

INITIATION OF COVERAGE

Phoenix Group PLC



Coverage Initiated with an Overweight Rating

Target Price estimated at AED 2.37 per share

August 16th 2024

Financials

Bloomberg	PHX UH
Reuters	PHX AD
52 week High / Low (AED)	2.56 / 1.53
Market Cap (AED mn)	9,980.6
Volume 6m Avg. (in mn Shares)	15.8
Free float	44.1%
EPS CAGR 23 -27F*	24.5%

*as of 16th August 2024

YE: 31 Dec	2023	2024F	2025F	2026F
Revenue (USD mn)	288.2	300.5	551.3	929.9
% change YoY	-61.8%	4.3%	83.5%	68.7%
EBITDA (USD mn)	87.2	95.8	219.7	439.6
Net income (USD mn)	207.8	201.2	228.2	408.2
EPS (USD cents)	0.04	0.03	0.04	0.07
P/E (x)	15.4	13.5	11.9	6.7
EV/EBITDA (x)	31.4	20.6	9.4	4.2
ROAE (%)	51.7%	25.5%	23.0%	31.3%

PHX share price vs. ADX performance (rebased)



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Phoenix Group PLC

Target AED 2.37 per share

Market Price AED 1.65 per share

We initiate coverage on Phoenix Group Plc (PHX) with an Overweight recommendation. Our 12-month price target of AED 2.37 per share, indicate an upside of 43.8% from current market price. PHX is on an aggressive expansion plan enhancing mining capacity to global scale (hashrate expected to reach 50.0 EH/s by 2026) and is making strategic stake purchases / acquisitions across the crypto / digital assets value chain, well positioning itself to tap the emerging opportunity in Bitcoin (BTC) mining. We see investment in PHX attractive for its high double digit earnings growth prospects, diversified business mix, improving scale, competitive cost structure (which in our view has further headroom to improve through deployment of efficient equipment / energy sourcing), strong balance sheet (USD 321mn worth of digital assets in Q2 FY24) and ability to tap funding on attractive terms. At 13.5x P/E (2024E), the shares of PHX are trading at a discount to global mining peers, which in our view overlooks competitive strengths and PHX is expected to command a valuation premium over its peers.

Well established operations in MENA; expanding footprint to compete at global scale: PHX currently operates 750MW+ of capacity and is at a cusp of unlocking high growth in revenue and profitability through aggressive capacity expansion (nearly 2x times by FY25/26) in self-mining and is well positioned to reap benefits of improved mining economics due to recent surge in BTC prices. PHX has deployed high-grade ASIC equipment, thereby creating an industry leading mining fleet expected to corner 4.0-5.0% share of global capacity by 2025E.

Diversified asset with sustainable cost advantage: We like PHX's diversified business mix, across self-mining (55.7% of revenue 2Q FY24), hosting (34.3%), and equipment trading business (9.8%), which provides the company the agility to allocate capacities and generate revenue across market cycles. We also like PHX's geographic presence of its data centres which has access to sustainable and competitive (low cost) energy tariffs (USD 5.7 cents per KW/h; 12.3% below industry leader – Marathon Digital Holdings - MARA).

Asset light balance sheet and liquidity to support debt-free expansion: The diverse business mix of PHX has enabled the company to remain asset light, with PPE accounting for ~12.5% of total balance sheet as of Q2FY24. Further, PHX holds ~USD 333.2mn in cash and liquid digital assets representing ~36.2% of total balance sheet. We expect these characterises of the company to facilitate capex worth ~USD 240.8mn in FY24 and FY25, without increasing financial leverage.

Shifting focus away from equipment trading to the lucrative self-mining segment: From a low of USD 16,541 BTC prices have surged by ~268.0% to reach USD 60,938 currently. Despite doubling of direct cost of mining (due to halving), BTC prices remain lucrative for the large-scale miners like PHX (average gross margin for self-mining reached ~44.0% in H1FY24). Further, the outlook for BTC prices remains positive and the management plans to add ~500 MW of new capacity to the self-mining segment in FY24 and FY25. This is expected to result in higher revenue share from the self-mining segment to 71.2% in FY26 compared to ~55.7% in Q2FY24.

Key Investment Risks: Even though the PHX's presence across various segments in the BTC industry diversify some risks, the overall business prospectus remains fundamentally dependant on BTC prices. BTC prices below USD 50K, unfavourable crypto regulations, any unforeseen disruptions at its facilities and worsening macro / geopolitical risks are the key investment risks.

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Investment Thesis

Well established operations in MENA; expanding footprint to compete at global scale

Global capacity utilized expected to be more 750MW by FY25 with further expansions in the near future

PHX currently operates 750MW+ of BTC mining capacity across Americas, Norway, CIS countries and MENA region. Further, the company is at a cusp of unlocking high growth in revenue and profitability through aggressive capacity expansion (expected expansion of ~500MW in the MENA region in the near future) which will majorly be used for self-mining and is well positioned to reap benefits of improved mining economics due to recent surge in BTC prices. PHX has deployed high-grade ASIC equipment (Bitmain, MicroBT, CoolWallet, Ledger) in these facilities thereby creating an industry leading mining fleet expected to corner 4.0-5.0% share of global capacity by 2025E.

Exhibit 01: PHX investments across geography

Region	Capacity (MW)	Comments
Americas	115	Major hub with significant existing infrastructure
Norway	25	Known for its energy efficiency and favorable climate
CIS	200	Region with competitive energy costs
MENA	425	500 MW planned expansion: strategic for future growth. Exclusive distributorship of leading equipment brands like MicroBT, Bitmain
Strategic Investments	N.A.	Strategic investments (Lyvely, M2, Rekt Studios) across Cryptocurrency ecosystem, to capitalize on growth in MENA region

Source: Company reports and BHM Analysis

Geographical and segmental diversification provide resilience against volatility in BTC prices

Diversified business mix with low cost of electricity (Average USD 5.2 cents KW/h)

The prices of digital assets, including BTC, have historically experienced substantial volatility; for instance, the annual standard deviation of weekly prices of BTC (USD cross) over the last ten years is ~72.0% as compared to annual standard deviation of ~22.0% for S&P 500 over the same period.

PHX's combination of the capex heavy self-mining business and the asset-light trading business reduces susceptibility to volatility in BTC prices to a great extent. PHX business mix is diversified across self-mining (55.7% of revenue 2Q FY24), hosting (34.3%), and equipment trading business (~10.0%) which reduces idiosyncratic risk. Further, while the mining segment remains cost efficient due to economies of scale, excess capacity in the hosting segment (whose capex is incurred by client) can be utilized during stressed margin conditions since it becomes uneconomical for hosting clients to continue mining. This allows the company the agility to shift its focus towards the most economically advantageous segment at various market phases. (Refer to Exhibit 1)

Exhibit 02: Business Model Advantages

	Business Segments		
	Self-Mining	Hosting	Trading
Description	Utilizing industry leading technology hardware to mine BTCs for self	Development, operations, and maintenance of specialized mining facilities providing hosting services	Exclusive distribution rights in the Middle East and Africa for ASICs wallet and equipment
Scale	Hashrate: 4.8 EHs Hashing Share: 0.81%	Hashrate: 3.5 EHs Hashing Share: 0.59%	Distributor of Bitmain and MicroBT , two of the top three manufacturers
Key Advantage	Lower operating cost and greater control; outperforms in bear cycles	Stable revenue stream secured by two-year contracts	Asset-light and high margin; outperforms in bullish cycles
Revenue Share (Q2'24)	55.7%	34.3%	9.8%
Gross Margin (Q2'24)	39.0%	16.0%	40.0%
Exposure to BTC prices	High	Moderate	Moderate / High
Capital expenditure requirements	High	Low	Low

Source: Company reports and analysis

Diversified business mix with low cost of electricity (average USD 5.2 cents KW/h) and strategic expansion in MENA

Sustainable electricity cost advantages in MENA region

PHX has geographic presence of its data centers strategically located across the US, Europe, MENA and CIS region. The company's cost of electricity in Q2 FY24 of USD 5.7 cents KW/h, remains ~38.0% higher than its listed peers that had an average power cost of USD 4.1 cent KW/h, but remains ~12.3% lower than electricity cost of USD 6.5 cents KW/h for industry leader - MARA. In our discussions, PHX management indicated that this is due to earlier purchasing of power agreements in Americas and Norway which are now being renegotiated and are expected to result in 15.0% to 20.0% decrease in cost per KW/h.

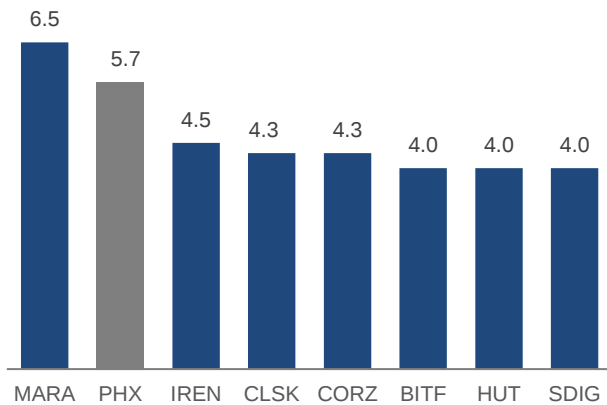
Further, the company is currently planning aggressive 500 MW capacity expansions in the MENA region which is expected to increase the region's share in total capacity from 55.5% in 1H'24 to 73.1% by FY26. Accordingly, we expect the cost of electricity to gradually decrease to USD 5.1 cents KW/h by FY27.

Exhibit 03: Expected cost of electricity in FY24 across regions

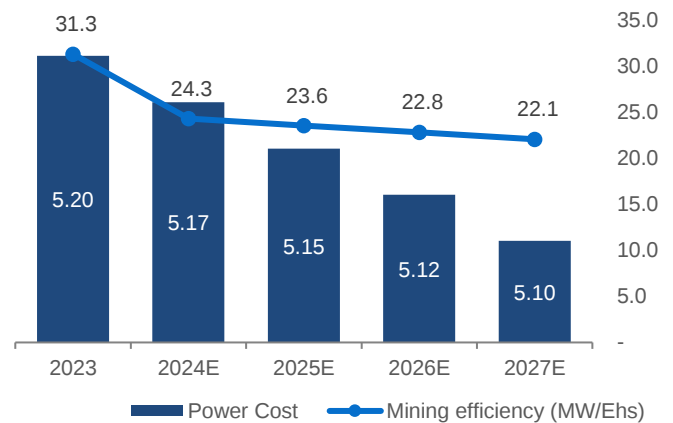
Region	Capacity (MW)	Percentage of total capacity	Average cost per KW/h (USD cents)
Americas	115	9.1%	7.5
Norway	25	2.0%	7.2
CIS	200	15.8%	5.0
MENA	925	73.1%	4.9
Total / Weighted Average	1,265	100.0%	5.2

Note: MENA capacity includes new capacities expected to be operational by FY25-26, Source: Company reports, BHM Capital Analysis

Exhibit 04: Electricity cost of PHX vs peers
Power cost - PHX vs peers– (cents per KW/h)



PHX power cost forecast (FY23 to FY27) – (cents per KW/h)



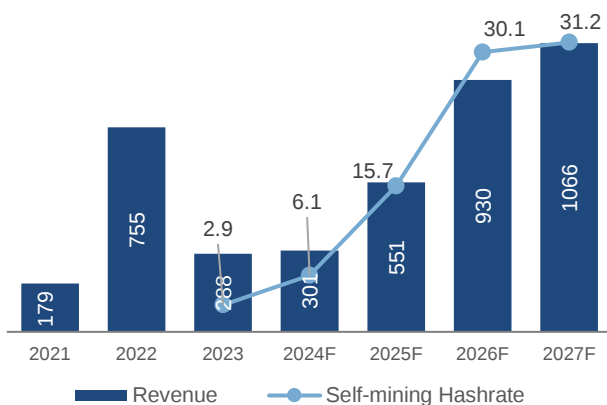
Source: Company reports, BHM Capital Estimates, Note:

Shifting focus towards the lucrative self-mining segment

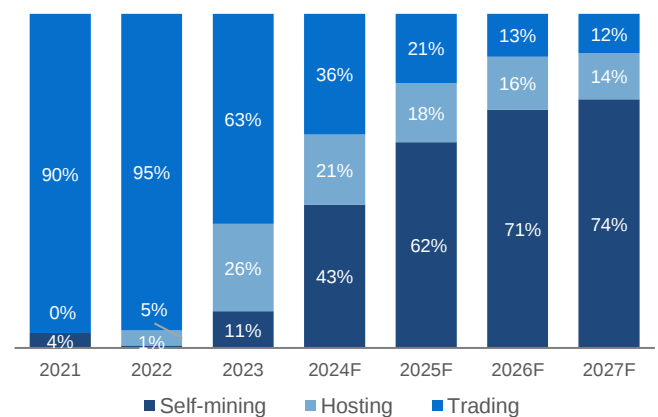
From a low of USD 16,541 (in December 2022), BTC prices have surged by more than 260.0% to currently reach USD 60,938. Despite doubling of direct cost of mining (USD 45,000 per BTC) due to halving event in 1H 2024, BTC prices remain lucrative for the large-scale miners like PHX (gross margin for self-mining segment averaged ~44.0% in first two quarters of FY24). Retail miners will find it uneconomical to continue mining post halving resulting as many of them exiting the market which could decrease the global Hashrate, presenting an opportunity to large-scale miners such as PHX to capture a larger share. Historically, within one year of halving, BTC prices have surged by more than 300.0% and accordingly the management plans to add ~500MW of capacity to the self-mining segment during FY24 to FY25.

