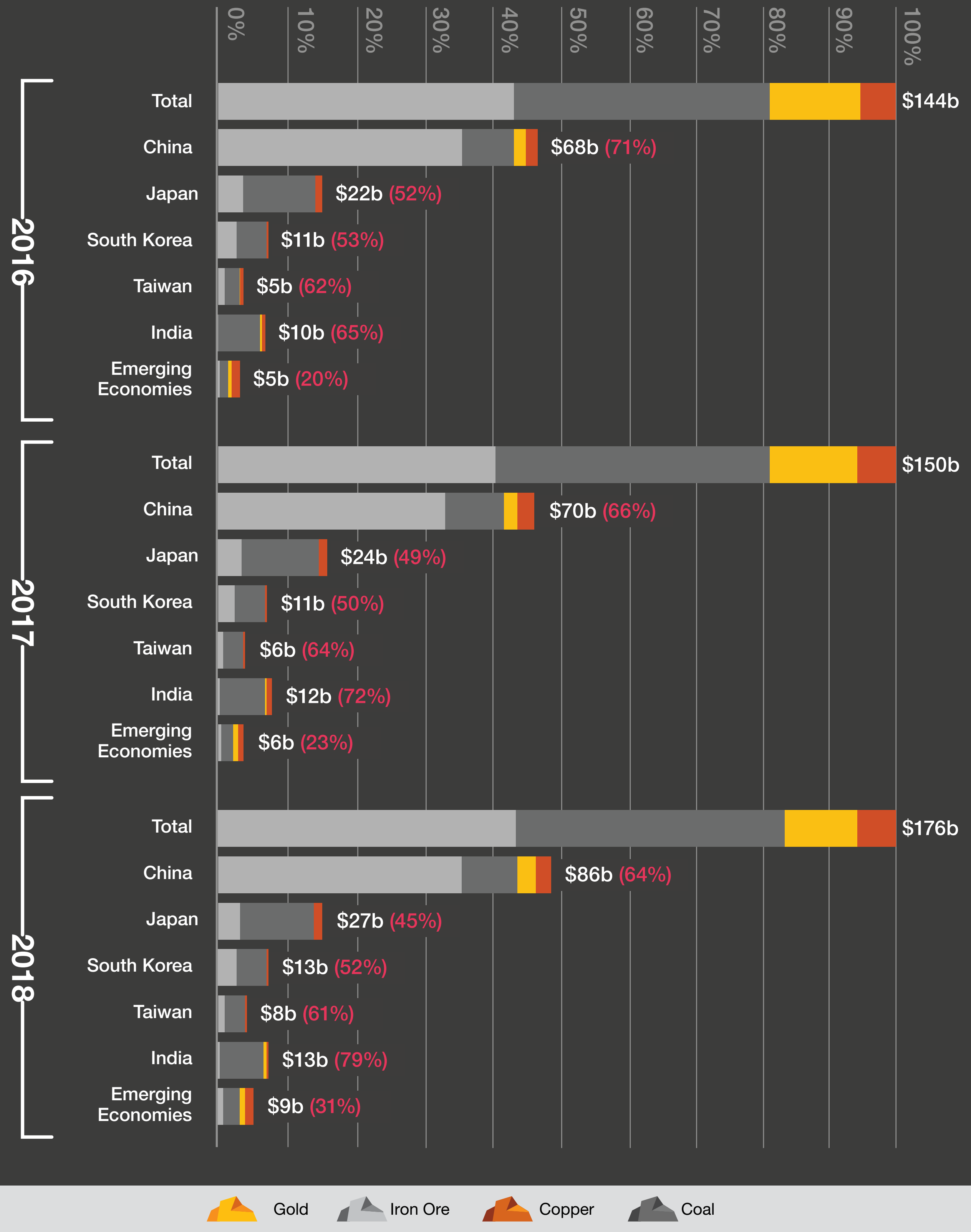
In FY2019, the value of Australia’s resource exports to China was $65.7 billion.

Policy changes in China may impact MT50 companies in the medium term – particularly those selling bulk commodities. Changes in China’s energy mix, developments in the country’s import policies and domestic coal markets are likely to drive ongoing volatility in coal prices. In the longer term, this change in energy mix may reduce demand for Australian coal, impacting MT50 producers.

China is the largest producer of steel in the world, and the total value of Australian iron exports shipped to China in 2018-19 grew to $51.4 billion, representing 81% of total iron ore exports. Yet, according to many sources, China’s iron ore imports are expected to decline as the country continues to pivot towards greater use of scrap steel. This, coupled with China’s stringent environmental regulations and expected reductions in steel mill capacity, represent key risks to Australian iron ore mines. While this trend mostly impacts bigger miners, the MT50 will be monitoring it carefully, and should be looking to other Asian markets for future growth.

Total Australian Mining Exports

(and the % share of their mining imports from us)

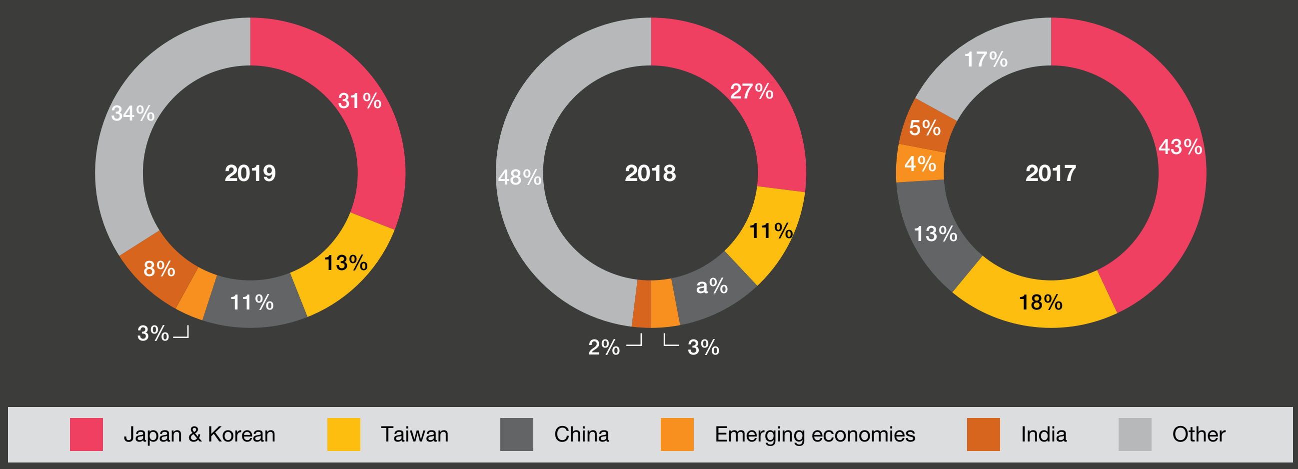


India should not be an afterthought: currently accounts for only 7% of Asian exports

Significant opportunity remains with other SE Asian countries (i.e. Vietnam, Indonesia, Philippines, Thailand, and Malaysia) where we have just 31% share of their mining imports.

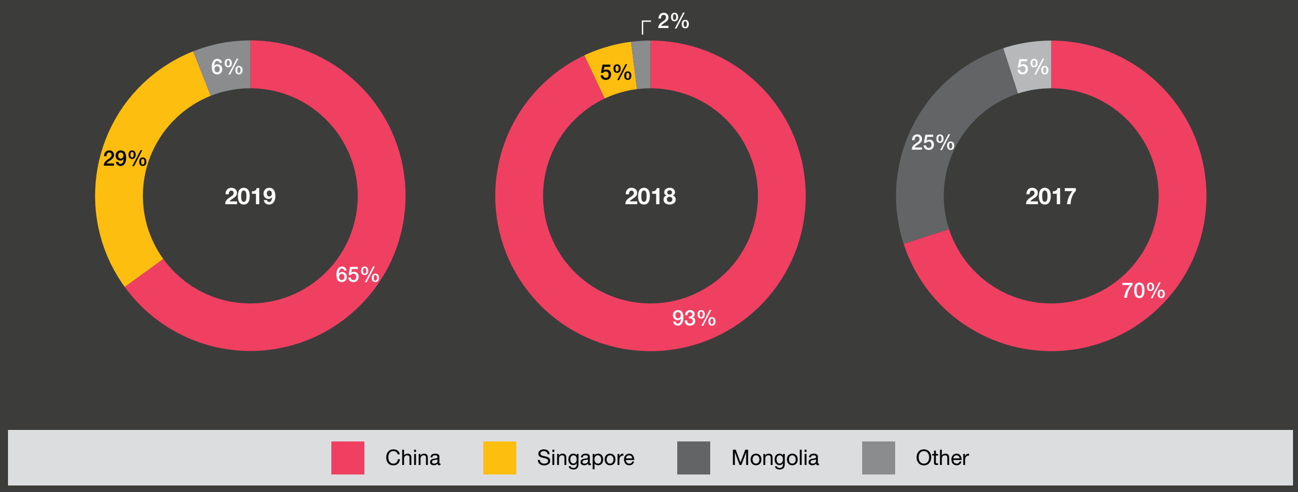
Our share of China's and Japan's mining imports have slipped from 71% to 64%, and from 52% to 45%, respectively in the past 3 years.

