

Overweight
Price Target:
AU\$3.81/GBp196

PYX Resources: Reiterate Target Price on Strong FY 2023 Operating Performance and Mandiri's License Renewal

Introduction

PYX Resources Limited (“PYX” or “Company”) has the world’s third-largest JORC-compliant zircon resources¹ among producers currently in production. It is a leading and fast-growing premium zircon producer with notable potential to grow output, expand product offerings and enhance profitability. Its shares are dual-listed on the London Stock Exchange (LSE: PYX) and National Stock Exchange of Australia (NSX: PYX).

On 29 January 2024, PYX announced its operating results for the financial year ended 31 December 2023 (“FY 2023”).

This report provides a review of PYX’s key operational metrics for FY 2023 and an update to some major milestones it achieved during the period as well as our assessment of the Company’s value proposition. Our analysis is based not only on PYX’s operating performance but also our longer-term view of the markets it serves.

Some FY 2023 achievements and milestones of note are as follows:

- a) For premium zircon, PYX delivered a 31% Y/Y production growth to 11.8 thousand tonnes (“kt”) (FY 2022: 9.1kt), crossing the 10kt milestone for the first time, while achieving a 24% Y/Y sales increase to 11.4kt (FY 2022: 9.1kt). FY 2023 premium zircon output and sales figures maintained the double-digit percentage growth pace;
- b) Reached an annualized production volume for premium zircon of 16kt (Q3 2023 production increased 61% Y/Y to 4.0kt, its highest quarterly output to-date);
- c) Successfully renewed in February 2023 a 10-year exploration and mining license for the highly prospective Tisma project, giving PYX greater visibility and allowing the Company to formulate longer development plan for this deposit; and
- d) PYX was awarded the license for the exports of ilmenite and rutile ores in August 2023. The Company stockpiled approximately 10kt of ilmenite and rutile as at the end of December 2023. The receipt of this license lets PYX to capitalize on opportunities related to revenue growth and cashflow enhancement offered by Indonesia’s supportive regulatory environment.



P Y X
RESOURCES

Share Price (as at 31 Jan 2024):
AU\$0.30 (NSX)/GBp15.575 (LSE)
12- to 18-month Target Price:
AU\$3.81/GBp196

Market Cap (as at 31 Jan 2024):
AU\$137.3M/GBP71.5M
Total Shares: 417.8 M
Dividend and Yield: N/A

Aside from what was mentioned above, in January 2024, PYX announced the receipt of a two-year license to extract, process and export up to 94kt per annum of minerals, inclusive premium zircon, ilmenite and rutile, from the Mandiri project. With this license, the Company can also extract and produce additional by-products like silicon dioxide (“SiO₂”) to further augment its revenue stream and profitability.

¹ Based on publicly available information as at 30 June 2023

Recommendation Summary

- a) We continue our coverage of PYX and reiterate an **Overweight** rating. In addition, we maintain our **12- to 18-month price target of AU\$3.81 (GBP196)**, representing an upside potential of around 1,170% over the closing price of GBP15.575 (AU\$0.30*) as at 31 January 2024. (*at the exchange rate of GBP:AUS = 1:1.92);
- b) 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 10.5 million tonnes of contained zircon from its Mandiri and Tisma deposits. The Mandiri deposit, which has 6 million tonnes of contained zircon alone, is the largest discovery worldwide since 2012;
- c) The weighted average heavy mineral (“HM”) assemblage value of PYX’s deposits of US\$1,824 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 regarding returns;
- d) Importantly, we believe PYX is better positioned for further growth in view of i) the synergies and economies of scale the Company can derive from its Mandiri and Tisma mineral sands projects, which are in close proximity in the resource-rich Kalimantan in Indonesia; ii) readiness to take advantage of the sales potential of ilmenite, rutile and premium zircon; and iii) a diverse pool of investors to provide financial resources for further growth and an expanding customer base by both industry and geography to drive sustained demand, alongside a proven management team in terms of delivering persistently exceptional financial performance and operational milestones;
- e) **Demand outlook for PYX’s core product zircon and by products titanium dioxide (TiO₂) minerals (rutile and ilmenite) is expected to remain resilient** on account of their increasing applications in a lot of high-tech arena such as aerospace, aviation, petrochemicals, and particularly in green technology. Moreover, the traditional end markets of these minerals, including ceramics, refractory, foundry, paint and coating should maintain decent growth ahead on expectations that the global economy will continue to stay in an upward trajectory, standard of living in an increasing number of developing countries will elevate coupled with the ever-growing urbanization worldwide;
- f) **With both the Mandiri and Tisma projects situated in Indonesia, which is politically stable** (being a vital Belt and Road country and having friendly relationships with neighboring countries and regionally influential nations besides a steady domestic government) and has **established a positive regulatory environment** (facilitating the approval and award of multiple important licenses and legalizing the exports of ilmenite and rutile to international markets), PYX is prone to bring its mining operations to a higher level in the near future; and
- g) Looking ahead, with **demand growth anticipated outpacing supply**, as a result of the inexistence of meaningful discoveries recently and existing large mines reaching the end of their mine lives, **shortage is very likely, putting 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 and a consolidator in the sector in Indonesia.