Exhibit 05: Revenue and Hashrate trends and Revenue breakup

Revenue (USD mn) and Hashrate for self-mining – (FY21 to FY27)



Revenue share across segments – (FY21 to FY27)



Source: Company reports, BHM Capital Estimates

BTC mining still lucrative despite cost to mine a BTC (USD 45,000) increasing post the halving event

Accordingly, during FY22 and FY23, the company invested ~USD 75.3mn as capital expenditure, primarily for new self-mining facilities in the US and Oman. Further, our discussions with management indicated that of the 150 MW of installed capacity in Oman, only 45 MW is commercialized so far. The rest of capacity is expected to go live in 2H FY24. Overall, during Q2'24, PHX had a total capacity of 765MW, with 453MW utilized, indicating a utilization rate of ~59.2%.

The commercialization of the Oman facility along with utilization of excess capacity for self-mining is expected to increase revenue of the self-mining segment by

~10.0x times by FY'25 (from FY'23 levels) resulting in increase in revenue share of the lucrative self-mining business (Q2 FY24 gross margin of 39.0%), from 55.7% in Q2 FY24 to 74.4% in FY27.

Exclusive distributorship of Bitmain and MicroBT and dividend paying investments

Globally, top three manufacturers of ASICs have cornered a combined market share of ~98.0% and PHX has secured exclusive distributorship for MENA region from two of the market leaders. Amid favorable regulatory environment for crypto-mining, lower energy costs, high adoption (~35.0% / 22.0% of population in UAE / Africa own cryptocurrency compared to below 20% in US / Europe in 2022), there remains high potential for growth for the crypto-ecosystem in the MENA region. Backed by these fundamentals, we expect the equipment trading business of PHX to grow at a steady rate (of 3.0% to 4.0% annually) going forward. Furthermore, the company holds a 15.0% stake in Citadel and 23.4% stake in Bitzero; both the companies are in the business of BTC mining. In Q1 FY24, Citadel paid a dividend of 1,285 BTC worth ~USD 92.0mn. Going forward, we expect these investments to continue paying dividend of ~350 BTC per annum.

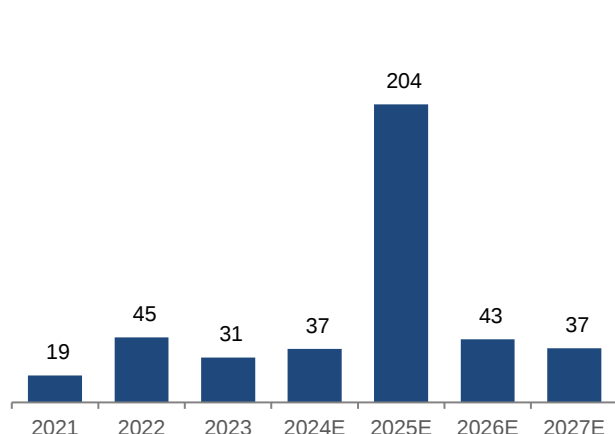
Asset light balance sheet and strong liquidity position

PHX's balance sheet remains comparatively asset light. Accordingly, as of Q2'24, property plant and equipment and current assets make up 12.5% and 78.1% as compared to average of 43.7% and 29.3% of four peers of PHX (Core Scientific - CORZ, Marathon Digital Holdings - MARA, Riot Platforms - RIOT and Cleanspark - CLSK). Further, PHX holds ~USD 288.6mn in cash and liquid digital assets representing ~32.8% of total balance sheet. We expect these characteristics of the company to facilitate capex worth ~USD 240.8mn in FY24 and FY25 without increasing financial leverage. This will result in an increase in its overall Hashrate from 15.0 in Q2 FY24 to 31.4 in FY25, (~109.3% growth), while still maintaining a debt-free balance sheet.

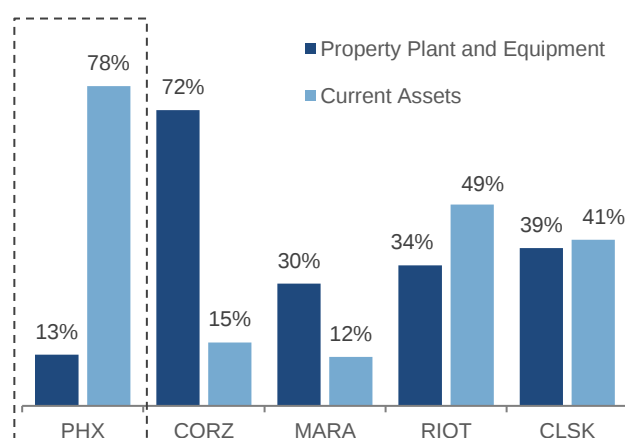
Asset-light balance sheet to assist in maintaining the company's hashing-share amid aggressive capacity expansion of peers

Exhibit 06: Balance sheet structure of PHX vs peers and Capex

PHX Capex (FY21 to FY27) – (USD mn)



PPE and Current Assets as a % of Total Assets (Q2 FY24)

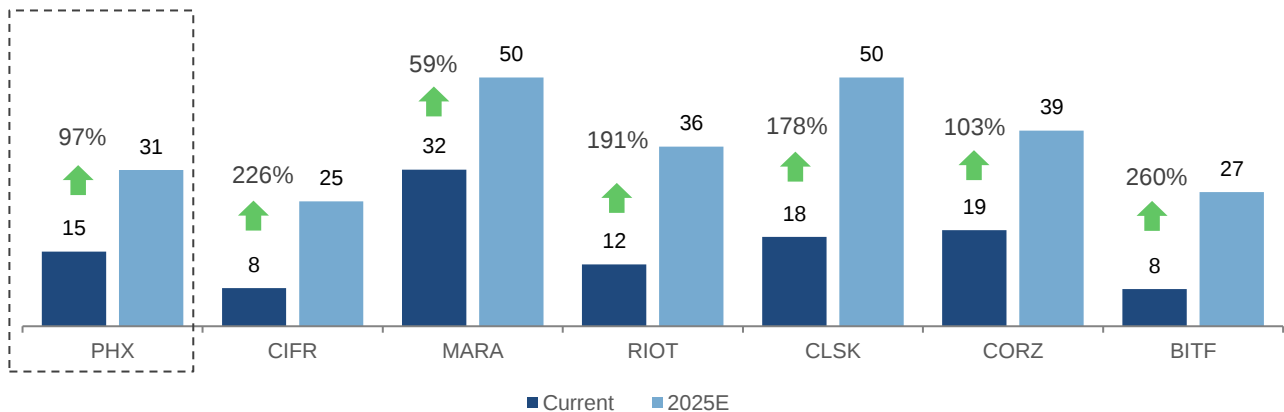


Source: Company reports, BHM Capital Estimates

Since BTC rewards are directly related to a miner's hashing share, it remains critically important to grow capacities in line with the industry. International peers of PHX intend to increase their Hashrate by 170.0% by FY25. During the same period, PHX's growth in Hashrate is expected to be slower than its peers at ~97.0%. However, the company has aggressive capacity expansion plans expected to commercialize in FY26. Accordingly, by FY26, PHX's Hashrate is

expected to reach ~50.0 EH/s, representing aggressive growth of more than 200.0% from current levels. The major advantage for PHX is that its growth is expected to be completely debt-free.

Exhibit 07: Expected Hashrate PHX vs peers



Source: Company reports and analysis

Favorable regulatory environment and growing appetite for Crypto in the MENA region

While the US government is considering an (DAME) excise tax of 30.0% of the electricity costs used in digital asset mining, the accommodative regulatory environment along with lower cost of electricity in Oman and UAE is attracting crypto miners into the region. Below are some recent developments in crypto mining in Oman and UAE.

Exhibit 08: Recent developments in Crypto-mining industry in Middle East

Alps Blockchain plans facility in Oman	In December 2023, Alps Blockchain entered an agreement to develop a new blockchain data center in Oman. The mining farm will be installed in the Green Data City's hub with a first phase of 6.5MW.
PHX partners with Green Data City	In August 2023, PHX partnered with Muscat based Green Data City to develop a USD 300mn crypto-mining farm in Oman with a capacity of 150MW
USD 370mn mining facility in Oman	In August 2023, Exahertz International inaugurated a data hosting and crypto mining center in Salalah, Oman.
New facility by MARA	In May 2023, MARA formed a JV with Zero Two, to develop two crypto-mining facilities with a total capacity of 250MW, and a Hashrate of 7 EH/s.
UAE achieves 3.7% of global BTC mining activity	In June 2023, BTC miners in UAE had an average energy efficiency of 30 (J/Th). While they are estimated to generate 13 EH/s translating to a global Hashrate of 3.7%
Establishment of Green Data City	In 2022, Green Data City received the first license for sustainable crypto mining in Oman. International mining companies can register and operate in Green Data City with long term agreements. The project plans to deploy ~400MW for crypto mining

Source: News Reports

Cryptocurrency is becoming popular in the Middle East with UAE leading this adoption due to its favorable stance towards cryptocurrency, innovation, and tax incentives, with 72.0% of UAE's local users investing in BTC. In 2024, more than 500,000 daily crypto traders are active in the Middle East while most of them depend on global centralized exchanges. PHX's acquisition of M2, a cryptocurrency exchange, can benefit from this by providing a credible platform alternative to a market which lack access to a local exchange. PHX's has proven its ability to benefit from the favorable government initiatives towards cryptocurrency in the Middle East by winning a contract to develop a 150MW facility in Green Data City, Oman. Further, sovereigns and government entities are providing support via land, facilities and supply of electricity at cheaper rates.

Upside of ~44% from CMP
of AED 1.65 per share

Valuation & Recommendation

We recommend an Overweight rating on the shares of PHX with a target price of AED 2.37 per share, indicating an upside of 43.8% from the last close of AED 1.65 per share. We expect the company's revenue / earnings to grow at a high CAGR of +38.7% / +29.5% between FY23 and FY27F to be supported by rapid scaling up of capacities (Hashrate expected to reach ~50.0+ EH/s by 2026), supportive BTC price environment (BTC price estimated to reach USD 75K to 80K levels by end of FY24) and expected cost efficiencies.

Target price estimated at AED 2.37 per share

Our 12-month target price estimate is based on a weighted average of Forward PE (25.0%), Forward EV/EBITDA (25.0%), DCF (25.0%) and Forward KPI-based (EV/Hashrate; 25.0%) methodologies.