MT50 Coal Exports



Source: Department of Foreign Affairs and Trade (DFAT)

MT50 Iron Ore Exports



Source: PwC collation; 2019 Aussie Mine analysis

While China will remain the key export nation for iron ore, our analysis highlights the opportunity for India and emerging Southeast Asian countries as potential customers for the MT50.

Rare Earths opportunity

China accounts for 80% of the global mined supply of rare earths to the US. With the ongoing US-China trade tensions, the US launched the Energy Resource Governance Initiative (ERGI) in June in an effort to break up China's dominance over the supplies of these critical minerals.

While this would present huge export opportunities in markets such as the US and emerging Asia, an immediate challenge is the lack of downstream processing in Australia for rare earths and other critical minerals that need significant refining.

One possibility of addressing this issue industry experts suggest, is establishing a consortium between government, defence firms and critical minerals companies to identify commercial opportunities, covering offtake agreements, debt finance, direct investment into projects, and developing new downstream processing capabilities, in, for example, Australia, the US or emerging Asia.

? The unmined opportunity question

Have we sufficiently mined the strategic offtake opportunities of emerging Asian countries?

Unmined opportunity …in social licence

Dig for trust: How Environmental, Social Governance (ESG) reporting can elevate the perception of mining

Trust and transparency are more important now than ever. With the global and local spotlight on climate change, mining has been subject to controversy and increasingly negative press. The industry has too often been cast as the villain, as bad news coverage dominates media channels, coupled with limited transparency and voluntary reporting around sustainability and ESG.

One of the most noticeable trends in mining has been the move of voluntary government ESG requirements into mandatory obligations. While the onus lies on the global mining leaders to set the pace, smaller miners such as the MT50 are also experiencing closer scrutiny.

This group have an unmined opportunity to embrace the ESG reporting criteria that matter. Doing so will bring transparency to their sustainability and environmental impact, and better influence the industry narrative.

Being on the front foot will go a long way in helping improve public image as a good corporate citizen. The industry currently sits at the high end on environmental and social risk according to S&P Global's ESG Risk Atlas[2] and have much to "prove to/show the world".

The money is also starting to talk, with Fitch ratings coming out to say that "natural resources companies are more likely to have their credit rating affected by ESG issues… such as water consumption and community relationships…".[3] A shift in the long-term focus of investment funds taking a "green approach" by incorporating ESG-related components into the value equation is also a crucial driver.

In terms of operations, a strong social brand will benefit MT50 companies by attracting quality employees in the war for talent.

To deliver trust and transparency, the MT50 needs to put rigour behind reported non-financial information so it is not misconstrued as 'lip service'.

> "Excellence in ESG performance and social licence to operate is no longer something that's nice to have – it's a pre-requisite for any modern mining company.
>
> **Karl Simich – Managing Director and CEO, Sandfire Resources NL**

2. https://www.spglobal.com/en/research-insights/articles/esg-industry-report-card-metals-and-mining

3. https://www.afr.com/companies/mining/esg-is-top-challenge-for-big-miners-says-blackrock-boss-20190617-p51yd2

But which ESG criteria should socially responsible MT50 companies report on? The Australian Council of Superannuation Investors (ACSI), the UN's Sustainable Development Goals (SDG's) and Sustainalytics (an independent research and analysis provider) have both assessed companies on their ESG reporting using a set of criteria. These can be summarised as:

Corporate governance | Environmental and Climate-Change | Occupational Health & Safety | Human Capital | Community Relations

What's being said now

"It's an industry in an existential fight and they will do whatever they can to survive. They are making impossible a transition that will make the rest of the economy resilient with the inevitability of climate change."

Brynn O'Brien, Executive Director - Australasian Centre for Corporate Responsibility

"...companies fail to communicate sustainability as an integral part of the decision-making that drives business value. They share sustainability information in ways that reinforce the misconception that environmental, social and governance issues are extra-financial and not material."

Ceres (Sustainable business trade organisation)

''I think this whole footprint of resource production needs to be better portrayed by the companies so they can keep their place in the market"

Evy Hambro - BlackRock

"Excellence in ESG performance and social licence to operate is no longer something that's nice to have – it's a prerequisite for any modern mining company."

Karl Simich, Chief Executive Officer - Sandfire Resources

"ESG creates value once you understand the risks."

Andrew Gray, Head of ESG Research - AustralianSuper

"Some of the world's worst climate criminals are gathering in Melbourne."

A protester advocate post regarding IMARC

What the conversation could be

"Mid-tier Aussie miners create another thousand jobs for the indigenous community."

"The mayor of Greentown says Miner X has transformed their community for the better through sustainable methods."

"National Green Leader says she is proud of the efforts Aussie miners have made in generating prosperity for Australians in a carbon sensitive way."

"High school students turn their preferences to Mining relevant studies"

"Miners become the employer of choice for Australia's digital graduates with safety records at an all-time high."

"All Australians understand mining is essential, providing raw minerals to manufacture renewable energy components for solar panels and batteries. No mining = no renewables."

"Sustainable mining is now 'hip'. Technologists, mining, planning, climate change experts all working closely on a shared goal towards renewable energy sources."

> "IGO's purpose of Making a Difference recognises that the sustainability of our business is dependent on the support of all our stakeholders, including our employees, local communities, regulators, Traditional Owners and shareholders."
>
> **Joanne McDonald, Company Secretary, Independence Group NL**

Where are we now?

The top half of the MT50 have come a long way in recent years and are now more comprehensive in their ESG reporting, according to a recent ACSI study, of the ASX200, with only one of this top half still having 'No reporting'.[4] Our analysis of the full MT50, with a three year review shows:

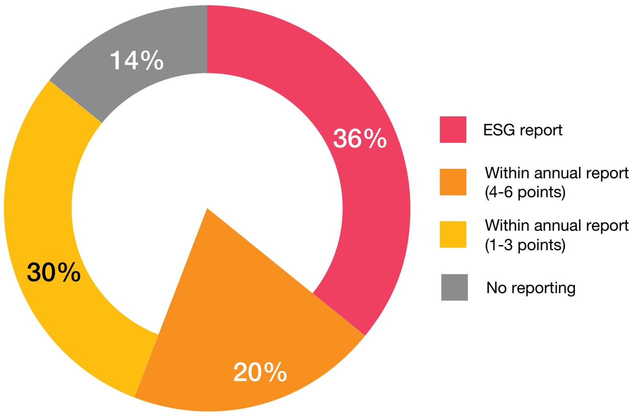
- 18 (36%) now provide seperate ESG reporting versus five (10%) in 2016
- there's still significant variation in the level of detail provided
- while an improvement from 15 in 2016, there are still seven (14%) of the group not reporting on any ESG items.

Where to from here?