Note: Unless otherwise noted, AU\$:US\$ exchange rate of 1:0.70 is used in all calculations in this report.

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I. FY 2023 OPERATIONAL UPDATES

Outstanding Operating Results for FY 2023

On 29 January 2024, PYX, which owns the world’s third-largest JORC-compliant zircon resources among producers currently in production, announced its operating results for FY 2023 ended 31 December 2023.

During FY 2023, despite a challenging global economic backdrop due to elevated interest rates and widespread geopolitical tensions, PYX continued to set industry standards and accomplished notable operating performance. In that 12-month period, PYX produced 11.8kt of premium zircon with sales of 11.4kt, representing a respective increase of 31% and a 24% in comparison to the same period in immediately preceding year. Production productivity is even more impressive after taking into consideration that total headcount of the Company in FY 2023 was 22% less than that in FY 2022. Premium zircon inventory was 533 tonnes on 31 December 2023, also up 22% to 17.1 days (FY 2022: 17.5 days).

FY 2023 represents the first single year in which PYX both produced and sold over 10kt of minerals in aggregate in companion with other remarkable milestone achievements under the leadership of the current proficient and efficient executive team.

Exhibit I-1: Summary of Key Operational Parameters for FY 2022 and FY 2023

	Year Ended 31 December 2023	Year Ended 31 December 2022	Y/Y Change	Y/Y Change
	Kt ('000 tonnes)	Kt ('000 tonnes)	kt	%
Zircon Produced	11.8	9.1	2.7	31
Zircon Sold	11.4	9.1	2.3	24
TiO ₂ Minerals Produced	2.9	7.5	-4.6	-61
TiO ₂ Minerals Sold	-	0.3	-0.3	N.M
Yearly Average Zircon Price	US\$1,998/t	US\$2,457/t	-US\$459/t	-19
Total Produced	14.8	16.6	-1.8	-11
Total Sold	11.4	9.5	1.9	20

Note: N.M. = Not meaningful

Source: PYX and Cedrus

Looking deeper into the data, PYX’s 2H FY 2023 operating results showed an encouraging progression in premium zircon production of 6.1kt, up about 29% over 2H FY 2022 and represented an annualized production of 12.2kt. Meanwhile, premium zircon sales also followed the same trend, displaying an impressive 18% surge in 2H FY 2023 versus 2H FY 2022 to 6.2kt with an annualized rate of 12.4kt.

It is worth highlighting that Q3 2023 was a fantastic quarter for PYX as well, with premium zircon output rising 61% Y/Y from 2.5kt in Q3 2022 to 4.0kt, its highest quarterly production to-date and equivalent to a yearly production of 16kt after annualization. Sales of premium zircon in Q3 2023 soared around 88% Y/Y from 2.3kt in Q3 2022 to 4.2kt fueled by demand from China and India.

Achievements in ongoing production and sales growth of premium zircon in FY 2023 can be attributed to the Company's effort in securing a globally diversified client base over the past few years. This has proved instrumental because market conditions in FY 2023 had been difficult owing to macroeconomic and geopolitical factors. The outstanding quarterly performance achieved by PYX underscores that the Company has both the ability and readiness to ramp up its production and sales alongside the success of the customer diversification strategy.

II. COMPANY'S OTHER IMPORTANT ACHIEVEMENTS

Renewal of Mandiri's License for another Two Years

On 18 January 2024, PYX received a two-year license covering 2024 and 2025 to extract, process and export up to 94kt per annum of minerals (a combination of premium zircon, ilmenite and rutile as mentioned below) from its flagship Mandiri project.

The license was granted following the approval of the 2024 & 2025 Mandiri RKAB Work Plan and Budget (*Rencana Kerja dan Anggaran Biaya (WP&B/RKAB)*) by the Indonesian Energy and Mineral Resources Department (ESDM), covering all crucial aspects of Mandiri's operations such as mining operations, processing and refining, marketing and shipping, environment, mining safety, training, together with community development and empowerment.