Exhibit 9: Valuation summary

Methodology	Weightage	AED per share
Forward EV/EBITDA	25.0%	1.90
Forward P/E	25.0%	3.33
DCF	25.0%	2.52
Forward EV/Hashrate	25.0%	1.75
Target valuation		2.37
Current market price (AED)		1.65
Upside / (Downside)		43.8%

Source: BHM Capital Analysis

Target price estimated at AED 2.37 per share based on EV / EBITDA (12.2x), PE (24.0x), EV / Hashrate (48.9x). We have further given 25.0% weightage to DCF methodology to capture long-term income characteristics of the firm.

Exhibit 10: Weighted Average Cost of Capital

WACC	
Cost of Equity	11.2%
Cost of Debt	6.9%
Post-tax Cost of Debt	6.3%
Equity Weight	99.4%
Debt Weight	0.6%
WACC	11.2%

Source: Company reports, BHM Capital Estimates

Weighted Average Cost of Capital is calculated as Cost of Equity plus Post-tax Cost of debt multiplied by their respective weightages. Cost of equity calculations considers the yield of the 10-year US Government bond plus UAE's Country default Risk Premium as the Risk-Free Rate, PHX Adjusted-beta based on the daily price performance of the stock since listing on the stock exchange, vis-à-vis the FTSE ADX General Index and UAE's Equity Market Risk Premium. Cost of debt calculations considers the 12-month EIBOR plus a spread of 1.5%. We estimate terminal value by applying an EV / EBITDA exit multiple of 10.0x; which is in line with the current 1-year forward industry median EV / EBITDA multiple.

Target share price is resilient to BTC prices and electricity costs

Our target price estimates range from AED 1.54 to AED 3.21 per share

Based on our sensitivity analysis, we find that the target price is moderately influenced by BTC prices and the cost of electricity. If BTC prices surpasses the USD 90,000 threshold and assuming favorable electricity costs (cost of electricity USD 5.01 cents / KW/h), we estimate target price of AED 3.21 (+35.0% from current target). On the contrary, under extreme stress conditions of BTC price closing in to USD 50,000 and high electricity costs (USD 5.41 cents / KW/h), we estimate a target price of AED 1.54 (-35.0% from current target price). Overall, we find that the target price ranges within a resilient band of +/- 35.0% on various BTC price scenarios.

Exhibit 11: Target Price - Sensitivity Analysis (AED per share)

Cost of Electricity (cents / KW/h)	BTC Price (USD)					
		50,000	60,000	70,000	80,000	90,000
5.01		1.62	2.02	2.41	2.81	3.21
5.11		1.60	2.00	2.39	2.79	3.19
5.21		1.58	1.97	2.37	2.77	3.17
5.31		1.56	1.95	2.35	2.75	3.14
5.41		1.54	1.93	2.33	2.73	3.12

Source: Company reports, BHM Capital Estimates

PHX valued at AED 1.90 to 3.33 per share based on relative valuation

For relative valuation, we have considered global BTC mining companies as a peer group for PHX. We have applied a premium of 10.0% over peers for valuation to capture competitive advantages of PHX's resilient business model, access to low cost and sustainable power sources, diversified revenue streams and high ROEs. Based on the Forward EV / EBITDA approach, our target price is estimated at AED 1.90 per share based on FY25F EBITDA of USD 219.7mn at EV / EBITDA multiple of 12.2x.

Using forward PE multiple method, our target price is estimated at AED 3.33 per share, basis the FY25F earnings of USD 228.2mn at a PE multiple of 24.0x (a 10% premium to peer median to reflect competitive advantages / return characteristics). Additionally, based on FY26F Hashrate potential of 50.0 EH/s and target EV / Hashrate multiple of 48.9x, we value shares of PHX at AED 1.75 per share.

Exhibit 12: Relative Valuation

	EV / EBITDA multiple	PE multiple	EV / Hashrate multiple
Weighted average multiple	11.1x	21.8x	48.9x
Premium	10.0%	10.0%	0.0%
Applied multiple	12.2x	24.0x	48.9x
2025 EBITDA per share and EPS (AED)*, Hashrate (EH/s)	0.13	0.14	50.0
Value per share (AED)*	1.90	3.33	1.75

Source: BHM Capital Estimates, *USD converted to AED

PHX's investment in associates valued independently at USD 168.9mn

We conducted an independent valuation of each of PHX's associate companies, arriving at a total valuation of USD 168.9mn. For companies Bitzero, Citadel, and M2, we applied the same peer group as PHX and used a median P / B multiple of 1.7x to determine their target valuation. For Lyvely and Rekt Studios, we have used peer from listed social media platforms / Web3 gaming groups and applied a median P / B multiple of 0.6x and 1.0x, respectively, to determine their valuation.

Exhibit 13: Valuation of Associates

	Bitzero	Citadel	Lyvely	M2	Rekt Studios
Estimated market value (USD 000)	65,317	736,173	2,327	133,446	20,400
% Stake held by PHX	23.4%	15.0%	25.0%	30.0%	12.5%
Value of Stake (USD 000)	15,264	110,426	582	40,034	2,550
Total Value of Associates (USD 000)					168,856

Source: Bloomberg, BHM Capital estimates; Note: Estimated market value was calculated using the median P/B multiple of peer companies

Exhibit 14: Peer Table for PHX (Trading Multiples)

Company	Ticker	Country	Market Cap (USD mn)	Enterprise Value (USD mn)	1 Year Forward P/E (x)	1 Year Forward EV / EBITDA (x)	Expected Hashrate by 2025 (EH/s)	2 Year Forward EV / Hashrate	ROE
Phoenix Group PLC	PHX	UAE	2,668	2,194	13.5	22.9	31.4	43.9	51.7%
Peers									
Marathon Digital Holdings	MARA	US	4,561	4,621	21.8	8.0	50.0	92.4	22%
Cleanspark Inc	CLSK	US	2,749	2,439	34.0	10.6	50.0	48.8	6%
Riot Platforms Inc	RIOT	US	2,380	1,767	15.0	8.0	36.1	48.9	8%
Core Scientific Inc	CORZ	US	2,185	2,709	NA	NA	NA	N/A	N/A
Iris Energy Ltd	IREN	Australia	1,373	1,283	NA	18.9	25.1	51.1	-46%
Cipher Mining Inc	CIFR	US	1,289	1,222	26.7	NA	27.0	45.2	4%
Terawulf Inc	WULF	US	1,266	1,330	NA	14.8	39.3	33.8	-29%
Hut 8 Corp	HUT	US	998	1,139	5.6	NA	NA	N/A	-33%
Bitfarms Ltd/Canada	BITF	Canada	971	848	NA	11.6	NA	N/A	-38%
Bitdeer Technologies Group	BTDR	Singapore	913	851	NA	NA	NA	N/A	-13%
Argo Blockchain PLC	ARBK	UK	75	114	NA	8.0	NA	N/A	-446%
Stronghold Digital Mining Inc	SDIG	US	56	105	NA	10.6	NA	N/A	-21%
Average / Median			1,568	1,535	21.8	11.1	37.7	48.9	-20.6

Source: Bloomberg, Company reports

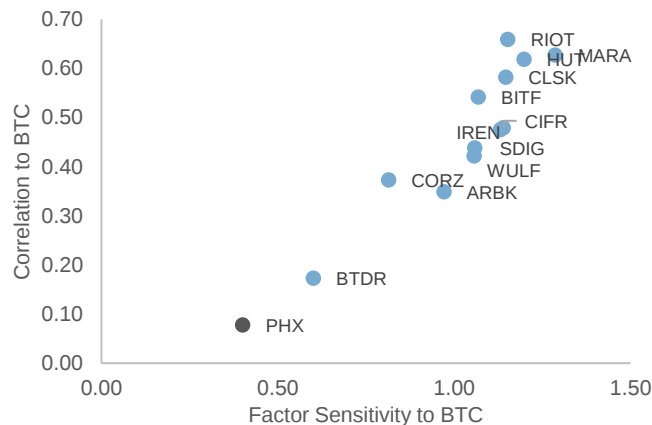
Factor sensitivity to BTC remains lowest compared to peers

Low factor sensitivity and correlation with BTC prices due to a diverse business mix

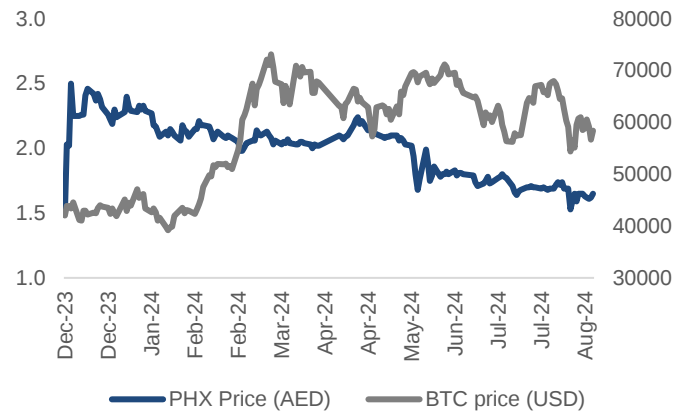
Due to the diverse mix of businesses, PHX's stock price has the lowest adjusted factor exposure to BTC prices of just 0.40 and correlation of 0.07 since listing, as compared to peer average of 1.00 and 0.45, respectively. While the current factor exposures are low and there is a possibility of realignment with industry peers; we expect PHX sensitivity to BTC to be lower than Industry average. For instance, well diversified companies like BitDeer Technologies (self-mining 31.3%, hosting 49.7% and Hasrate sharing 19.0% of revenue in FY23), historically have had low factor sensitivity to BTC prices. Considering that BTC prices are highly volatile, this business proposition ensures performance across market cycles.

Exhibit 15: Single factor sensitivity and correlation of PHX stock to BTC Index compared to peers

Single factor sensitivity and correlation of PHX stock to BTC Index



PHX share price (AED) and BTC price trend (USD)



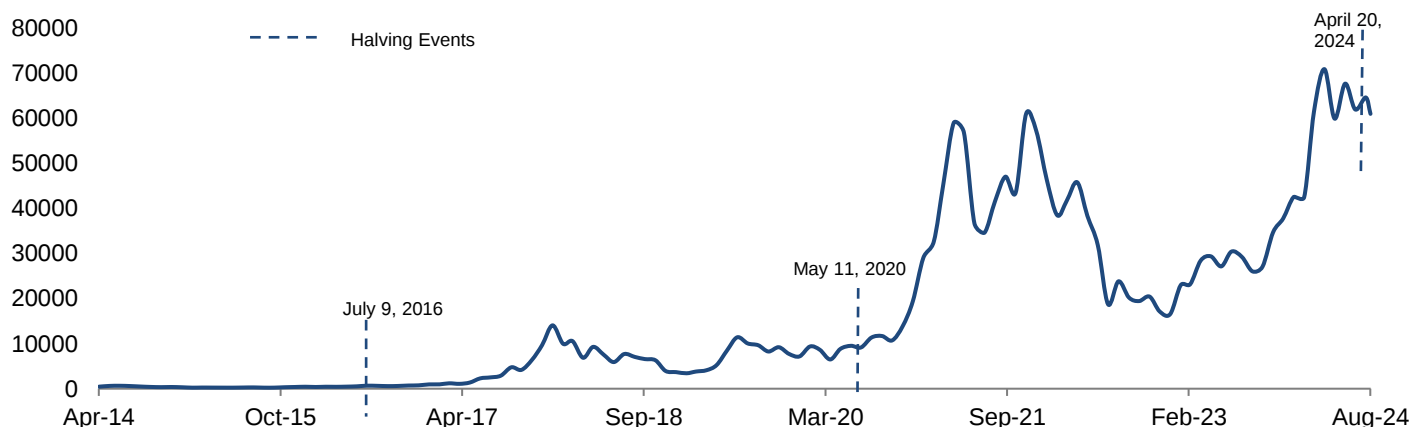
Note: Based on last two-year daily price movements of BTC, and respective peer; for PHX since listing, Source: Bloomberg

BTC prices expected to increase post the halving event of 2024

Historically, within one of halving in 2016 and 2020, BTC prices have increased by an average of 3.2x

Halving event occurs every four years, reducing the block reward for BTC miners while this reduces supply of BTC in the market and also pushes inefficient miners out of the system providing a catalyst for increase in BTC prices. After the 2012, 2016 and 2020 halving, the BTC price ran up ~89.5x, 3.6x and 2.9x, respectively, from its halving date to exactly one year later. Historically, within one of halving in 2016 and 2020, BTC prices have increased by an average of 3.2x. The most recent halving event happened on April 19, 2024 and has increased BTC prices only by ~2.0%.