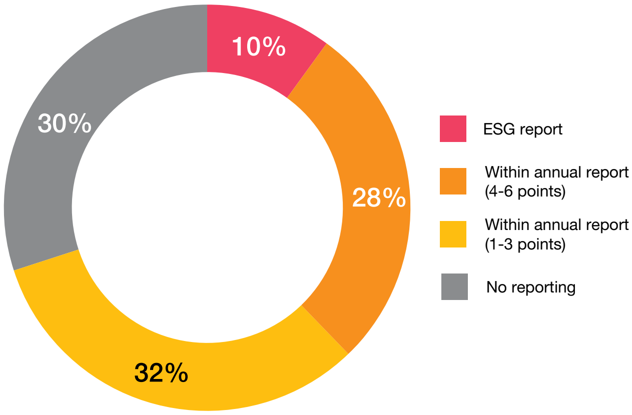
To elevate mining's narrative and benefit from the unmined opportunity in Social Licence, the extent and consistency of ESG reporting needs to improve; with the MT50 ranging from a few sentences in the annual report through to 50 page separate ESG reports. Numerous agencies, including the International Council of Mining and Metals (ICMM) have frameworks in line with the UN's Sustainable Development Goals (SDGs) to assist companies with their sustainability reporting. These are similar to the areas previously outlined above.

The challenge for mid-tier miners is whether it's sufficient, given current stakeholder expectations, that 44% of the group are only reporting a few bullets or less on ESG in their annual report.

MT50 ESG Reporting – 2019



MT50 ESG Reporting – 2016



? The unmined opportunity question

Do MT50 companies exhibit the right sustainability, environmental and social behaviours, and are these transparently reported? What ESG is being reported on to help elevate and shift the perception of mining in the market?

Three of the top 20 in MT50 - **Iluka Resources Limited, Independence Group NL**, and **Sandfire Resources NL** were rated "Leading" in their ESG reporting for the last 4+ years. The reports cover performance across a magnitude of risk areas, the significance of the issue, and their incorporation to the company's overall strategy.

4. https://www.acsi.org.au/images/stories/ACSIDocuments/generalresearchpublic/2019-ACSI-ESG-Report---FINAL.pdf

Unmined opportunity …in operations

Productivity benefits from optimising decisions

The unmined potential for automation of equipment and decisions is the next frontier in productivity improvements in the mining industry. While for most mid-tier players, dreams of the fully digitally-enabled autonomous mine remain some years away, relatively simpler decision automation initiatives are within reach. We note that **Resolute Mining** have almost completed the world's first fully autonomous underground mine. And, they've done it in Mali.

MT50 companies are generally behind the automation curve – behind both large-scale miners and new entrants (who define development plans using automation as a foundational element). Discussions indicate this is often driven by concerns about the cost of automation (including infrastructure investments) or scepticism around the benefits of automation. Many of PwC's discussions with those within the group appear to focus on equipment automation (i.e. autonomous trucks) rather than broader, more holistic automation of their overall business.

Why automation?

Miners that don't pursue the path of decision automation may struggle to compete in a more productive mining industry with increasing real-time process optimisation at its heart. We've seen the move towards automation is not a commodity-specific trend. All commodity sectors are pushing with digital whether its cashed-up iron ore to future-proofing coal. Furthermore, our productivity work with miners indicates this focus will remain front-of-mind.

From exploration through to production and processing, mining consists of countless decisions being made by diverse teams and people, often supported by a combination of excessive yet incomplete data. Given the distinct and separate nature of these decisions-provided companies can define the end-state of the process - decisions can be automated in a linear, piecemeal fashion.

This makes decision automation generally more approachable to mining companies. It enables investment to be proactively managed and even paid wholly by advancements made from previous decision automation projects.

Programs to implement decision optimisation and automation are underpinned by advancements in the application of machine learning. Using sophisticated modelling, data scientists can replicate business logic into models that optimise in real time based on live or intermittent data feeds.

Outputs from such models lead to recommendations that optimise an objective function; be it to maximise throughput or minimise cost. It's about increasing productivity and minimising uncertainty. These recommendations can then be automated within SCADA (supervisory control and data acquisition) systems or undertaken manually by workers on site.

How the MT50 can implement decision optimisation

As the MT50 look to implement decision automation, we would like to revisit and build on the message from last year's publication:

1 Move from "dirt boss" to "data boss".

Many mine leaders may not be familiar with how to run, manage and deal with data. They don't need to, they just need to be able to interpret the data and insights and translate them into action. Sometimes, outsourcing the data manipulation and insight generation (with a focus on data usability and readability) allows companies to rapidly start the path of decision automation rapidly.

2 Accept failure.

The use of machine learning and artificial intelligence absolutely provides impact and value, but there are teething pains. Reference the fact that machine learning tends to trial "limits" and will deliver some shocking decisions as it learns.

3 This will be uncomfortable — embrace it.

Many of these technical solutions may break with your standard understanding of what the decisions require. This is normal, and don't force algorithms into your way of thinking.

4 The automation support industry is growing rapidly.

Take advantage of this expanding industry aimed at serving decision automation to the mining industry. Use it to your advantage and don't feel you have to solve everything yourself. Many of these companies are small and agile, and are willing to work with you to co-develop solutions that address your specific needs. Opportunities also exist to combine in-house technology and operations teams with external data scientists to develop and rollout projects quickly, using a range of different commercial models.

A key component of realising the value of decision optimisation is improving the "digital IQ" of MT50 companies. This is achieved by making people comfortable with working through more automated processes that use data to optimise across the value chain. The benefit of this approach is less reliance on gut feel decision making that optimises locally at the potential expense of other elements within the site.

? The unmined opportunity question

Have we sufficiently explored the productivity (and safety) benefits of decision automation and the supporting digital IQ training needed for our workforce? Are there enough data scientists available at the MT50 to help drive this change?

Mining 4.0 describes the concept of the mine of the future where operations are augmented with wireless connectivity and sensors, connected to a system that can visualise the entire supply chain and make decisions on its own. Achieving this kind of best-in-class, highly integrated and fully automated operations requires time and investment but can be achieved in progressive steps.

Unmined opportunity ...in tax reporting

Elevating mining through transparency and best practice

The spotlight is on large public and multinational companies to demonstrate they're paying their fair share of Australian tax. The MT50 paid $1.9 billion in income tax in 2019, up a massive 29% on 2018.

The MT50 has the opportunity to be on the front foot in relation to tax transparency (what they report) and the structures and frameworks they have in place to ensure accurate data reporting (how they report).

Alongside helping overall perceptions around mining through tax transparency, adopting a best practice approach to disclosing tax information will help the group avoid penalties and extensive ATO audits triggered by non-compliance.

The ATO is currently implementing a number of products and procedures that add to the tax complexities of the MT50.

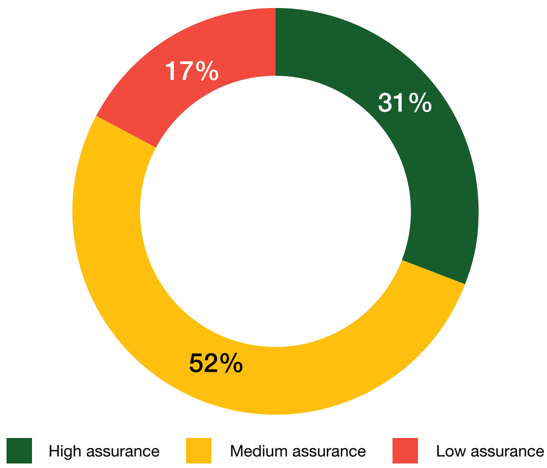
One of these products is the ATO's Top 1000 Program - a review of the largest 1,000 public and multinational companies to ensure they are reporting the right amount of income tax under the ATO's 'Justified Trust' program.

Broadly, the ATO is undertaking a Streamlined Assurance Review (SAR) of companies with revenues of $250 million and above over a four year period due to be completed by 30 June 2020. The reviews cover four open income years and are designed to be completed within a four month timeframe.

At the end of a Top 1000 review, taxpayers receive an overall assurance rating of Low, Medium or High Assurance. The overall rating will then determine the next actions that the ATO will take and the ongoing interactions of the taxpayer with the ATO.

In the ATO's March 2019 Top 1000 Tax Performance report (based on approximately 280 reviews) 52% of taxpayers received an overall rating of Medium, 31% achieved high assurance and 17% received a low assurance rating (a red flag). The ATO announced that commencing from 1 July 2019 it has started action on Low Assurance rated items from the SAR reviews. Next actions may range from audits to specific reviews.

