

Overweight

Price Target:
AU\$3.40/GBp195

PYX Resources: Reiterate Target Price; Financials Continued to Improve in FY 2022; Tisma's License Renewed

Introduction

PYX Resources Limited ("PYX" or the "Company") has the world's second-largest JORC-compliant zircon resources among producers currently in production. It is a leading and fast-growing premium zircon producer with enormous potential to grow output and enhance profitability. Its shares are dual-listed on the London Stock Exchange (LSE: PYX) and National Stock Exchange of Australia (NSX: PYX).

On 16 March 2023, PYX announced its audited financial results for the financial year ended 31 December 2022 ("FY 2022").

This report provides a review of PYX's financial results for FY 2022 and an update to its operations as well as our assessment of the Company's value proposition. Our analysis is based on the operational milestones achieved by the Company and our longer-term view of the market conditions.

Some of the key FY 2022 achievements and milestones are as follows:

- Delivered 83% Y/Y revenue growth to US\$22.7 million (FY 2021: US\$12.4 million), while achieving a positive underlying EBITDA of US\$419,289, with limited negative operating cash flows. Actual cash consumed by operating activities in the reported period was merely approximately US\$2.5 million. Encouragingly, Q4 was cash flow positive;
- Increased gross profit per tonne versus 2021 attributable to the streamlining of PYX's mining and separation processes; and
- Obtained approval on the Company's application for a renewal of the exploration and mining license (IUP-OP) for 10 years till July 2032 with respect to its Tisma mineral sands project ("Tisma") in Kalimantan, Indonesia.



P Y X
RESOURCES

Share Price (as of 21 Mar 2023):
AU\$0.33/GBp17.375
12- to 18-month Target Price:
AU\$3.40/GBp195

Market Cap (as of 21 Mar 2023):
AU\$147.4M/GBP77.6M
Total Shares: 441.3 M
Dividend and Yield: N/A

Recommendation Summary

- We continue our coverage of PYX and reiterate an **Overweight** rating. In addition, we maintain our **12- to 18-month price target of AU\$3.40**, representing an upside potential of about 930% over the Company's closing price of AU\$0.33 as of 21 March 2023;
- PYX is a leading premium zircon producer globally, in possession of the sizable combined 264 million tonnes of JORC-compliant mineral resources with a total of 10.5 million tonnes of contained zircon from its Mandiri and Tisma deposits. The Mandiri deposit was the largest discovery worldwide since 2012;
- The weighted average heavy mineral ("HM") assemblage value of PYX's deposits of US\$1,680 per tonne is among the highest in the industry. Together with easy extraction, low processing costs, and significant exploration potential within its own tenements, we believe PYX's shares should be traded at the very

high end of the valuation range on a per tonne of HM resource basis among its peers. However, it is not the case currently, offering long-term investors with tremendous upside potential;

- d) Importantly, in our view, PYX is better positioned to capture further growth, given the synergies and economies of scale derived from its Mandiri and Tisma mineral sands projects, which are in close proximity in the resource-rich Kalimantan, a diverse pool of investors to provide financial resources for growth, and an expanding customer base by both industry and geography to drive persistent demand, supported by a management team with a track record of delivering consistently outstanding operational milestones and financial performance;
- e) **Demand outlook for PYX's core product zircon and by products titanium dioxide (TiO₂) minerals (rutile and ilmenite) is expected to be strong going forward**, given their increasing deployment in high-tech applications pertaining to a wide variety of fields such as aerospace, aviation, petrochemicals, and prominently in the green transition. In addition, their traditional end markets, including ceramics, refractory, foundry, paint and coating should maintain steady growth going forward due to the continuation in the uptrend of global economic growth, rising standard of living in developing countries alongside growing urbanization worldwide;
- f) **PYX has been expanding its presence in China, which consumes almost half of global zircon output¹**. Importantly, China has shown signs of heightened demand after removing all the COVID-19 related restrictions and quarantines and following the Chinese New Year holidays that fell near the end of January 2023. For example, the country's consumer spending has rebounded, as retail sales rose 3.5% Y/Y in the first two months of 2023, in contrast with the decline in each of the last three months of 2022². Moreover, the Chinese property market is also showing signs of life. For instance, existing home prices in tier-1 cities rose 0.4% sequentially in January, reversing the fall in December 2022, and some new housing projects sold out within 24 hours of listing³; and
- g) **Looking ahead, with demand growth expected to outpace supply as a result of the absence of meaningful discoveries, shortage is very likely, exerting upward pressure on zircon prices and benefitting PYX financially**, as it continues to execute its aggressive growth plan with the goal of being one of the leading global premium zircon producers. Despite the COVID-19 pandemic, zircon price has been stable in general owing to limited inventories in the market, while its global output in 2022 was flattish relative to 2021. Indeed, pricing for both the zircon and titanium dioxide mineral markets has been firming up over the past few months.

Note: Unless otherwise noted, AU\$:US\$ exchange rate of 1:0.74 is used in all calculations in this report.