Exhibit 16: BTC Price Trend (USD)



Source: Bloomberg

PHX shares have recently underperformed as compared to its peers

PHX's share price is yet to capitalize on recent positive momentum seen in BTC and Minecos

The strong correlation between BTC prices and the stock prices of mining companies, as noted earlier, is evident. Since PHX went public, Bitcoin (BTC) prices have surged ~60.0%. Consequently, BTC mining companies have experienced an average return of 32.5%, reflecting a generally optimistic outlook for BTC miners. However, during this period, PHX has only achieved a return of 10.0%, trailing behind its peers. We believe that PHX has yet to fully capitalize on the positive momentum seen in BTC and its mining sector, suggesting a strong potential for PHX's share price to realign with its industry counterparts.

Exhibit 17: Peers Market Capitalization and Stock returns*

Company ticker	Market Cap (USD mn)	1-year stock returns
MARA	4561	9%
CLSK	2,749	33%
PHX	2,833	10%
RIOT	2,380	-48%
CORZ	2,185	193%
IREN	1,373	48%
CIFR	1,289	28%
WULF	1,266	162%
HUT	998	10%
BTDR	913	22%
BITF	971	37%
ARBK	75	-26%
SDIG	56	-56%

Source: Bloomberg; Note: Stock returns since listing of PHX

Risks to valuation

BTC Price risk: BTC prices historically have been proved to be heavily volatile with sudden price increases and decreases being a common phenomenon. Fluctuation in the price of BTC can directly affect revenue generating capabilities of the company leading to loss of margins. BTC prices below USD 50,000 are uneconomical to the company.

BTC prices imply significant risk on the revenue whereas increase in power costs will affect margins of the business

The prices of digital assets, including BTC, have historically experienced substantial volatility; for instance, the annual standard deviation of weekly prices of BTC (USD cross) over the last ten years is ~72.0% as compared to annual standard deviation of ~22.0% for S&P 500 over the same period.

Power Costs: BTC mining requires electricity on a large scale contributing to direct costs incurred by the company. Failure to acquire favorable power contracts can increase these costs, directly affecting the profitability of the business for a long period.

Restrictive Legislation / Taxes: Any restrictions imposed by the government, either in mining or trading of cryptocurrency, will directly affect the operations of the company. Taxes imposed on capital gains on selling cryptocurrency or directly on crypto mining will result in decreased profitability.

Continued Growth in Network Hashrate: While an increase in the network Hashrate generally indicates stability and security of the BTC network, it can pose a challenge to the company. Increased competition will reduce the hashing share and thereby mining rewards.

Stock sensitivity to BTC: Stock performance of PHX is sensitive to change in prices of BTC, where investors tend to lose faith during periods in which BTC is depreciating. Any significant movement in the price of cryptocurrency also results in movement of the share price of PHX which may impact long term targets.

Financial Analysis

Increasing capacity and focus towards self-mining to drive high double digit revenue / earnings growth

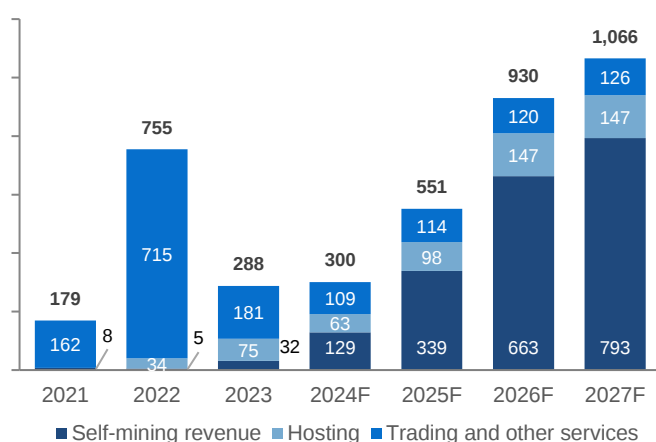
PHX is projecting to grow its revenue at a CAGR of 37.2% with its focus shifting to Mining and Hosting, away from Trading segment

As of Q2 FY24, PHX's revenue is divided among the Trading segment (9.8% of revenue), Hosting (34.3%), and Self-Mining (55.7%). Since its inception, PHX has specialized in trading crypto-mining equipment, forming partnerships with leading brands like Bitmain, MicroBT, Ledger, and CoolWallet, which together hold about 98.0% of the global ASICs market share. Recently, the company has shifted its focus from trading to the high-margin (gross margin over 40.0%), yet capital-intensive, self-mining segment.

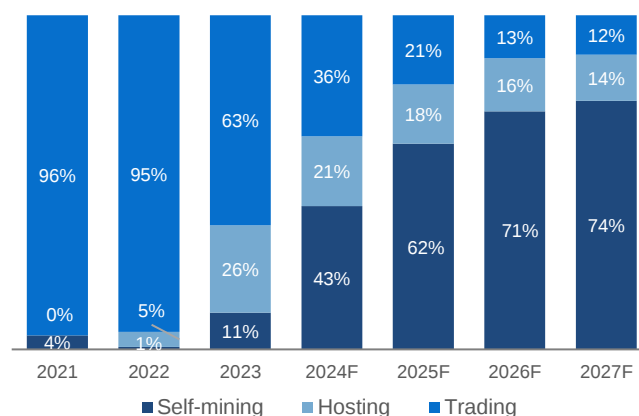
We expect PHX to expand its capacity from 765 MW to 1,185 MW between FY23 and FY27, resulting in a revenue CAGR of approximately 38.7% over this period. The self-mining segment is anticipated to drive most of the company's revenue growth, increasing its share from 11.0% in FY23 to 74.4% in FY27.

Exhibit 18: Revenue and Capital Expenditure

Revenue (USD mn)



Revenue share across segments – (FY21 to FY27)



Source: Company reports, BHM Capital Estimates, Note: Self-mining revenues includes services

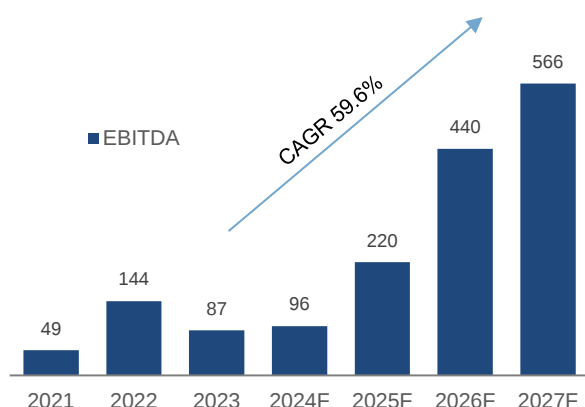
Adequate liquidity to fund upcoming expansions in the self-mining segment

PHX is likely to finance its capital expenditure requirements through IPO proceeds and internally generated funds

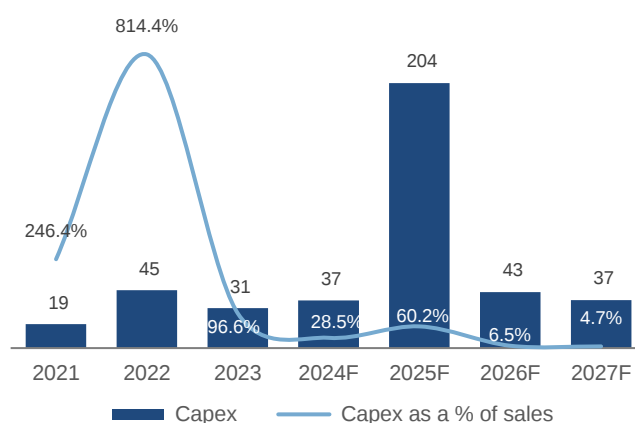
The improved price outlook of BTC has incentivized the company to enter an expansionary phase. PHX plans to add ~500 MW of mining capacity in the next few years with a cumulative capex of ~USD 350mn. We believe that IPO proceeds along with growth in EBITDA is expected to fund most of its capex requirements and remain debt-free.

Exhibit 19: EBITDA (USD mn) and Capital Expenditure

EBITDA (USD mn)



Capital Expenditure (USD mn)



Source: Company reports, BHM Capital Estimates

Upcoming capex to improve key KPIs

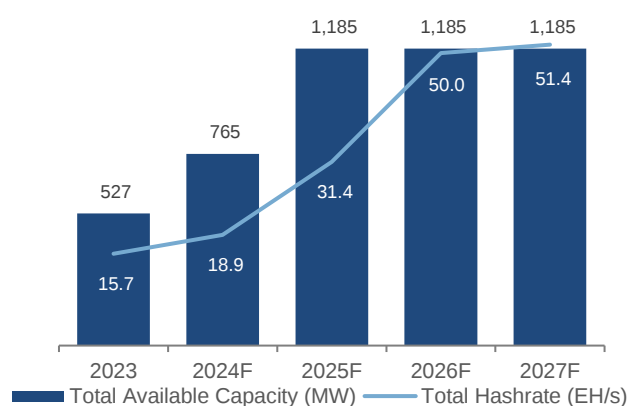
Upcoming capex to modernize mining fleet and improve efficiency

During FY23 to FY24, PHX significantly expanded its installed capacity from 527 MW to 765 MW. However, in Q2 FY2024, the company utilized only 59.1% of this capacity, primarily due to approximately 105 MW of capacity in Oman still awaiting commercialization.

The company is further embarking on aggressive expansion plans within its self-mining segment, which is projected to increase its total available capacity from 765 MW in FY24 to approximately 1,185 MW by FY27. This capital expenditure will facilitate the introduction of advanced mining equipment (from Bitmain and MicroBT), which is expected to enhance overall mining efficiency. Based on these factors, we anticipate PHX's mining efficiency to improve from 31.3 MW/EHs in 2024 to about 22.1 MW/EHs by FY27.

Exhibit 20: Available Capacity (MW), Total Hashrate (EH/s) and Mining Efficiency (MW / EH/s)

Available Capacity (MW), Total Hashrate (EH/s)



Mining Efficiency (MW / EH/s)



Source: Company reports, BHM Capital Estimates

Net Profit margin and RoE are expected to moderate but will still remain higher than industry peers

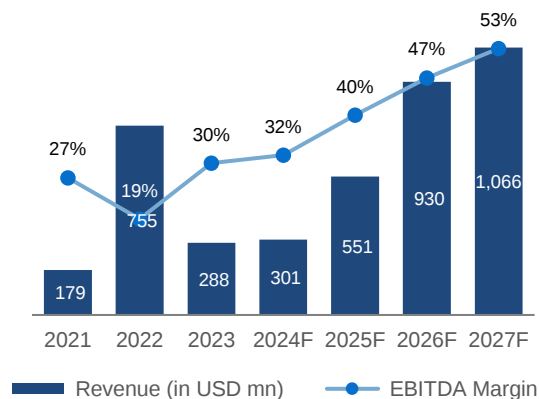
ROE and profit margin to moderate in the short-term due to one-time orders in FY22

EBITDA margin fell from 27.4% in 2021 to 19.1% in 2022. A high revenue of USD 755.0mn was recorded in 2022 as compared to USD 178.5mn in 2021 which came at a cost of declined profitability. A one-time order by Citadel was executed at a lower margin level as compared to the average. In the following year, revenue returned to its normalized levels at USD 288.2mn at an improved EBITDA margin of 30.3% and margins are expected to remain stable at a level of ~35.0%.