Overall assurance obtained 2019



Source ATO report: Top 1000 Tax Performance Program Findings Report

The ATO has also applied more rigour to the tax risk and governance policies and procedures of taxpayers, which represents one of the 'four pillars' of Justified Trust. In assessing the appropriateness of tax risk and governance, the ATO applies its Tax Risk Management & Review Guide, which was updated in June 2018 to include indirect taxes.

As part of the SAR, taxpayers initially receive a set of largely standard questions. For companies in the mining sector, additional questions are often included on exploration and expenditure and treatment of fixed assets and tax depreciation.

Another ATO product that can impact the MT50 is the reportable tax position (RTP) schedule. Any MT50 companies that fall under the definition "public or foreign-owned company with income of $250 million or more" is required to prepare and lodge an RTP schedule with the ATO. These MT50 companies will need to become familiar with the questions being asked and ensure that the information is being appropriately reported to avoid paying large penalties for non compliance.

In the area of transparency and best practice for reporting tax, the MT50 have the opportunity to control the conversation, elevate 'brand mine' and be better prepared so audits run smoothly.

With automation and cloud-based technology, reporting and viewing data in real time is becoming a lot easier for tax and financial employees and external tax advisors. Automating processes will help free up time in the back office, so more time can be spent on analysing data rather than preparing it. Processes currently being automated in the market are single touch payroll, tax-effect accounting, foreign exchange calculations, GST and Financial reporting - all huge opportunities for the group.

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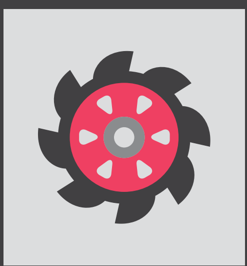
The unmined opportunity question

Tax transparency is here to stay - how prepared are we? Could we be more on the front foot to influence the conversation?



The ATO has released its fourth corporate tax transparency report (CTTR) in December 2018, which detailed total accounting income, taxable income and income tax payable by companies that have an Australia turnover of $100 million or more based on the 2017 tax return data. Over half of the MT50 have had their data published in this report, with $1.35 billion of tax being paid by these entities alone. But what does this information actually tell us? How does this reassure the community the right amount of tax is being paid?

Financial analysis

Income statement analysis

Another favourable year...

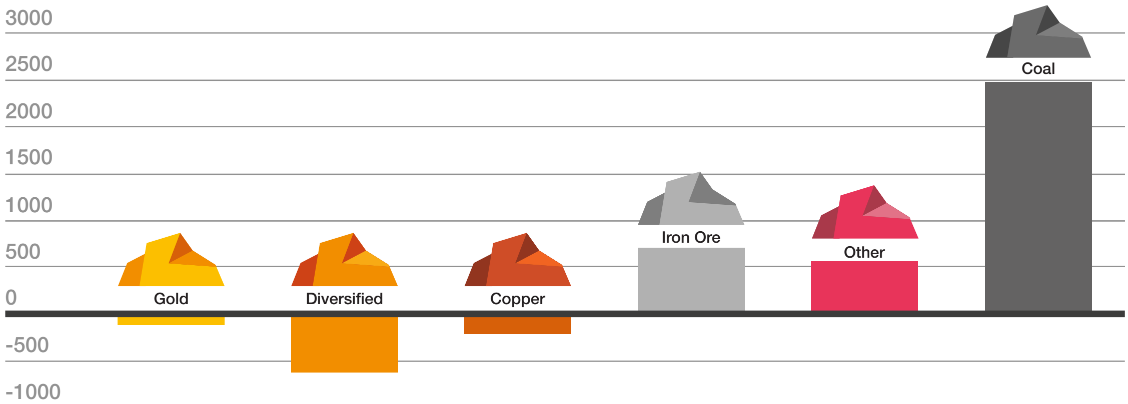
Continuing the trend of recent years, the movement in commodity pricing has generally been favourable for the MT50, with iron ore and gold pricing having a stand out performance, increasing by 60% and 6% respectively in United States dollar terms. We've also seen a depreciating Australian dollar which acts to enhance the already increasing prices of commodities.

Total revenue across the MT50 has increased 28% from $26.6 million to $34.1 million year on year. Similarly, gross profit has also increased by 20% from $14.2 million to $17 million.

This now represents the fourth straight year that the group have seen an increase in both revenue and gross profit, and continues to reflect both the increased demand for metal products and consistent levels of political and societal uncertainties globally.

Coal has dominated the revenue landscape due to **Yancoal** and **Whitehaven** re-entering the group as well as the listing of **Coronado**, all placing within the top five of our list. As a result, coal miners now make up 37% of total revenue in the MT50 (up from only 5% in 2018). Coal has also seen the biggest improvement in gross profit period on period, led primarily by **Yancoal**, who increased revenue a massive 86% compared to the prior year driven by the first full year of production from several strategic acquisitions in 2017.

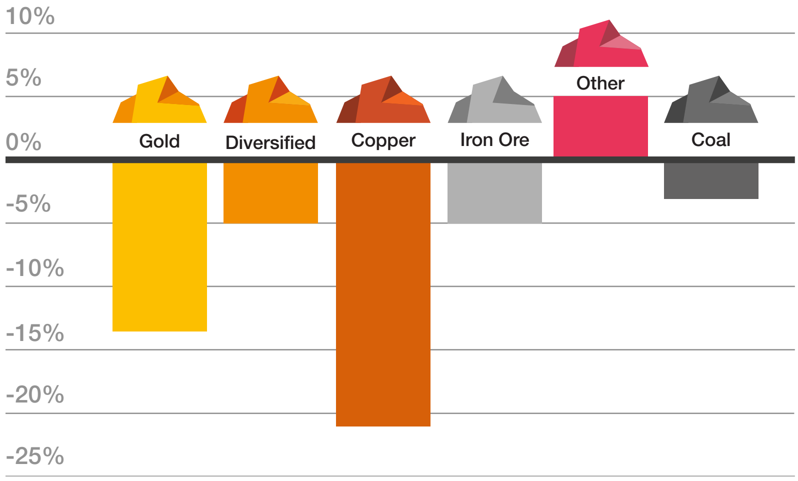
$ Gross profit growth by commodity



...or so it seems? A closer look shows Gross Margin declines across the board

Interestingly, however, the improved top line has not fully translated to an improvement in gross margin percentage for the MT50, with all but the mineral sands segment (led by **Iluka**) realising a lower margin in 2019 compared to the prior year. Overall, the MT50 saw a 6% reduction in gross margin percentage. This is in contrast to 2018 when we saw an overall increase in gross margin percentage and may suggest that not all miners are taking the opportunity to translate the higher pricing to lower per-unit operating costs.

% Change in margin by commodity



This is also the first year where we've seen gold lose ground. After big strides forward in gross profit margin in 2017 and 2018, 2019 saw a 14% retraction.

This poses a few observations and questions:

- we've seen miners continue to chase volume, which does lift revenue and likely total cash flow in a higher commodity price environment;
- however, this has resulted in lower margin mines coming back on line, and expansions to bring lower grades into production;
- this isn't sustainable throughout the cycle, unless the additional scale can lower overall costs and therefore increase margins. The results shown in the income statement for the MT50 tells us that this hasn't been achieved as gross margin percentage has declined;
- so the question remains whether the MT50 can lower unit operating costs and enhance productivity sufficiently to remain profitable through the next inevitable retreat in commodity prices and to flatten out the impact of this cyclical industry.