¹ <https://www.zircon-association.org/zircon-sand.html>

² <https://www.ft.com/content/a67c7717-c117-4778-b2f3-324d1c9fdd11>

³ <https://www.fidelityinternational.com/editorial/article/chinas-property-market-sparks-to-life-with-signs-of-recovery-1db0cd-en5/>



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I. COMPANY'S ACHIEVEMENTS AND OPERATION UPDATES

Renewal of Tisma's IUP-OP License for Another 10 Years

In February 2023, PYX received notification from the Central Kalimantan Provincial Government that its application for the renewal of the IUP-OP license for the Tisma tenement had been approved for the maximum authorised period of 10 years till July 2032 (after which the license can be further extended for additional periods). The renewal of the tenement's license allows PYX to continue performing exploration and mining works in the tenement area through its subsidiary PT. Tisma Global Nusantara ("PT TGN"), which is the holder of the IUP-OP license.

Key provisions of the IUP-OP license include:

- Royalty on zircon exported is 1.5%;
- Fixed rent payable to the Indonesian government is at a rate of US\$4 per hectare a year;
- Corporate tax of 22% is levied and set by the Indonesian government;
- Land and building taxes are payable to the local government at a rate of 0.5% based on taxable sales value; and
- Environmental obligations, including reclamation bonding and plans approved by the local government, are part of the mine approval process.

This is a key development for PYX post-FY 2022 results because it not only enables PYX to legally undertake its critical exploration and mining activities in the Tisma tenement but also comes at a time when the mineral sands market is experiencing increased demand and consistent growth. Furthermore, the 10-year license extension facilitates PYX to carry out a long-term plan related to boosting its premium zircon and titanium dioxide minerals supply, ultimately maximizing shareholder value.

The inclusion of environmental obligations in the IUP-OP license renewal provision is in line with PYX's intention of complying with local environmental and social regulations as well as assuring its operations are conducted in a responsible and sustainable way for the well-being of local communities.

Notable Corporate and Operation Achievements in FY 2022

Tisma's IUP-OP license extension was received following a series of corporate and operation achievements by PYX in FY 2022. Some of which are listed below:

- **Commencement of natural rutile and ilmenite production** in January 2022 and June 2022 respectively after PYX completing the first phase of the production capacity increase at its Mineral Separation Plant in the Mandiri deposit to 24,000 tonnes per annum in December 2021. Initially, sales of these valuable by-products were for the domestic market only. Their exports are anticipated coming soon. Indeed, the production of rutile and ilmenite is an integral part of the Company's growth strategy, broadening the scope of products available to its increasingly diverse customer base worldwide and augmenting the Company's revenue stream;

- **Secured investment commitments from significant global institutional investors:**
 - I. Closed a strategic placement of shares in March 2022 with the well-regarded US-based institutional investor L1 Capital Global Opportunities Master Fund for up to a total of US\$13.5 million commitment (comprising the initial investment of US\$4.5 million, followed by potentially two more tranches of US\$4.5 million each upon mutual agreement); and
 - II. Obtained a GBP20 million investment commitment in October 2022 from GEM Global Yield LLC SCS (“GGY”), a US\$3.4 billion alternative investment firm, through a tailored agreement allowing PYX to control the amount and timing of investment by GGY over a 36-month period, with no minimum subscription obligation.
- **Appointment of the prestigious geologist and Indonesian executive Dr. Raden Sukhyar to PYX’s board as a Non-Executive Director** on 28 November 2022. Dr. Sukhyar has in-depth experience and knowledge of operating in Indonesia, including previously taking key government roles in Indonesia. His appointment will further strengthen PYX’s capabilities of running operations in Indonesia and deepen its understanding of the local regulatory environment. Together with the rest of the board members and the management team, PYX should be able to navigate different types of challenges that laid ahead.

We view the recent developments at PYX being strong signals to market participants that it is on track to continue achieving various operational and financial milestones in years to come and likely becoming an emerging force in the mineral sands industry by positioning itself as a growing supplier of premium zircon and titanium dioxide minerals to serve an increasingly diversified and high-quality clientele. One of PYX’s competitive advantages is that the Company is operating in Indonesia, a politically stable and natural resources abundant country.

II. OUTSTANDING FINANCIAL RESULTS FOR FY 2022

FY 2022 financial results announced by PYX indicated that the Company had another fruitful year in terms of operational and financial performance.

According to the FY 2022 Annual Report published on 16 March 2023, PYX accomplished a tremendous 83% yearly increase in revenue from approximately US\$12.4 million in 2021 to around US\$22.7 million in 2022. Crucially, PYX turned underlying EBITDA⁴ to positive US\$419,289 for the year, a remarkable change when compared to a negative underlying EBITDA of US\$793,628 in 2021.

Looking closely, FY 2022 revenue growth was dominated by premium zircon, as its revenue soared 81% on a yearly basis as a result of both price and volume increases. Specifically, PYX’s average zircon price was US\$2,457 per tonne for the reported year, rising 36% from US\$1,811 a tonne in FY 2021. Meanwhile, PYX’s premium zircon production and sales volume growth in the same period was 25% and 33% respectively. It is worthwhile to note that zircon produced by PYX for the year was sold out, illustrating robust demand.