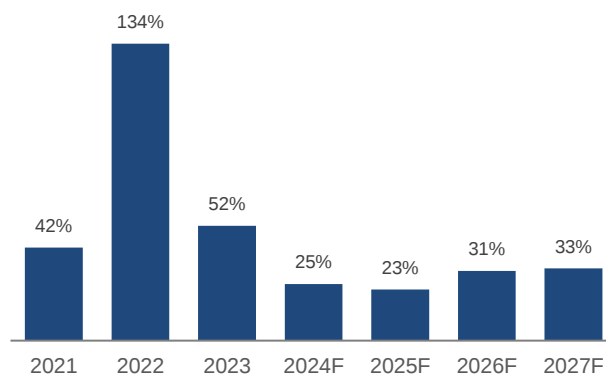
In FY23, the company reported fair value capital gains on digital assets worth USD 100.7mn, which represented 115.5% of its EBITDA of USD 87.2mn. This resulted in an abnormally high net profit margin of 72.1%. Going forward, we expect the net profit margin to stabilize around ~50.0%.

Exhibit 21: Revenue (USD 000s), EBITDA margin (%) and Return on Equity (%)

Revenue (USD mn) and EBITDA margin (%)



Return on Equity (%)



Source: Company reports, BHM Capital Estimates

A provision of USD 18.8mn for impairment of inventory in Q1 of FY24

Inventory is expected to be impaired every four years following the BTC halving event

In April 2024, BTC halving caused mining equipment to become obsolete, because of the increased difficulty levels of hashing. Accordingly, the company impaired USD 18.8mn of inventory at cost, representing ~25.7% of total ending inventory in Q1' FY24. We recognize this as a one-off event which will occur only after every four years.

Quarter update – Q2 2024

Key Positives

Presence across UAE, Oman, Canada, the U.S. and CIS countries, offering cryptocurrency mining, hosting and trading services.

- Self-mining business revenue witnessed an increase of 32.0% QoQ despite lower rewards post halving as new sites in the U.S. and Oman went live
- Gross margin increased by 0.5% points; EBITDA margin grew by 2.8% points QoQ; EBIT margin increased by 1.5% points QoQ; Net margin increased by 13.7% points QoQ.
- Gain / loss on digital assets at FVTPL decreased 17.8% QoQ, mainly due to fall in prices of key cryptocurrency holdings of PHX (BTC declined 13.8% in Q2'24, Solana declined 24.8% in Q2'24, MMX increased by 0.3% in Q2'24)

Key Negatives

- Revenue declined 25.7% QoQ attributed to weak trading revenue (down 81.9%), driven by the recent halving event (which diminished demand for less economically viable machines)
- Hosting revenue declined 10.0% due to unattractive mining ROI post halving.
- ROAA declined by 3.7% points QoQ and ROAE declined by 5.3% points QoQ

Key events and developments

- Bitcoin blockchain underwent the halving cycle, resulting in 50% reduction in block reward.
- The company has partnered with miner manufacturers to have an early access to more efficient mining machine models, in order to offset the effects of halving cycle and is also building a project pipeline with lower energy prices
- Maintained its position amongst the top 5 crypto mining companies globally with realized hashrate of 15.01 EH/s (MARA – 31.5 EH/s, RIOT – 22.0 EH/s, CLSK – 17.3 EH/s, CORZ – 19.3 EH/s)

Future Plans

- PHX plans to invest in high efficiency mining systems and replace the obsolete machinery to maintain and grow the existing hashrate capacity
- The Oman facility is being equipped with the latest high efficiency mining machines which will improve the existing hashrate capacity and efficiency (targeting average mining efficiency at 22-24 MW / EHs compared to current levels of ~28 MW / EHs)
- Acquire businesses that complement the company's operations in the cryptocurrency universe, such as the recent acquisition of Rekt Studios
- Leverage the flexibility in operations to adjust capacity between mining and self-hosting, adapting based on the improved economics driven by enhanced efficiency from earlier initiatives
- Venture into the AI data centre space on the back of increased competition for electricity and facilities between Crypto mining and AI data centres

Exhibit 22: Financial Highlights – Quarterly basis

USD '000	Q2 24	Q1 24	Q2 23	YoY	QoQ
Revenue	51,207	68,932	78,859	-35.1%	-25.7%
Direct Costs	(33,657)	(45,654)	(52,521)	-35.9%	-26.3%
Gross Profit	17,550	23,278	26,338	-33.4%	-24.6%
Operating Expenses	(13,991)	(19,522)	(4,751)	194.5%	-28.3%
Operating Profit	3,559	3,756	21,587	-83.5%	-5.2%
Non-Operating Income	58,082	68,937	1,688	NM	-15.7%
Income Tax Expenses	(5,507)	(6,542)	-	NA	-15.8%
Net Profit	56,134	66,150	23,275	141.2%	-15.1%
EBITDA	4,414	4,014	21,766	-79.7%	10.0%
Property, Plant & Equipment	115,063	112,604	NA	NA	2.2%
Cash and Digital Assets	333,234	288,610	NA	NA	15.5%
Inventories	139,187	83,398	NA	NA	66.9%
Total Assets	919,558	879,301	NA	NA	4.6%
Total Liabilities	97,024	104,904	NA	NA	-7.5%
Total Equity	822,534	774,397	NA	NA	6.2%
Segmental Revenue	Q2 24	Q1 24	Q2 23	YoY	QoQ
Sales of ASICs, wallets and equipment	5,014	27,670	52,773	-90.5%	-81.9%
Hosting revenue	17,572	19,516	18,858	-6.8%	-10.0%
Mining revenue	28,517	21,600	7,228	294.5%	32.0%
Service income	104	146	-	NA	-29.3%
Key Ratios	Q2 24	Q1 24	Q2 23	YoY (bps)	QoQ (bps)
Gross Margin	34.3%	33.8%	33.4%	87.4	50.4
EBITDA Margin	8.6%	5.8%	27.6%	-1898.1	279.7
EBIT Margin	7.0%	5.4%	27.4%	-2042.3	150.2
Net Margin	109.6%	96.0%	29.5%	8010.8	1365.8
Return on Average Assets*	27.2%	30.9%	-	NA	-369.6
Return on Average Equity*	30.6%	36.0%	-	NA	-533.3

Source: Company filings; Note: *Annualized

Phoenix Group PLC - Overview

Phoenix group engages in development, operation and management of crypto datacenters and offers a range of services from crypto and cloud mining, data center hosting and crypto trading. The company also operates as a distributor of mining equipment by mining equipment manufacturers, MicroBT and Bitmain, across various geographies.

Founded in 2017 by Bijan Alizadehfard and Munaf Ali, the company operates as a conglomerate of 29 businesses and has footprint across UAE, Oman, Canada, US and CIS countries. It operates nine mining facilities in the US, Canada, CIS and UAE. The USD 2bn crypto mining farm in UAE is a JV with the Abu Dhabi government.

Segmental Overview

The company generates revenue via four segments as follows:

Hosting (34.3% of Q2 FY24A revenue): Engages in the development, operation and maintenance of mining facilities that provide hosting services for the generation of digital assets, including colocation for mining.

The company operates multiple data centers globally, with Citadel being the largest in the Middle East region, spanning across an area of 100,000 sq. m. The company charges a fixed rate based on power consumption, while also retaining a proportion of total power for BTC mining for themselves.

The company incurs average power cost of 5.7 cents per KW/h, on which it charges a markup to hosting clients. This allows the company to generate revenue through both hosting services and mining, providing it with a diversified income stream. The hosting contracts are for a duration of 2 years.

Mining (55.7% of Q2 FY24A revenue): The company is engaged in mining BTC via its centers in key regions including the U.S., Canada, Europe and Middle East through its 765 MW mining operation. The company currently consumes 108 MW of power for self-mining operation, resulting in average production of 5.8 BTC per day. It aims to bolster its market position after fully utilizing an additional 150 MW (included in 765 MW capacity) of power capacity for mining activities in Oman. The company has a mining capacity of ~15.9 EH/s, which is equivalent to ~3.0% of the global Hashrate.

Trading (9.8% of Q2 FY24A revenue): Phoenix Computer Equipment Trading (a wholly owned subsidiary) holds the distribution rights for BTC mining equipment, hardware and accessories with Bitmain and MicroBT (two of the world's largest mining equipment manufacturers). It has exclusive agreements with these companies to sell their products across the UAE, GCC countries, Egypt, Turkey and Kenya, which gives Phoenix a competitive advantage in this space. Sovereigns and HNWI's are the major customers for this segment.

This segment was a key revenue driver in 2022 as the company secured a one-off contract valued at ~USD 500mn

Services: The company generates a small portion of the revenue via providing supporting services to the above segments.

Investment: The investment arm of Phoenix pursues strategic expansion through the acquisition of profitable businesses to enhance synergies and diversify the revenue streams. Recent investments include Rekt studios, a Web3 gaming and entertainment startup, securing a 12.5% stake in the company, M2, a cryptocurrency exchange, securing a 30.0% stake in the company and an investment equivalent to 25.0% stake in Lyvely, a platform specialized in

Presence across UAE, Oman, Canada, the U.S. and CIS countries, offering cryptocurrency mining, hosting and trading services.

FY23 revenue break-up is as follows: Trading (40.1%), Hosting (28.3%), Mining (31.3%).

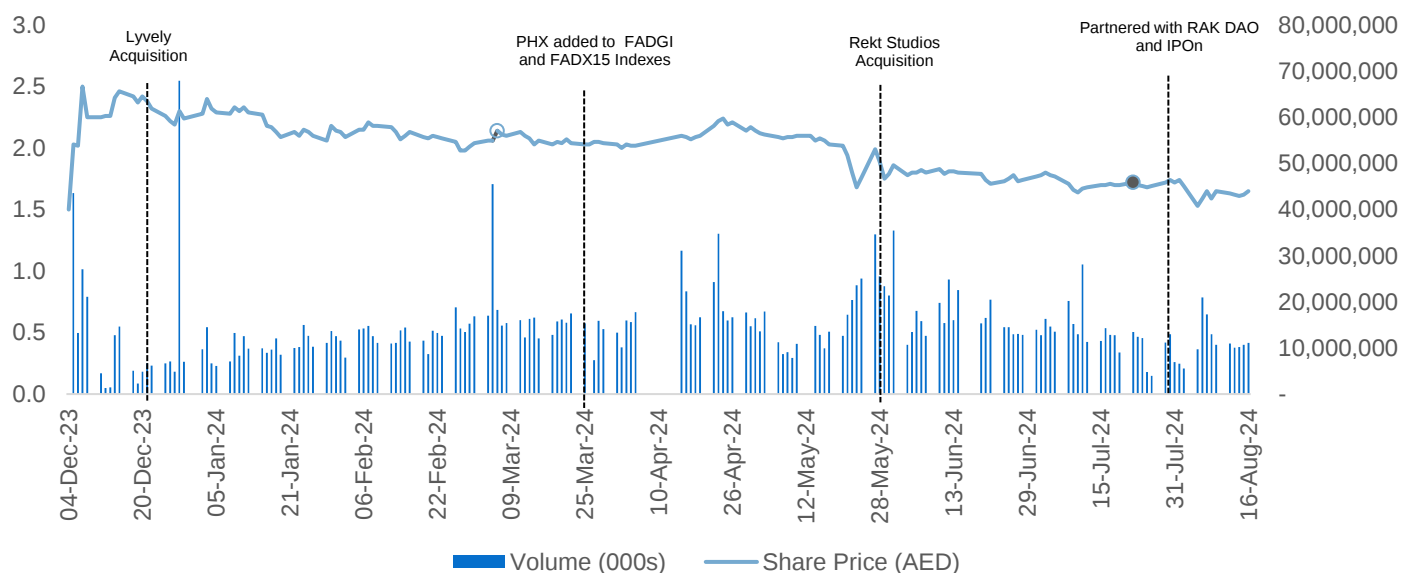
monetizing content creation and freelance work.