Entity Income Statements	Consolidated			
	2018	2019	2019 v 2018 Var ($)	2019 v 2018 Var (%)
Revenue from ordinary activities				
Operating revenue	26,529	34,071	*7,541*	*28%*
Non-operating revenue	32	67	*35*	*108%*
Total revenue	**26,562**	**34,138**	***7,576***	***29%***
Less expenses from ordinary activities	(12,351)	(17,151)	*(4,799)*	*39%*
Gross profit	**14,210**	**16,987**	***2,777***	***20%***
Selling general and adminitrative expenses	(2,647)	(3,025)	*(378)*	*14%*
Exploration expenses	(308)	(360)	*(52)*	*17%*
Provision for bad debts	(3)	(1)	*2*	*–71%*
Stock based compensation	(62)	(59)	*3*	*–5%*
Other income/expenses	(773)	(557)	*216*	*–28%*
Underlying EBITDA	**10,417**	**12,985**	***2,568***	***25%***
Depreciation and amortisation	(4,631)	(5,141)	*(510)*	*11%*
Underlying EBIT	**5,786**	**7,844**	***2,058***	***36%***
Impairments and other non-recurring items				
Impairments and writedowns	(138)	(98)	*41*	*–29%*
Other non-recurring items	189	290	*101*	*54%*
EBITDA	**10,467**	**13,177**	***2,710***	***26%***
EBIT	**5,836**	**8,036**	***2,200***	***38%***
Net interest expense	(1,021)	(1,264)	*(243)*	*24%*
Other non-operating items	(45)	213	*257*	*–577%*
Profit from ordinary activities before tax	**4,771**	**6,984**	***2,214***	***46%***
Income tax (expense)/benefit	(1,476)	(1,994)	*(517)*	*35%*
Net profit from continuing operations	**3,294**	**4,991**	***1,696***	***51%***
Earnings of discontinued ops	67	6	*(61)*	*–91%*
Minority interest in earnings	(292)	(248)	*44*	*–15%*
Net profit to parent	**3,070**	**4,749**	***1,679***	***55%***
Adjusted NPAT	**3,208**	**4,847**	***1,639***	***51%***

Cost reporting - a source of truth or a slight exaggeration?

A key metric by which the market assesses the industry is the cost of production. This measurement is usually defined by companies, which can lead to inconsistencies between the reported cost of production. A further drawback is that AISC as a measurement has some inherent grey areas. For example, companies can report their costs on either a by-product or co-product basis, or the definition of sustaining capital. While this doesn't present an issue for all gold miners, it means that the AISC of one operation may not be directly comparable to another.

Criticism from within the industry has highlighted the issue of how companies approach their AISC reporting (and noted several instances of companies not including some costs that would generally be expected within the measure).

In 2013 the World Gold Council took steps to formalise the measurement with the aim of providing transparency into the costs associated with producing gold (with several updates made in 2018). The criticism is that companies are starting to move away from this benchmark, with a growing trend of capital and exploration costs being excluded from the reported figures (two items required by the WGC measurement). It's not a requirement that companies disclose adherence to the WGC standard of measurement.

We've looked at a group of gold producers within the MT50 and have seen varying methodologies in the calculation. Typically, a disclaimer will be included stating the measure may contain some, but not all, of the costs identified by the WGC in their measure. Cost reporting is a significant metric for many stakeholders to the mining industry, so it's important to recognise that standardisation is key. The WGC is a leading industry organisation that has presented a standard financial reporting metric for costs of production that makes reporting comparable across multiple types of operations.

Impairments

Impairment has fallen from the $138 million recognised in 2018 to $98 million in 2019, with only three of the MT50 recording an impairment greater than $10 million. Surprisingly, given the recent pricing performance of coal (and that coal companies dominate the top of the MT50), coal contributed only 17% of the total impairment recognised in the MT50 – a positive indication of the value of these assets. Lower interest rates can also tend to increase NPV and reduce the likelihood of impairment.

We've also continued to see a lack of significant impairment reversals being recognised by the group, with only one company recognising a reversal during 2019. Is this a conservative stance taken by the MT50 to avoid any future impairment issues, or incentive to avoid increasing non-cash costs such as depreciation and amortisation by increasing their asset base? Time will tell, and if prices keep moving in the right direction, the interesting question will be how long can the MT50 go without recognising reversals.

Balance sheet analysis

Entity balance sheets	Consolidated			
	2018	2019	2019 v 2018 Var ($)	2019 v 2018 Var (%)
Current assets				
Cash and cash equivalents	7,517	8,321	*804*	*11%*
Inventories	3,476	3,771	*296*	*9%*
Receivables	3,001	3,937	*936*	*31%*
Other current assets	1,040	993	*(46)*	*–4%*
Total current assets	**15,034**	**17,023**	***1,990***	***13%***
Non-current assets				
Long-term investments	1,393	1,417	*24*	*2%*
Property, plant and equipment	47,865	54,702	*6,837*	*14%*
Capitalised exploration expenditure	-	-	*-*	*100%*
Accounts receivable	178	175	*(3)*	*–1%*
Loans receivable	1,086	1,090	*4*	*0%*
Deferred tax asset	2,328	2,163	*(165)*	*–7%*
Other intangibles	986	1,059	*73*	*7%*
Goodwill	115	251	*136*	*118%*
Other non-current assets	1,919	2,234	*315*	*16%*
Total non-current assets	**55,870**	**63,091**	***7,221***	***13%***
Total assets	**70,904**	**80,114**	***9,210***	***13%***
Current liabilities				
Accounts payable & accrued liabilities	3,849	4,064	*216*	*6%*
Interest bearing liabilities (short term borrowings)	1,507	1,979	*472*	*31%*
Income tax payable, current	449	556	*107*	*24%*
Unearned revenue, current	43	147	*104*	*241%*
Deferred tax liability, current	-	-	*-*	*100%*
Other current liabilities	1,254	1,988	*734*	*59%*
Total current liabilities	**7,102**	**8,735**	***1,632***	***23%***
Non-current liabilities				
Long-term debt	18,420	18,460	*40*	*0%*
Capital leases	239	462	*223*	*93%*
Unearned revenue, non-current	64	375	*311*	*486%*
Deferred tax liability, non current	3,488	4,565	*1,077*	*31%*
Other non-current liabilities	4,389	4,779	*390*	*9%*
Total non-current liabilities	**26,601**	**28,642**	***2,041***	***8%***
Total liabilities	**33,703**	**37,377**	***3,674***	***11%***
Net assets	**37,201**	**42,738**	***5,537***	***15%***
Equity				
Share capital and premium	36,600	40,929	*4,329*	*12%*
Retained earnings (accumulated loss)	178	2,997	*2,819*	*1587%*
Other equity	424	440	*16*	*4%*
Total equity	**37,201**	**44,365**	***7,164***	***19%***

Source: CAPIQ PwC 2019 MT50 analysis

This year saw a 15% improvement in the net asset position of the MT50 group and a 39% improvement in working capital, highlighting the healthy balance of the MT50 group. This indicates they've focussed on strengthening their balance sheets through debt repayments and strategic investments, but there are still plenty of opportunities for MT50.

Although the new lease standard is expected to impact the balance sheets of some miners, the impact in the current period is subdued by the fact that some of the MT50 are yet to apply these in the periods being referenced. The full impact of the new standards is expected to be visible in 2020.

Is the war chest starting to overflow?

Cash balances have continued to increase for the MT50, up 11% on prior year and a massive 53% in two years. Cash at bank is now at levels not seen since 2012. The MT50 have continued to invest heavily in both internal growth projects and external growth through acquisitions, however these decisions have been funded through capital raises or scrip for deals.

The copper industry saw a decrease in cash balances of 23%, mainly driven by **OZ Minerals** which ramped up its expenditure on growth projects like Carrapateena, Prominent Hill and its recent acquisition of Avanco. **OZ Minerals** funded this purely through cash and remains debt free.

Miners in the coal and gold industries have benefited from a growing cash balance thanks to strong prices and higher volumes sold. The spotlight will remain on miners in the coal and gold industries to clearly articulate their plans and strategy with regards to how they will utilise their growing cash balances to derive value for their shareholders.