⁴ Excluding extraordinary items that include share-based payments and loss on fair value changes, which are non-cash in nature

On the balance sheet side, PYX maintained its debt-free status and ended the year with a closing cash and cash equivalent balance of roughly US\$7.2 million, indicating that it is in a healthy financial position likely to withstand any potential change in market sentiment and fund its daily operations.

Exhibit II-1: Summary of Key Financials

	Year Ended 31 December 2022	Year Ended 31 December 2021	Y/Y Change	Y/Y Change
	Kt ('000 tonnes)	Kt ('000 tonnes)	kt	%
Zircon Produced	9.1	7.2	1.9	25
Zircon Sold	9.1	6.9	2.2	33
TiO ₂ Minerals Produced	7.5	-	7.5	N.M
TiO ₂ Minerals Sold	0.3	-	0.3	N.M
Average zircon price	US\$2,457/t	US\$1,811/t	646	36
Total Produced	16.6	7.2	9.4	129
Total Sold	9.5	6.9	2.6	38
	US\$	US\$	US\$	%
Sales revenue	22,703,190	12,417,086	10,286,104	83
Cash cost of production	(17,293,633)	(10,406,727)	-6,886,906	66
EBITDA	(9,254,205)	(4,329,943)	-4,924,262	114
EBIT	(9,496,707)	(4,517,820)	-4,978,887	110
Net loss before tax	(9,524,646)	(4,529,754)	-4,994,892	110
Net loss after tax (NLAT)	(9,433,600)	(4,321,230)	-5,112,370	118
Underlying EBITDA	419,289	(793,628)	1,212,917	-153
Cash and cash equivalents	7,221,085	6,624,364	596,721	9
Total assets	89,124,565	84,796,550	4,328,015	5
Total liabilities	(5,570,118)	(1,759,899)	(3,810,219)	217
Short or Long-term debt	0	0	-	N.M

Note: N.M. = Not meaningful

Source: PYX

PYX not only remained financially healthy but also received strong financial backing from well-regarded institutional investors (L1 and GGY) in FY 2022 through fundraisings to develop its Mandiri and Tisma deposits, demonstrating their confidence on the Company's outlook.

III. CONCLUSION

In FY 2022, PYX delivered strong financial performance overall, exemplifying by turning the underlying EBITDA to positive from negative a year ago besides registering double-digit-percentage yearly increases in zircon produced and sold along with the start of producing titanium dioxide minerals (rutile and ilmenite) to widen its product offerings and create avenues of revenue.

We believe PYX's financial performance can be improved further based on the following:

- **Capacity expansion and potential of adding more mineral resources through ongoing exploration and other means:** Investment commitments secured from L1 and GGY will help scale up capacity further at the Mandiri deposit while starting the planning operations at the Tisma deposit. Apart from the mineral resources that are known today from these two mineral sands assets PYX already owned, there could be material upside potential because 46% of the concession area in those two deposits remains unexplored. The success in getting Tisma's IUP-OP License extended for another 10 years facilitates PYX to do planning for a longer time horizon. Furthermore, the Company is committed to source, acquire and develop other world-class mineral sands assets. Effectively, PYX is having a blueprint so that it would become one of the major mineral sands companies in the world.
- **Expected notable jump in revenue from titanium dioxide minerals:** In FY 2022, only 300 tonnes of titanium dioxide minerals produced were sold all domestically, representing only 4% of the total output, as the Company was awaiting the approval from the government to export them. Once the permission is received and the minerals are exported, overseas sales would give a boost to the Company's top line and enrich its profit margins, boding well for higher profitability.
- **Zero carbon transition serves as a substantial and new demand driver for both zircon and titanium:** To tackle climate change and avoid associated natural disasters such as severe tropical storms and extreme droughts, there has been a megatrend to attain carbon neutrality. Zircon and titanium are increasingly viewed as integral to zero carbon emissions, especially the former.

Zircon is a vital contributor towards clean energy generation and energy efficiency improvement in some applications. According to studies by academic and industry researchers, zero carbon transition can potentially spur zircon demand by 56-88% over the next two decades. Specifically, research conducted by the Zircon Industry Association and Praxair Technology found that the use of zircon rather than alumina could likely reduce Global Warming Potential⁵ by some 16%. Meanwhile, using zircon in thermal barrier coating would potentially lift energy efficiency of jet turbine engines by 12%.

The positives that have been discussed above led us to feel optimistic about the business and profitability prospects of PYX as well as its growth outlook. Hence, we reiterate our **Overweight** rating and re-affirm the **12- to 18-month price target of AU\$3.40**, representing an upside potential of around 930% over the closing price of AU\$0.33 as of 21 March 2023.

⁵ It was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide

IMPORTANT DISCLOSURES

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Dr. Thomas Kenny and Charlie Yang hereby certify that the views expressed in this research report accurately reflect their personal views about the subject companies and their securities. They also certify that they have not been, and will not be, receiving direct or indirect compensation in exchange for expressing the specific recommendations in this report.

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