Exhibit 23: Historical Timeline of PHX

Year	Key Development
2017	Bijan Alizadehfard and Munaf Ali established Phoenix Group in Abu Dhabi as a mining equipment trading company
2017	The company initiated its first mining operation in the UAE
2018	International expansion is initiated by introducing mining operations in Canada
2019	Became the official distributor of Bitmain's cryptocurrency mining equipment in the Middle East
2022	Moved corporate headquarters to downtown Dubai
2022	Became official distributor of MicroBT's cryptocurrency mining equipment in the Middle East
2022	Opened USA locations for mining
2022	Strategic Acquisition of 20.8% stake in Bitzero (Norway), a BTC mining and data center company
2022	Contract signed for USD 300mn Oman GDC facility
2023	Listing on Abu Dhabi Securities Exchange (ADX)
2023	Launched M2 (Abu Dhabi-based crypto exchange)
2023	Acquired 25.0% stake in Lyvely in December, a platform specialized in monetizing content creation expected to launch its own cryptocurrency
2024	Oman Mining Operations facility under construction, expected to go live in during H2'FY24
2024	Phoenix Group added to the FTSE ADX General Index (FADGI) and FTSE ADX 15 Index (FADX15)
2024	In May, the company acquired 12.5% stake in Rekt studios for a consideration of USD 2.5mn
2024	Phoenix Group, and IOPn unveil a USD 100mn partnership with RAK DAO to promote Web3 gaming in Ras al Khaimah

Source: Company Reports

Exhibit 24: PHX Share Price and Volume Chart



Source: Bloomberg

Exhibit 25: Major Subsidiaries

Subsidiary Company	Country of Operations	Company Activity
Phoenix World Electronics Trading LLC	UAE	Computer and peripheral equipment trading
PTC Cloud Tech FZCO	UAE	Provider of cloud service and data centers
Mega Phoenix Electronics Trading LLC	UAE	Computer and peripheral equipment trading
Phoenix World Electronics LLC	USA	Registered in Delaware, US. No operations yet
Advanced Power Solutions Inc	Canada	Provides power supply products to Industrial and Medical markets
Absolute Power Solutions Inc	USA	Provides electrical and generator services
Block Zero HS Inc.	USA	Provides solutions related to AI, blockchain innovation, digital assets
Block One Technology Inc.	Canada	Solutions in the field of technology and fintech
Phoenix Operations and Maintenance LLC	USA	Management and Technical consulting services
Phoenix Computer Equipment Trading Ltd	UAE	Wholesale computer systems & software, computer outfit & data processing, telecommunication equipment
Phoenix Data Centre Limited	UAE	Provides data center services like operations, management, maintenance and leasing
Phoenix Ventures Limited	UAE	Provides internet and multimedia consultancy/software solutions
Phoenix Electronics Logistics Limited	Hong Kong	Insurance policy holder

Note: 100% Ownership as of December 2023, Source: Company Reports

Associates

Bitzero Blockchain Inc. (23.4% Stake)

Bitzero is a Canada based Crypto miner with facilities in Norway and North Dakota with total capacity of ~70 MW.

Bitzero's Norway site covers 50,000 sq. m and operates entirely on hydro energy, with a cost of USD 5 cent KW/h. Currently, the site has a capacity of 40 MW, of which 30 MW is in use, with plans to expand this to 100 MW. Following the necessary capital investments, the site has the potential to support a total capacity of 320 MW.

The North Dakota site is operational with a 30 MW capacity of 2.5 MW is in use, and potentially can unlock a capacity of 100 MW

Citadel Technologies (15.0% Stake)

Citadel Technologies is a crypto mining company. The company is jointly owned by PHX and 2PointZero (a holding company). 2PointZero was formed by Abu Dhabi's International Holding Company which in turn indirectly owns an 8.5% stake in PHX (via International Tech Group Sole Proprietorship LLC). As part of its 15% stake in the company, PHX received a dividend of USD 92mn in Q1'24 in the form of BTC. Going forward, these investments are expected to yield timely dividends to the company.

Lyvely (25.0% Stake)

Lyvely is a SocialFi platform backed by PHX and Cypher Capital and has recently secured an operational license from Ras Al Khaimah Digital Assets Oasis (RAK DAO). This licensing offers recognition and strategic advantages in the UAE. The company aims to tap into USD 250.0bn Global content creator economy by launching a mobile application and an Initial Coin Offering (ICO) by early 2025, which will be utilized across its platform and tradable on any exchange.

PHX hold stakes in several companies across the cryptocurrency value chain

M2 Holdings Ltd (30.0% Stake)

M2 is a cryptocurrency exchange platform that began operations in October 2023. Located in UAE, it is licensed by Financial Services Regulatory Authority (FSRA) in the Abu Dhabi Global Market (ADGM). Co-founded by Bijan Alizadehfard (Co-founder and CEO of PHX) and Stefan Kimmel (Ex-CEO of Kraken and Commercial Bank of Dubai), features its native cryptocurrency MMX which is available on its exchange platform. Looking ahead, M2's roadmap includes the introduction of crypto loans, payment cards and new earning plans.

Rekt Studios (12.5% Stake)

Rekt Studios is a Web3 gaming developer recently acquired by PHX in May, 2024. The company had received USD 1.5mn of venture funding from Cypher Capital in November, 2022. This acquisition diversifies the company's portfolio beyond cryptocurrency mining and tap into the USD 7.0bn gaming market in MENA. Further, Web3 will gamify the cryptocurrency experience and provide low cost transactions as compared to other platforms / exchanges.

Exhibit 26: Associates

Associate Company	Bitzero Blockchain Inc.	Citadel Technologies Group LLC	Lyvely FZE	M2 Holdings Ltd	Rekt Studios
PHX Ownership %	23.4%	15.0%	25.0%	30.0%	12.5%
Company Activity	Data center company engaged in BTC mining	Crypto mining company	Technology platform	Cryptocurrency exchange	Web3 gaming developers
Country of operations	Canada	UAE	UAE	UAE	UAE

Source: Company reports

Shareholding structure

Agora SPV Ltd. is the main shareholder of Phoenix Group PLC holding 42.0% stake in the company. Agora is a UAE based capital investment firm focused on fintech, blockchain and cryptocurrency.

International Tech Group is a wholly owned subsidiary of Abu Dhabi International Holding Company (IHC).

Exhibit 27: Current Shareholding Pattern

Shareholders	Number of Shares	Percentage
Agora SPV Ltd.	2,541,751,940	42.0%
International Tech Group Sole Proprietorship LLC	514,150,000	8.5%
Mr. Seyed Mohammad Alizadehfard (Bijan)	323,478,985	5.4%
Retail and others	2,669,442,604	44.1%
TOTAL	6,048,823,529	100%

Source: Bloomberg

Key Management Personnel



Mr. Seyed Mohammad Alizadehfard (Bijan) – Co-Founder and Group CEO

- Mr. Seyed Mohammad Alizadehfard is the board member as well as the CEO of the Phoenix Group PLC
- He is also the founder of Cypher Capital, a Dubai-based venture firm investing in crypto, blockchain and other digital asset projects



Mr. Munaf Ali – Co-Founder and Group MD

- Mr. Munaf Ali has over 20 years of experience in capital markets (including previous executive banking roles in Citigroup across London and UAE)
- He has founded and built billion-dollar corporations globally across sectors including hospitality, leisure and blockchain. Co-Founder and Ex-CEO of Range Developments, a luxury hospitality developer that offers luxury branded resort hotels in the Eastern Caribbean

Source: For more details on the executive management and Board members, please refer to the [link](#)

Material Contracts

The Phoenix Group, operating through its subsidiaries, has entered into a variety of contracts, which highlight Group's strategic partnerships and its commitment to advancing within the crypto-mining and technology industries. Below is a summary of key contracts undertaken by the Phoenix Group and its subsidiaries, highlighting their significant engagements in the crypto-mining ecosystem.

Exhibit 28: Details of the material contracts signed by Phoenix

Contract	Details
Green Data City – Oman	Agreement signed with Muscat-based Green Data City to develop a multimillion crypto-mining farm in Oman. 150 MW farm will be managed and operated by Phoenix. Expected to be operational by 2024
Purchase of Crypto-mining Equipment from WhatsMiner	Purchase of USD 136mn worth of mining equipment and air-cooling miners from WhatsMiner (MicroBT) Option to purchase additional equipment at fixed prices. Assembling of miners at a local facility in the UAE which will be supervised by WhatsMiner
Purchase of Infrastructure from Inchigle Technology	Hydro-solution infrastructure supply agreement with Inchigle Technology Hong Kong Limited to purchase latest generation hydro-cooling mining infrastructure. These include hydro server racks, coolant distributing units, dry coolers, hydro containers at 175MW capacity
WhatsMiner Distribution Rights & Exclusivity	Distribution rights granted by MicroBT for its entire product line across UAE, GCC, Egypt, Turkey, and Kenya
Operations & Management Agreement – Citadel Project	Phoenix Data Center Limited holds 15.0% stake in Citadel and manages all operations of Citadel Aimed at facilitating efficient cryptocurrency mining operations by using advanced technologies
Frank Muller Distribution	Mega Phoenix Electronics Trading LLC secured rights to exhibit, showcase, and sell Frank Muller watches with built-in BTC wallet features across UAE showrooms
Tangem Exclusivity	Mega Phoenix Electronics Trading LLC has been granted rights to exhibit, showcase and sell Tangem crypto-wallets and hardware in UAE showrooms
Hosting Agreements	PTC Cloud Tech – FZCO entered into hosting agreements worth ~USD 69mn, offering digital asset and BTC mining services to individuals and corporate clients
Marlboro Electric Cooperative	Absolute Power Solutions Inc. signed long term power supply contracts with Marlboro Electric Cooperative for over 95 MW of power at subsidized rates. Power supply intended for operating data mining centres in Dillon and Marlboro counties in the US

Source: Company reports

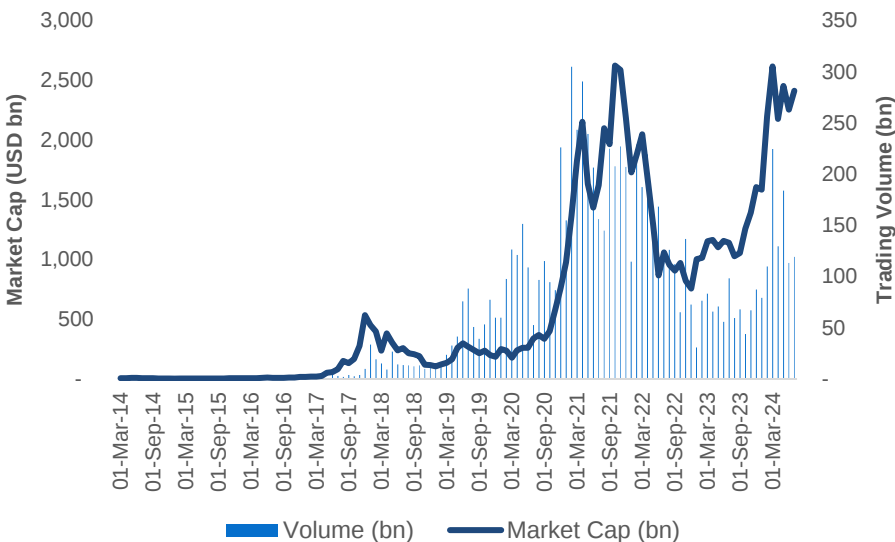
Industry Overview

BTC dominates the USD 2.3tn
cryptocurrency Market Capital

BTC still dominates crypto market with ~55.3% share despite emergence of varied Altcoins

Currently, BTC accounts for ~55.3% of the total cryptocurrency market capitalization of ~USD 2.3tn; much lower than its share in ~95.0% share in 2017. This is primarily due to emergence of Altcoins like Ethereum, Solana, Tether, etc. However, due to its market dominance and popularity, the price of these Altcoins remains heavily co-related with BTC.

Exhibit 29: Global Cryptocurrency Market Cap (USD bn) and Trading Volume market (bn)



Source: TradingView

BTC offers least volatility among
other cryptocurrencies

BTC's impact on the overall cryptocurrency market are significant, as evidenced by the average correlation of ~0.94 between BTC and other popular cryptocurrencies. This strong correlation suggests that movements in BTC's price are often mirrored by the other cryptocurrencies. Further, BTC stands out for its relative stability as its volatility, measured by its standard deviation, is ~6.7%, which is notably lower than the peer average of ~12.3%. These relative qualities have propelled its adoption as an alternative currency and acceptance from companies such as Tesla, Square and MicroStrategy and sovereigns such as El Salvador and Central African Republic (CAR).