Commodity	2019	2018	%
Mineral Sands	119	98	*21%*
Coal	1,535	867	*77%*
Diversified	1,430	1,589	*–10%*
Copper	753	973	*–23%*
Gold	2,256	1,890	*19%*
Iron Ore	1,023	883	*16%*
Other	668	571	*17%*
Lithium	538	647	*–17%*
Total	**8,321**	**7,517**	*11%*

Source: CAPIQ PwC 2019 Aussie Mine analysis 'Cash Balances'

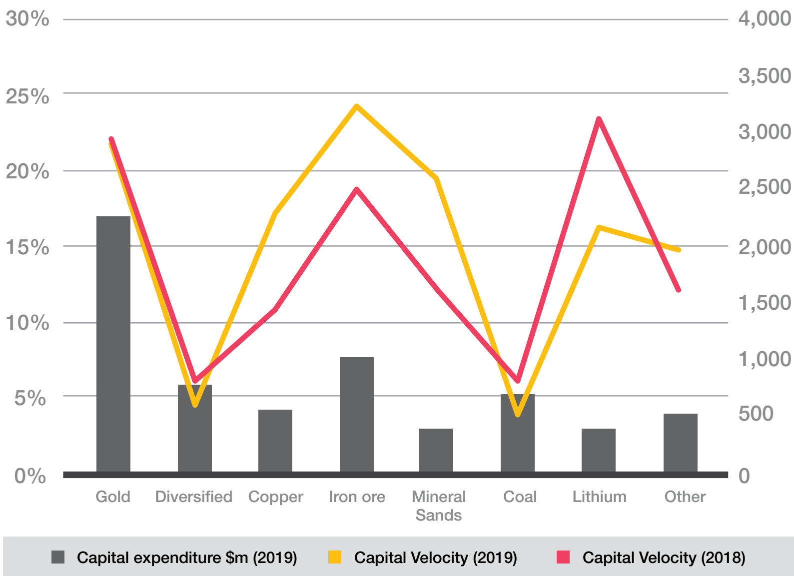
The unmined opportunity question

Is there a bigger appetite to invest in greenfield projects to replace depleting reserves, as more of the MT50 look to solidify their positions in the industry?
Or, could the excess cash be a buffer for uncertain times ahead, or is it given back to shareholders through special dividends?

Capital velocity continues to grow... with a shift in sectors

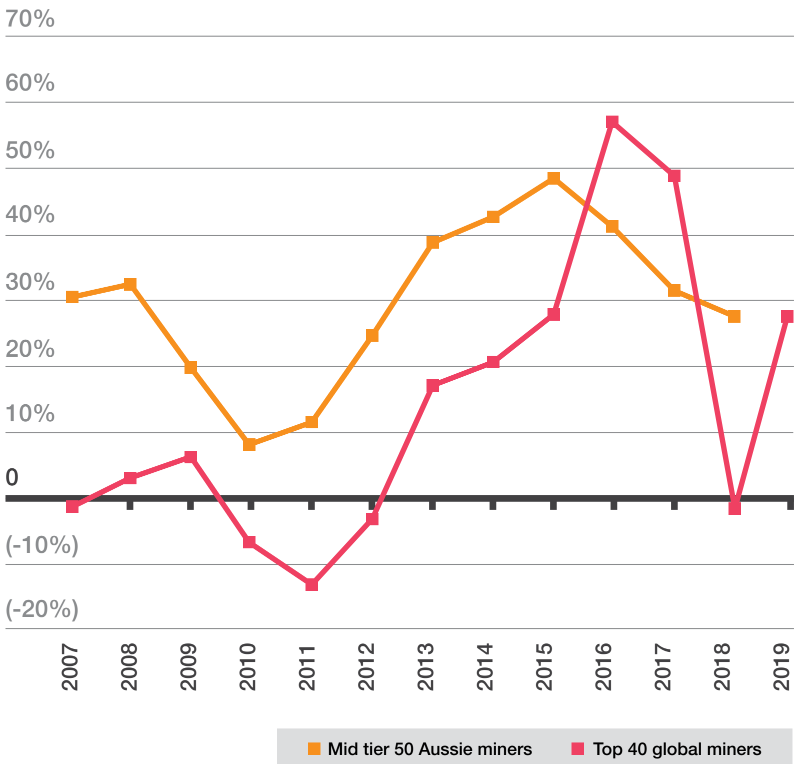
Capital velocity is a proxy for measuring the growth agenda for capital intensive industries, and it also shows how hard capital assets are working to produce revenue. With interest rates at record lows, and surplus cash balances within the MT50, capital expenditures are on the rise and have increased by 18% over the previous year to approximately $6.9 billion. The small overall increase within MT50's capital velocity hides a much more interesting story by commodity. Copper, iron ore and mineral sands miners significantly ramped up their investment in 2019. Conversely, lithium tapered off in the current year, suggesting the gloss is coming off this sector. Investment in other commodities remained steady, indicating that capital expenditure in these commodities has contributed towards replacing depleting reserves, rather than relating to spending on growth projects.

Capital velocity compared to capital expenditure by commodity



Source: CAPIQ PwC 2019 Aussie Mine analysis "Capital Velocity"

MT50 Index: Gearing ratio



Source: CAPIQ PwC 2019 Aussie Mine analysis "Capital Velocity"

Miners seem to be tightening their belts

Despite record low interest rates, total debt remained steady with only a 3% increase. Only a few miners took on new debt in the current period, which was broadly to finance internal growth projects and external acquisitions **(Mineral Resources Limited** and **Coronado Global Resources)**. However, once removing the impact of **Mineral Resources Limited** and **Coronado Global Resources**, the underlying story suggests most miners continued to pay down their balance sheet debt highlighting there's an appetite among the majority of the group to pay down debt. The miners took advantage of additional free cash generated, choosing to retire long-term debt, with $7.3 billion of debt being repaid (almost double of prior year).

Cash flow statement analysis

Entity Cash Flow Statements	Consolidated				
	2017	**2018**	**2019**	**2019 v 2018 Var ($)**	**2019 v 2018 Var (%)**
Net income to parent company	1,286	3,070	4,749	*1,679*	*55%*
Change in accounts receivable	(193)	(404)	(293)	*111*	*–28%*
Change in inventories	(209)	(440)	(9)	*432*	*–98%*
Change in accounts payable	167	578	405	*(173)*	*–30%*
Change in unearned revenue	(1)	12	7	*(5)*	*–41%*
Change in deferred taxes	(129)	426	513	*87*	*20%*
Change in other net operating assets	(83)	(25)	66	*91*	*–363%*
Income taxes (paid)/refunded	(51)	(4)	244	*248*	*–6371%*
Other	3,997	6,439	5,796	*(643)*	*–10%*
Cash generated from operations	**4,784**	**9,650**	**11,478**	***1,828***	***19%***
Cash flows related to investing activities					
Capital expenditure	(4,549)	(5,825)	(6,855)	*(1,030)*	*18%*
Proceeds from sale of property, plant and equipment	58	81	120	*39*	*48%*
Cash acquisitions	(388)	(3,368)	(1,751)	*1,617*	*–48%*
Divestitures	(9)	290	89	*(201)*	*–69%*
Purchases of investments and intangibles	(45)	(188)	255	*443*	*–235%*
Other investing activities	(248)	23	516	*493*	*2164%*
Net investing cash flows	**(5,182)**	**(8,987)**	**(7,626)**	***1,362***	***–15%***
Cash flows related to financing activities					
Debt issued	2,284	2,026	5,474	*3,448*	*170%*
Debt repaid	(2,477)	(3,638)	(7,298)	*(3,660)*	*101%*
Proceeds from share issues	1,553	4,650	2,364	*(2,286)*	*–49%*
Stock repurchases	(51)	(261)	(117)	*145*	*–55%*
Ordinary dividends paid	(435)	(1,202)	(1,542)	*(340)*	*28%*
Special dividends paid	–	–	(178)	*(178)*	*100%*
Other financing activities	(106)	(448)	(1,713)	*(1,264)*	*282%*
Net financing cash flows	**768**	**1,126**	**(3,009)**	***(4,135)***	***–367%***
Net increase/(decrease) in cash	**370**	**1,789**	**843**	***(946)***	***–53%***

Source: CAPIQ PwC 2019 Aussie Mine analysis "Aussie mine consolidated stats"

Operating cashflows

Despite the pick-up of business across the MT50 in the year, we've seen a relatively muted improvement to operating cash flows of 19% as compared to an outstanding prior year. Most notably, diversified companies saw a drop of 21%, contrary to their strong performance last year.

The biggest player in the diversified group was **MMG Ltd**, which suffered in its operating cash flows - reflecting lower EBITDA impacted by lower copper production at its Las Bambas facility.