More specifically, the license allows the Company to export:

- A total of 24.0kt per year of premium zircon with grades of 65.5% divide into:
 - Export market: 19.2kt/annum
 - Domestic market: 4.8kt/annum
- A total of 50,000 Wet ton ("WE"²)/year of ilmenite with 45% grades divided into:
 - Export market: 40.0kt WE/year
 - Domestic market: 10.0kt WE/year
- A total of 20,000 WE/year of rutile with 90% grades divided into:
 - Export market: 16.0kt WE/year
 - Domestic market: 4.0kt WE/year

Ilmenite and Rutile Potentials

PYX began to produce rutile and ilmenite in January 2022 and June 2022 respectively. Then, in August 2023, PYX was awarded by the Indonesian government the license for the export of ilmenite and rutile ores. Meanwhile, this license is being amended to include the export port of Jakarta after the government made a subsequent change in December 2023. By the end of December 2023, the Company had stockpiled 9.8kt of ilmenite and rutile inventory. Since the regulatory and operating environment in Indonesia is favourable, PYX's financial performance is poised to benefit from added sales of ilmenite and rutile potentially from 2024.

² WE = Wet Ton (the new scale for titanium based on MoF Department No 23, 2023)

Continued Commitment to the PYX Cares Program

PYX continues to improve the integration of the United Nations Global Compact into its daily operations, culture and business strategy, while simultaneously engaging in collaborative projects to advance broader development goals of the United Nations, especially the Sustainable Development Goals. In the Annual Communication on Progress, the Company outlined its persistent commitment to the Global Compact in current and future daily operations.

Overall, PYX has encouraged diversity and inclusiveness in its workforce. During FY 2023, the Company continued to make important progress in equality by increasing the share of its female employment to 28%, which was up 5 percentage points compared to FY 2022. In addition, Dayak employment (Indigenous) was raised to 47% of the total workforce in FY 2023, an increase of 2 percentage points on a yearly basis.

In FY 2023, PYX maintained a safe and secure working environment with zero recordable injury frequency rate.

Indonesia's Positive Regulatory Regime Serves as Tailwinds for Growth

PYX's ambition to grow is made possible by Indonesia's business-friendly regulatory environment. This aspect is showcased through the award of several significant licenses, including the following, and the legalization of the sales of ilmenite and rutile to the international markets.

- Approval of the renewal of the 10-year exploration and mining license for the Tisma project in February 2023 has enhanced the long-term visibility over this highly promising project;
- Being award the license for the exports of ilmenite and rutile ores by the Indonesian government in August 2023 (this license is being amended to include the export port of Jakarta); and
- Granting of the 2-year license to the Mandiri project that permits PYX to extract, produce, and export of up to 94kt of minerals, comprising of 24kt of premium zircon, 20kt of rutile, and 50kt of ilmenite (all on a yearly basis), as well as extracting and producing other by-products such as silicon dioxide ("SiO₂").

III. CONCLUSION

In FY 2023, PYX accomplished strong operating performance not only in production and sales of premium zircon but also in other parameters such as regulatory approval and sustainability. With a well-diversified customer base, the Company was able to weather turbulence in markets it addresses. Moreover, PYX has stockpiled ilmenite and rutile to get itself prepared for the sales of these two minerals once the revised license is issued by the Indonesian government, creating extra avenues of revenue. We believe PYX can maintain its extraordinary operating performance going forward and deliver robust long-term shareholders value.

In addition, we believe PYX's financial performance can be improved further based on the following:

- **Capacity expansion and potentially adding more mineral resources through ongoing exploration:** Investment commitments secured from L1 Capital Global and GGY Global Yield LLC will help PYX scale up its production capacity further at the Mandiri deposit, while starting the planning process at the Tisma project.



Apart from the mineral resources that are known today from these two mineral sands assets PYX already owned, we believe there is 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 aids PYX to do longer-term planning. Furthermore, the Company is committed to source, acquire and develop other world-class mineral assets, which could lead it to become an even stronger global player in the mineral sands sector; and

- **Zero carbon transition serves as a substantial and new demand driver for both premium zircon and titanium:** To deal with climate change and avert associated natural disasters such as severe tropical storms, floods and extreme droughts by reaching carbon neutrality is a consensus among many countries around the world. Premium zircon and titanium are increasingly viewed as playing an integral role to attain this objective, especially the former.

Premium zircon is generally regarded as a crucial contributor towards clean energy generation and energy efficiency improvement in some applications that would mitigate climate change. According to studies by academic and industry researchers, zero carbon transition can potentially spur zircon demand over the next two decades in the 56%-88% range. Specifically, research conducted by the Zircon Industry Association and Praxair Technology found that the use of zircon rather than alumina likely lowered Global Warming Potential³ by some 16%. Using zircon in thermal barrier coating could lift energy efficiency of jet turbine engines by 12% is another good example.

The positives that have been discussed above lead 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\$3.81 (GBP196)**, representing an upside potential of around 1,170% over the closing price of GBP15.575 (AU\$0.30*) as of 31 January 2024 (*at the exchange rate of GBP:AU\$ = 1:1.92).

³ 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

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