Exhibit 30: BTC vs. other cryptocurrencies

Cryptocurrency	Volatility	Correlation with BTC
BTC	6.7%	NA
Ethereum	7.6%	0.98
Binance Coin	12.2%	0.89
Solana	14.9%	0.98
Dogecoin	14.5%	0.92
Average	12.3%	0.94

Note: Correlation and Standard deviation based on weekly price changes for the past 1 year; Source: Bloomberg, BHM Capital Analysis

Electricity prices is a major direct cost to miners

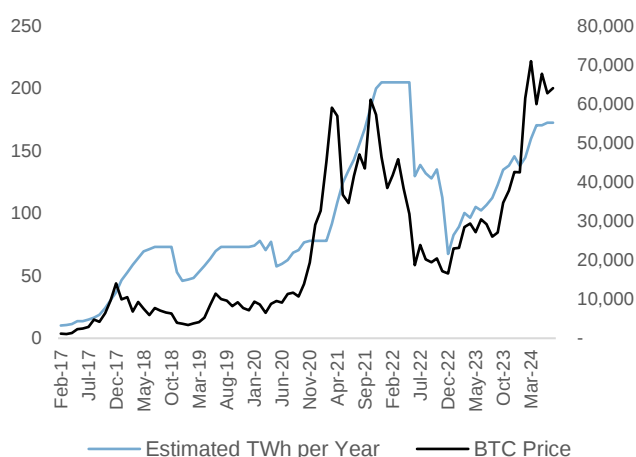
Electricity consumed for BTC is correlated with BTC prices.

In 2022, cryptocurrencies consumed approximately 110 TWh of electricity, representing about 0.4% of the global annual electricity demand. According to the International Energy Agency (IEA), this consumption is expected to surge by over 40%, reaching around 160 TWh by 2026. The electricity consumption for cryptocurrency mining is notably correlated with BTC (BTC) prices, as mining activity tends to decrease when BTC prices fall. This correlation underscores the critical importance of access to low-cost electricity for BTC miners, as it directly influences their profitability and competitive edge. With rising electricity costs and increasing energy demands, BTC miners are likely to continue seeking regions with affordable and sustainable energy sources to sustain their operations and maximize their returns.

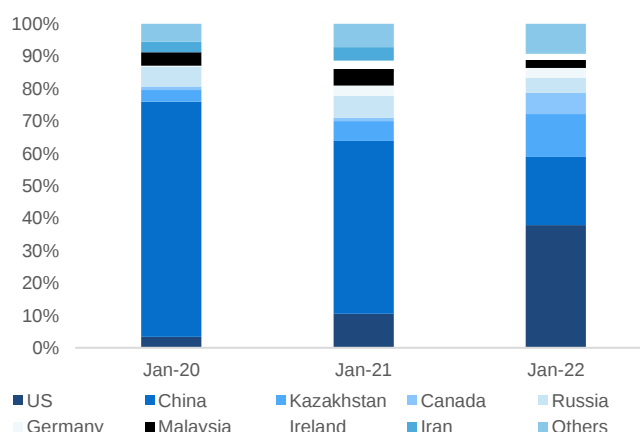
Further, countries with lower cost of electricity usually have a higher share of the global Hashrate. Accordingly, China which has lower cost of electricity (compared to Germany where electricity costs are ~10x higher and availability of ASICs (Bitmain and MicroBT are based in China) has remained one of the largest BTC mining destinations till 2021.

Exhibit 31: Energy consumption of BTC & BTC prices and Global Hashrate share by country

BTC Energy consumption (estimated TWh per Year) and BTC Prices (USD)



Global Hashrate share by Country (%)

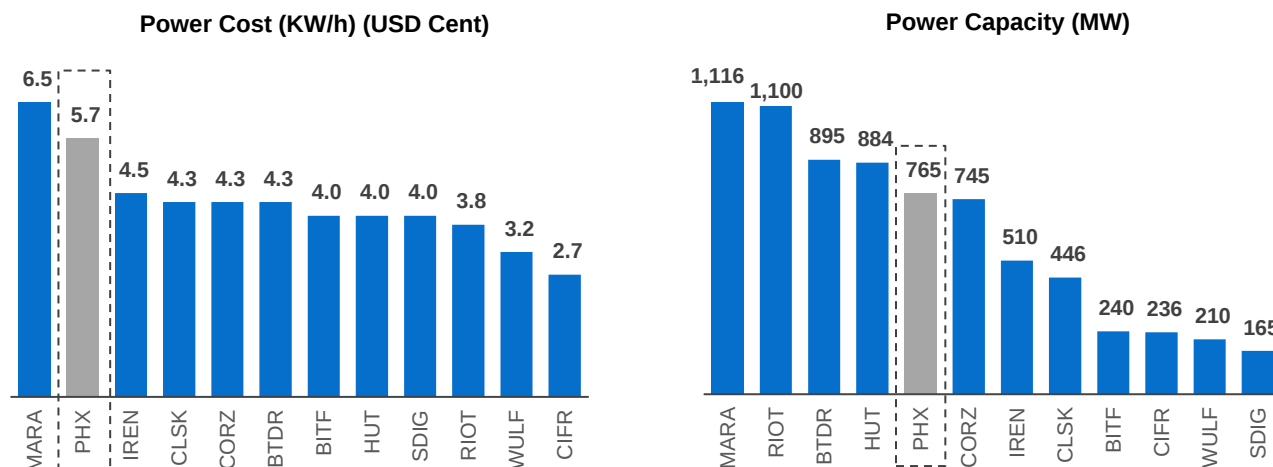


Source: Digiconomics, Bloomberg

Electricity cost for PHX higher due to legacy contracts; company's expansion in MENA to reduce cost

Among listed miner, CIFR stands out with the lowest power cost at USD 2.70cents per KW/h (kilowatt-hour) and is the most efficient operations in terms of energy consumption. On the other end, PHX and MARA have relatively higher power costs, with PHX at USD 5.70 cents per KW/h and MARA at USD 6.50cents per KW/h. These higher costs are a result of legacy contracts and might pose a challenge for PHX in terms of maintaining competitive profitability unless it can offset this through increase in mining efficiency. Our discussions with the management indicate that these legacy contracts are being renegotiated.

Exhibit 32: Power Cost and Power Capacity



Source: BHM Capital Analysis

Currently medial power capacity compared to peers; on its way to strategic expansion

The power capacity of PHX is medial (765MW) in comparison to peers, indicating a competitive advantage in terms of infrastructure and potential scalability for the group. Moreover, it aims to expand both its existing capacity and new facilities (particularly within the Middle East region) as well as in other suitable, scalable locations. MARA holds the highest capacity among the listed companies with 1,116MW surpassing PHX. MARA acquired two new data centers with a total of 390MW in power capacity. Conversely, SDIG has the lowest power capacity at 165 MW.

Global Hashrate decreases due to halving; however largescale miners remain resilient

"Halving" in crypto mining refers to a programmed event that occurs approximately every four years, or after every 210k blocks are mined. During a halving event, the reward that miners receive for successfully mining a new block is reduced by half, thus making it the most important metric for miners. The most recent BTC halving event occurred on 20th April 2024 and after the halving the total network Hashrate declined ~9% from peak. With BTC price around USD 70k and hash coming down, the public miners are all at healthy margins.

Exhibit 33: Historical and expected BTC halving event

Year	Reward for BTC Mining
2009	50 BTC
2012	25 BTC
2016	12.5 BTC
2020	6.25 BTC
2024	3.125 BTC
2028	1.5625 BTC
2032	0.78125 BTC

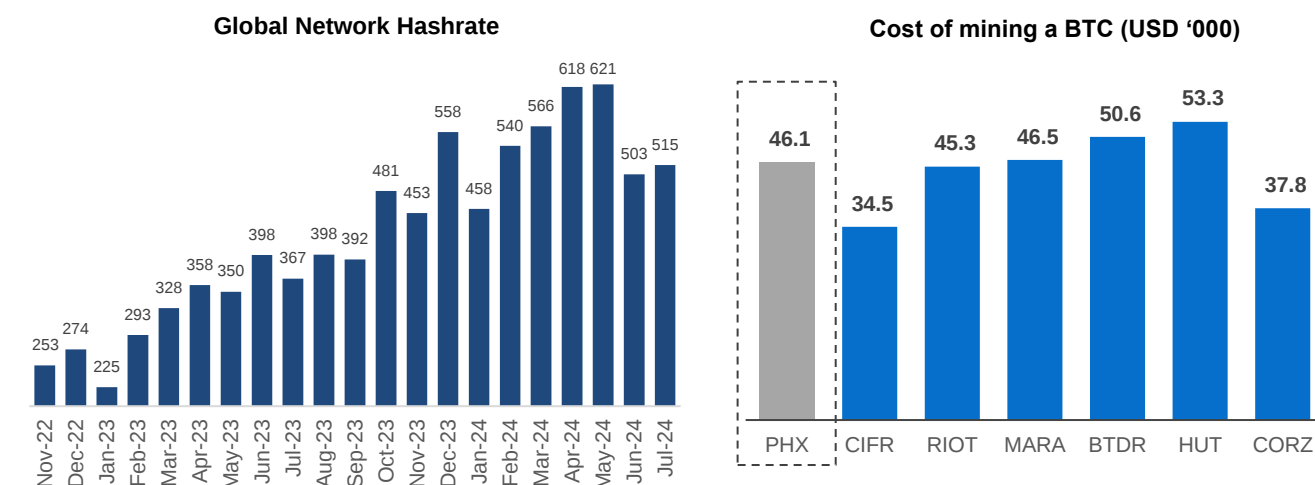
Source: Blockchain Council

Post halving, large scale miners remain profitable

The most recent halving happened in April 2024, since then, the global network Hashrate has declined by ~ 17.0% from its peak of 621 EH/s in May 2024. This can be majorly attributed to exit of retail miners due to unfavorable mining economics. During these times of contracted EBITDA margins for miners in general, large-scale miners have stayed resilient since their average direct cost of

mining per BTC of ~USD 44,870 provides a flat EBITDA margin of more than 30.0%. Further, while PHX's cost per BTC remains above the peer average, we believe there is enough EBITDA margin for the company within the self-mining segment.

Exhibit 34: Global network Hashrate and Cost of mining of peers

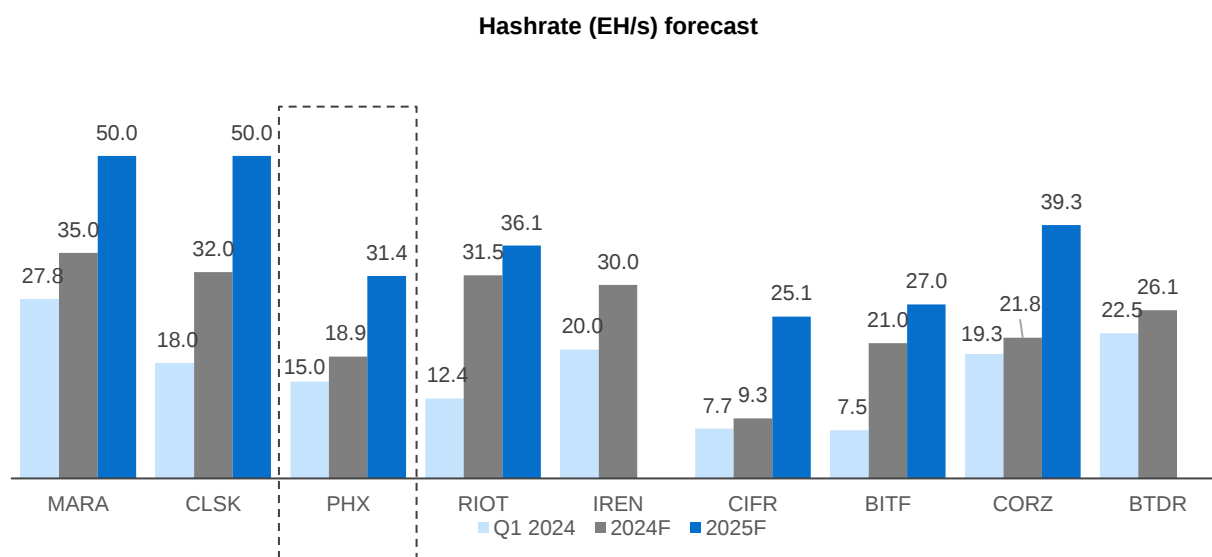


Source: BHM Capital Analysis

Miners plan for aggressive capacity expansion

Capitalizing on healthy margins and an overall bullish outlook on BTC, listed miners have planned aggressive capacity expansions in FY24 and FY25 primarily for their self-mining segment. PHX projected Hashrate of 31.4 EH/s in 2025 positions it competitively within the market landscape. Among the listed companies, MARA and CLSK anticipate the highest Hashrate of 50.0 EH/s both by 2025. Conversely, CIFR, with a forecasted Hashrate of 25.1 EH/s in FY25 is the lowest of all. Notably, while PHX Hashrate projection places it near the median range, it falls short of the highest forecast, emphasizing potential avenues for further expansion and optimization in the coming fiscal years.