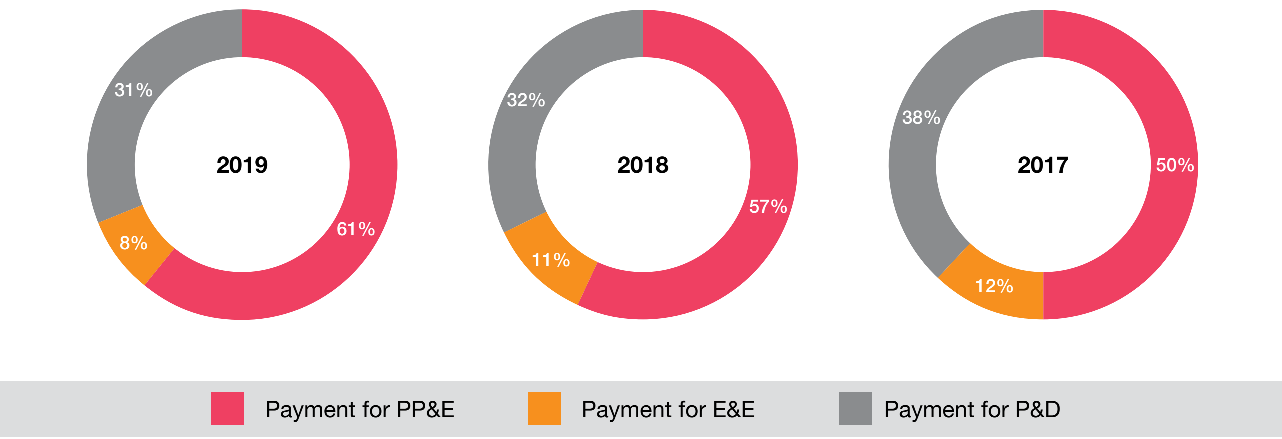
Coal has dominated the revenue and cash flow landscape with **Yancoal Australia** re-entering the MT50, contributing a staggering A$1.3 billion increase.

Capital expenditure

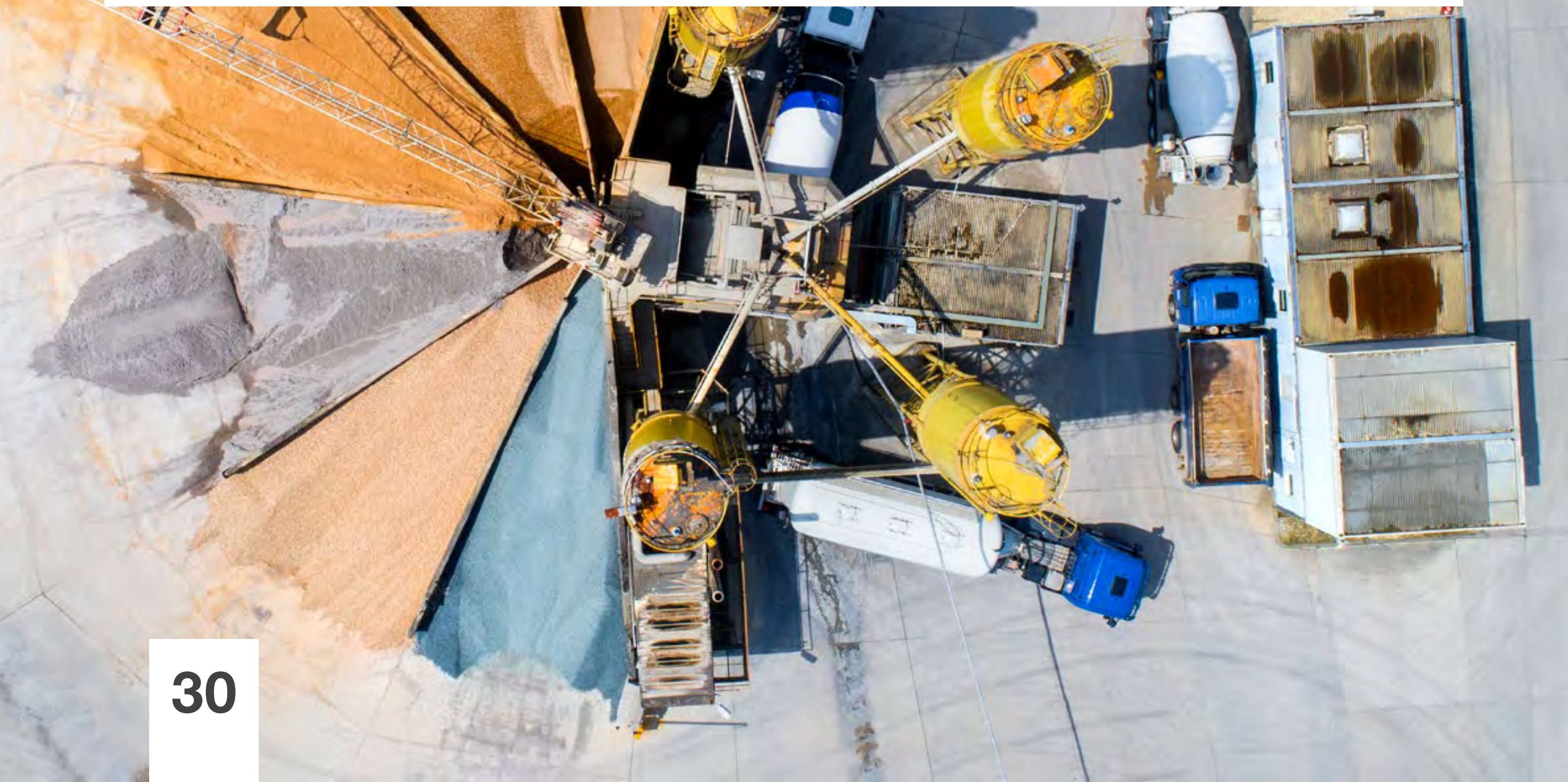
Capital expenditure has also slowed, from a 28% growth in the prior year to 15% this year. While gold companies contributed the biggest piece of the pie, **Mineral Resources**, outstandingly, has seen the strongest growth from 2017 of almost 300%, driven by their multiple acquisitions in the year.

On the other hand, coal and diversified companies saw a collective 15% drop in capital expenditure, largely driven by the re-entrance of **MMG** and **Whitehaven**.

Both companies experienced slowed expenditure on property, plant and equipment (PPE). The increasing trend in PP&E has continued with a consistent focus in producing and pushing out. This begs the question of whether the MT50 will run the risk of chasing more tonnes at lower grades in the long run with no active hunt for new mines.



Source: CAPIQ PwC Aussie Mine 2019 analysis, Cash flow statement



Debt vs. Equity

Financing cash flows has improved year-on-year, with more allocation to paying down debt than sharing dividends, in line with the gearing ratio trend we observe above. This also shows the group are being responsible and repaying debts to improve balance sheet health. In particular, **MMG Limited** has seen interest and financing costs payments double in the year from US$409m to US$760m as a result of strong cash generation in the year.

However, dividends paid have also increased year on year, with five more MT50 companies distributing dividends in the year, and more than tripling since 2017. Gold companies showed the biggest increase as expected with the outstanding year, accompanied by rocketing $A gold prices. Naturally, shareholders ask if it's been enough.

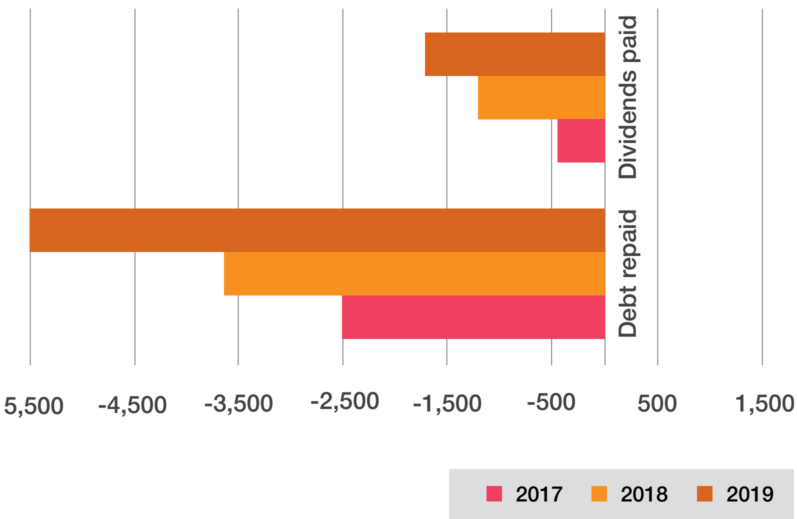
Aussie Mine Outlook

Exploration returning for good?