Exhibit 35: Hashrate forecast for FY24 and FY25



Source: BHM Capital Analysis and Estimates, Company reports

Newly launched ETFs to bring capital in Cryptocurrencies

Adoption of cryptocurrency as a mainstream asset class globally

As of January 2024, there are ~11 BTC based ETFs available to trade on the US exchange including a BTC Spot-ETF bringing in stability of prices and broadening the potential use and investors of BTC. In June 2024, Bitwise CIO indicated that these ETFs may attract ~USD 15.0bn of net inflows in the next 18 months. The below exhibit shows an indicative list of BTC ETF currently available for trade.

Exhibit 36: ETFs listed

Ticker	ETF	Issuer	Exchange
GBTC	Grayscale BTC Trust	Grayscale	NYSE ARCA
BITO	ProShares BTC Strategy ETF	ProShare	NYSE ARCA
BTCL	T-Rex 2X Long BTC ETF	T-Rex	NYSE ARCA
BTCZ	T-Rex 2X Inverse BTC ETF	T-Rex	NYSE ARCA
DEFI	Hashdex BTC ETF	Hashdex	NYSE ARCA
BITO	ProShares BTC Strategy ETF	ProShare	NYSE ARCA
DEFI	Hashdex BTC ETF	Hashdex	NYSE ARCA
BITB	Bitwise BTC ETF	Bitwise	NYSE ARCA
BTCO	Invesco Galaxy BTC ETF	Invesco & Galaxy Digital	NYSE ARCA
BRRR	Valkyrie BTC Fund	Valkyrie	NASDAQ
EZBC	Franklin BTC ETF	Franklin Templeton	CBOE
HODL	VanEck BTC Trust	VanEck	CBOE

Note: Indicative list, Source: Bloomberg

Renewable BTC miners moving towards captive renewable sources of energy

There's a growing emphasis on using renewable energy sources for mining operations to address environmental concerns and reduce carbon footprint. The following companies source energy used for mining renewable sources or have their own sustainable energy production facilities.

Exhibit 37: ETFs listed

Company	Energy Sources
Cleantpark	As of 30 th September 2023, 68.0% of the company's total energy used across all locations was sourced from non-carbon (renewable) energy sources ¹
Marathon Digital	As of 31 st December 2023, the company had 210,000 operational mining rigs, out of which sustainable energy sources accounted for 55.0% of the fleet's power usage
Terawulf	As of 31 st December 2023, 95.0% of TeraWulf's mining operations were fuelled by zero-carbon energy sources ¹
Bitfarms	Operates 11 BTC mining facilities in 4 countries out of which are completely powered by hydro-electric energy

Source: Company Annual Reports 2023

Note: (1) Zero carbon (non-carbon) usage includes hydro, nuclear, solar and wind power resources. Carbon usage includes coal and gas power resources.

Terawulf leads the green energy initiative, being a BTC mining company having ~95.0% of total operations fueled by renewable energy sources.

Annexures

Income Statement of PHX

Income Statement (USD mn)	2021	2022	2023	2024F	2025F	2026F	2027F
Revenue from contract with customers	179	755	288	301	551	930	1,066
Direct Costs	(115)	(584)	(199)	(185)	(314)	(495)	(497)
Gross profit	63	171	89	115	237	435	569
Operating Expenses	(16)	(28)	(2)	(36)	(37)	(38)	(40)
Operating profit	47	143	86	79	200	396	529
Non-Operating Expenses	(4)	(4)	121	142	51	52	105
Net profit before tax	42	139	208	221	251	449	635
Income tax expenses	-	-	-	(20)	(23)	(40)	(57)
Tax rate				9%	9%	9%	9%
Net profit for the year	42	139	208	201	228	408	578
Depreciation	2	1	1	17	20	43	37
EBITDA	49	144	87	96	220	440	566

Source: Company reports, BHM Capital Estimates

Balance Sheet of PHX

Balance Sheet (USD mn)	2021	2022	2023	2024F	2025F	2026F	2027F
Non-current Assets							
Property and Equipment	21	74	104	124	308	308	308
Investment in Subsidiaries	1	-	-	-	-	-	-
Investment in Associates	-	29	120	120	120	120	120
Other Assets	0	43	1	1	1	1	1
Total Non-Current Assets	21	146	225	245	429	429	429
Current Assets							
Digital Assets	4	2	140	420	573	450	958
Inventories	39	41	73	48	81	128	128
Trade Receivables	2	1	33	13	24	40	46
Advances, Deposits and other receivables	410	30	165	92	168	284	326
Due from related parties	2	8	0	0	0	0	0
Cash and short-term deposits	1	0	198	205	20	319	311
Total Current Assets	458	84	609	778	866	1,221	1,769
Total Assets	479	230	834	1,023	1,295	1,650	2,198
Non-current Liabilities							
Lease liability	-	-	0	0	0	0	0
Employees' end of service benefits	0	0	1	1	1	1	1
Interest bearing loans	4	4	4	4	4	4	4
Total	4	4	5	5	5	5	5
Current liabilities							
Due to related parties	-	47	55	55	55	55	55
Interest bearing liabilities	0	0	0	-	45	-	-
Other liabilities	374	72	77	81	85	89	94
Total Current Liabilities	374	119	132	135	184	144	149
Total Liabilities	378	123	137	140	189	149	153
Share capital	0	0	165	165	165	165	165
Share premium	-	-	346	346	346	346	346
Statutory Reserve and other reserve	(0)	11	25	29	47	75	99
Retained earnings	47	82	137	318	524	891	1,411
Shareholders' Account	55	13	25	25	25	25	25
Shareholder's Equity	101	107	697	883	1,106	1,501	2,045
Total Equity	101	107	697	883	1,106	1,501	2,045
Total Liabilities & Equity	479	230	834	1,023	1,295	1,650	2,198

Source: Company reports, BHM Capital Estimates

Cash Flow Statement of PHX

Cash Flow Statement (USD mn)	2021	2022	2023	2024F	2025F	2026F	2027F
Profit before tax	42	139	208	221	251	449	635
Cash flow from operational activities (CFO)	(34)	190	(136)	74	(3)	434	87
Cash flow from investment activities (CFI)	(19)	(45)	(35)	(37)	(204)	(43)	(37)
Cash flow from financing activities (CFF)	52	(146)	369	(31)	21	(92)	(58)
Net change in cash balances	(1)	(1)	198	7	(185)	299	(8)
Cash and cash equivalents as at January 1	2	1	0	198	205	20	319
Net cash balances at end	1	0	198	205	20	319	311

Source: Company reports, BHM Capital Estimates

Key Ratios

Key Ratios	2021	2022	2023	2024F	2025F	2026F	2027F
Profitability (%)							
Gross Margins	35.4%	22.6%	30.8%	38.4%	43.0%	46.7%	53.4%
EBITDA Margin	27.4%	19.1%	30.3%	31.9%	39.8%	47.3%	53.1%
EBIT Margin	26.2%	18.9%	30.0%	26.3%	36.2%	42.6%	49.7%
Net Margin	23.7%	18.4%	72.1%	67.0%	41.4%	43.9%	54.2%
Return on Average Assets	8.8%	39.2%	39.1%	21.7%	19.7%	27.7%	30.0%
Return on Average Equity	41.9%	133.6%	51.7%	25.5%	23.0%	31.3%	32.6%
Growth (%)							
Revenue growth		322.9%	-61.8%	4.3%	83.5%	68.7%	14.7%
Gross Profit growth		170.4%	-47.9%	29.8%	105.6%	83.2%	31.0%
EBITDA growth		195.6%	-39.6%	9.9%	129.3%	100.1%	28.8%
EBIT growth		205.6%	-39.5%	-8.5%	152.4%	98.4%	33.5%
Net Profit growth		227.7%	49.6%	-3.2%	13.4%	78.8%	41.5%

Source: Company reports, BHM Capital Estimates

Revenue Mix

Revenue Mix (USD mn)	2021	2022	2023	2024F	2025F	2026F	2027F
Self-mining revenue	8	5	32	129	339	663	793
Hosting	-	34	75	63	98	147	147
Trading and Services	171	715	181	109	114	120	126
Total	179	755	288	301	551	930	1,066

Source: Company reports, BHM Capital Estimates

Revenue Mix	2021	2022	2023	2024F	2025F	2026F	2027F
Self-mining revenue	4.2%	0.7%	11.0%	42.9%	61.5%	71.2%	74.4%
Hosting	0.0%	4.6%	26.1%	20.9%	17.8%	15.9%	13.8%
Trading and Services	95.8%	94.7%	62.8%	36.1%	20.7%	12.9%	11.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Company reports, BHM Capital Estimates

KPIs

KPIs	2023	2024F	2025F	2026F	2027F
Total Available Capacity (MW)	527	765	1,185	1,185	1,185
Power Consumption (MW)	527	501	783	1,185	1,185
Total Hashrate (EH/s)	15.7	18.9	31.4	50.0	51.4
Mining Efficiency (MW / EH/s)	31.3	24.3	23.6	22.8	22.1
Hashing market share (%)	2.79%	3.12%	4.90%	7.29%	7.04%
BTC price (USD per BTC)	28,804	70,000	77,000	84,700	105,875
Cost per KW/h (US Cents per KW/h)	5.2	5.2	5.1	5.1	5.1

Source: Company reports, BHM Capital Estimates

BTC and Blockchain Technology Overview

BTC is a self-governing and encrypted digital currency that allows users to send value across various accounts without the involvement of banks, financial institutions and other parties. These transactions are verified by network nodes and recorded in a publicly distributed ledger called blockchain.

Distributed ledger is decentralized, which means that no single entity manages the entries, rather network participants take turns updating the ledger and immediately broadcast updates to the other network participants.

Blockchain standard is a system of validating and bundling the transactions into blocks and adding these blocks to a public ledger, which is visible to everyone and helps in creating consensus.

In case of BTCs, the transactions are bundled into blocks, which are locked with a random generated password. The BTC miners attempt to guess this password using sophisticated computers and the miner who guesses the password adds block to the chain and is given a reward in the form of newly minted BTCs and transaction fees.

How BTC works?

Stage	Description
1	User requests transaction
2	This transaction is broadcast to a network of computers known as nodes
3	The network of nodes validates the transaction and the user's status using known algorithms
4	Verified transaction is combined with other transactions to create a new block of data for the ledger
5	New block is added to the existing blockchain in a way that is permanent and unalterable

Source: Blockchain Council

BTC halving occurs every four years and reduces the block reward earned by miners by 50.0%. This lowers the supply of BTCs in the market.

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Overweight	The target price for the next 12 months is 15% above the current price
Neutral	The target price in the next 12 months is between -15% and 15% of the current price
Underweight	The target price for the next 12 months is 15% below the current price
Not Rated	No investment rating has been assigned yet