- 17% increase on prior year to $360 million. Are we finally seeing exploration returning to the mid-tier sector?

- Paying down debt and returning money to shareholders has been the priority but a healthy mid-tier sector also needs sufficient exploration, to help extend mine lives and find the mines of our future.

Dividends vs. Debt payment



Source: CAPIQ PwC Aussie Mine 2019 analysis, Cash flow statement

Deals analysis and outlook

Deals on the rise as the MT50 consolidated their positions

The MT50 group has focussed on strengthening their balance sheets and we have seen a trend where some companies have started to consolidate their position in the market either through utilisation of existing infrastructure or through buying satellite deposits or mines. There's still a healthy appetite for deals driven by low interest rates, favourable exchange rates, strong commodity prices and the bigger players diversifying their portfolios. The volume of deals increased from 21 in 2018 to 25 this year, and the average value of completed deals has increased to $231 million, compared with $125 million in 2018.

Similar to last year's report, gold companies continued to be acquisitive with nine acquisitions in the current year and an average value of completed deals being $224 milion. The current year also saw large coal companies continue to divest coal assets providing opportunities for the MT50 to consolidate their positions as independent coal companies.

Key contributors to this year's deal activity include:

- **St Barbara Limited** - completed its acquisition of Candian gold miner, Atlantic Gold Corporation for $780 million.
- **Kidman Resources** - acquired by Wesfarmers Group for $776 million, as they look to take an interest in high-grade lithium opportunities and build on their existing strengths and chemical processing capabilities.
- **New Hope Corporation** - consolidated its ownership of the Bengalla joint venture by acquiring an additional 40% for a total of $838 million.
- **Resolute Mining Limited** - bolstered its gold interests through its acquisition of Toro Gold for $395 million.
- **Mineral Resources Limited** - entering into a joint venture with Albermarle for the sale of 60% interest in the Wodgina Lithium project for $1.2 billion.
- **Silver Lake Resources** - successful merger with Doray and subsequent acquisition of Egan Street Resources Rothsay Mine.

Completed M&A transactions greater than $15 million (July 2018 to September 2019)

Target	Acquirer	Sector	Target Country	Ownership interest (%)	Approximate deal value $AUDm	Announcement date	MT50 Connection	MT50 Role
Bengalla Joint Venture	New Hope Corporation Ltd	Coal	Australia	40	860	Aug-18	New Hope Corporation Ltd	Acquirer
Atlantic Gold Corporation	St Barbara Ltd	Gold	Australia	100	780	May-18	St Barbara Ltd	Acquirer
Kidman Resources Ltd	Wesfarmers Ltd	Lithium	Australia	100	776	May-19	Kidman Resources Ltd	Seller
Toro Gold Ltd	Resolute Mining Ltd	Gold	Africa	100	395	Jul-19	Resolute Mining Ltd	Acquirer
MMG Laos Holdings Ltd	Chifeng Jilong Gold Mining Co., Ltd	Gold	Laos	100	376	Jun-18	MMG Ltd	Seller
Tenemenets in Salar del Hombre Muerto	POSCO	Lithium	Argentina	100	373	May-18	Galaxy Resources Ltd	Seller
Doray Minerals Ltd	Silver Lake Resources Ltd	Gold	Australia	100	261	Nov-18	Silver Lake Resources Ltd	Merger
Québec Iron Ore Inc.	Champion Iron Ltd	Iron Ore	Canada	36.8	226	May-19	Champion Iron Ltd	Acquirer
Ranger Nickel Project	Nickel Mines Ltd	Other	Indonesia	43	179	Apr-19	Nickel Mines Ltd	Acquirer
Talisman A Pty Ltd	Sandfire Resources NL	Energy	Australia	30	72	Aug-18	Sandfire Resources NL	Acquirer
Explaurum Ltd	Ramelius Resources Ltd	Gold	Australia	100	57	Sep-18	Ramelius Resources Ltd	Acquirer
Mt Marion Lithium Project	Mineral Resources Ltd	Lithium	Australia	6.9	52	Dec-18	Mineral Resources Ltd	Acquirer
Higginsville Gold Operations	Royal Nickel Corporation	Gold	Australia	100	50	Mar-19	Westgold Resources Ltd	Seller
Bligh Resources Ltd	Saracen Mineral Holdings Ltd	Gold	Australia	100	38	Jun-19	Saracen Mineral Holdings Ltd	Acquirer
Kumina Iron Ore Project	Mineral Resources Ltd	Iron Ore	Australia	100	35	Oct-18	Mineral Resources Ltd	Acquirer
Prometheus Developments Pty Ltd	Tribune Resources Ltd	Gold	Singapore	100	25	Dec-18	Tribune Resources Ltd	Acquirer
Various Gold Tenements	Regis Resources Ltd	Gold	Australia	100	25	Aug-19	Regis Resources Ltd	Acquirer
Southern Hills tenements (Creasy Group Pty Ltd)	Independence Group NL	Nickel/ Copper	Australia	70	21	Mar-18	Independence Group NL	Acquirer
Parker Range Project	Mineral Resources Ltd	Iron Ore	Australia	100	20	Aug-19	Mineral Resources Ltd	Acquirer

PwC deals perspective – what's on the horizon

Gold

With gold prices at an all-time high in Australian dollar termsand growing uncertainty in the broader macro-economic environment to support forecast gold prices, we are expecting to see a further increase in M&A activity for gold as miners try to take advantage of strong investor appetite.

Lithium

With lithium prices cooling in the current year, near-term opportunities may exist for companies to strategically acquire and consolidate projects. We anticipate momentum to return to the sector given the ongoing strategic importance of this mineral.

Copper

We expect interest to remain strong and with copper prices lower, this could be seen as an opportune time for M&A deals in the copper sector. The biggest challenge within the copper industry is the scarcity of opportunities, however the recent copper / gold discovery in Victoria by Stavely Minerals may bring some excitement into the Australian sector.

Coal

Coal prices have softened in the current year. Access to funding for greenfield projects continues to prove difficult, particularly given the aversion to this commodity by some major financial institutions. We expect to see coal companies explore alternative funding mechanisms in the year ahead, especially given the emergence of resource funding groups looking to fill the funding gap which exists in the market.

Pending M&A transactions greater than $15 million (July 2019 to September 2019)

Target	Acquirer	Sector	Target Country	Ownership interest (%)	Approximate deal value $AUDm	Announcement date	MT50 Connection	MT50 Role
Wodgina Lithium Project	Albemarle Corporation	Lithium	Australia	60	1,221	Nov-18	Mineral Resources Ltd	Seller
Stanmore Coal Ltd	Winfield Group Investments Pty Ltd	Coal	Australia	100	390	Aug-19	Stanmore Coal Ltd	Seller
MOD Resources Ltd	Sandfire Resources NL	Copper	Australia	100	167	Jun-19	Sandfire Resources NL	Acquirer
Narrabri Mine	Whitehaven Coal Ltd	Coal	Australia	7.5	107	Aug-19	Whitehaven Coal Ltd	Acquirer
Egan Street Resources Ltd	Silver Lake Resources Ltd	Gold	Australia	100	52	Jul-19	Silver Lake Resources Ltd	Acquirer

Explanatory notes

We have analysed the largest 50 mining companies listed on the ASX with a market capitalisation of less than $5 billion at 30 June 2019. The results aggregated in this report have been sourced from publicly available information, primarily annual reports and financial reports available to shareholders. Companies have different year-ends and report under different accounting policies. Information has been aggregated for the financial years of individual companies, and no adjustments have been made to take into account different reporting requirements and year-ends. As such, the financial information shown for 2019 covers periods between 1 January 2018 and 30 June 2019, with each company's results included for the 12-month financial reporting period that falls into this timeframe.

All figures in this publication are reported in Australian dollars, except where specifically stated. The results of companies that report in currencies other than the Australian dollar have been translated at the average Australian dollar exchange rate for the financial year, with balance sheet items translated at the closing Australian dollar exchange rate. Some diversified companies undertake part of their activities outside of the mining industry. Unless specifically stated, no adjustments have been made to exclude such non-mining activities from the aggregated financial information.

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Thank you

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