March 18, 2024

Zacks Small-Cap Research

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CBAK Energy Technology (CBAT-NASDAQ)

CBAT: Demand for cylindrical cells remains strong boosting margins significantly. Several catalysts on the horizon.

Utilizing estimates that assume stabilizing battery margins and capacity expansion, we believe CBAT could be worth $1.80 per share but significant upside exists if outside investments are secured into either the company's raw material business or its sodium-ion battery production business.

Current Price (03/15/24)	$1.06
Valuation	**$1.80**

OUTLOOK

CBAK Energy Technology is in the early stages of an ambitious growth plan to expand its battery production capacity by more than 10x over the next 4 years while launching one of the first facilities for the mass production of sodium-ion cells.

Despite pricing pressures in the industry, CBAK's strong relationships with key customers and solid safety record enabled it to retain some pricing power which boosted battery margins in the quarter.

The weak performance of the raw materials division has made valuing CBAK challenging over the past 2 years. Investors should continue to focus on the growing battery business which reached $133 mil in revenues in 2023 and which we project will double again by 2025.

SUMMARY DATA

52-Week High	**$1.45**
52-Week Low	**$0.74**
One-Year Return (%)	**13.98**
Beta	**1.83**
Average Daily Volume (sh)	**169,144**
Shares Outstanding (mil)	**89**
Market Capitalization ($mil)	**$95**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**1**
Insider Ownership (%)	**13**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**82.2**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2024 Estimate	**NM**
P/E using 2025 Estimate	**7x**
Zacks Rank	**N/A**

Risk Level	**Above Average**
Type of Stock	**Speculative**
Industry	**Energy Storage**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2022	80 A	56 A	58 A	54 A	249 A
2023	42 A	42 A	63 A	56 A	204 A
2024	63 E	67 E	72 E	77 E	279 E
2025	79 E	84 E	93 E	99 E	355 E

Price/Sales Ratio (Industry = 2.5x)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2022	-$0.01 A	-$0.02 A	$0.00 A	-$0.06 A	-$0.10 A
2023	-$0.02 A	-$0.03 A	$0.07 A	-$0.04 A	-$0.03 A
2024	-$0.01 E	$0.00 E	$0.01 E	$0.02 E	$0.02 E
2025	$0.02 E	$0.03 E	$0.05 E	$0.06 E	$0.16 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

*Quarterly EPS may not add up to annual EPS due to rounding

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WHAT'S NEW

CBAK Energy Reports 4th Quarter and Full Year 2023 Results

On March 15, 2024, CBAK Energy Technology released fourth quarter and full-year results which included the following highlights:

- Battery revenues of $36.8 million (vs our estimate of $39.4 million) up 30.9% from a year ago, principally due to the strong performance in the energy storage segment (now classified as Residential energy supply and uninterruptable supplies by the company). This segment did show an 18% decline sequentially but that was largely anticipated after the strong third-quarter performance as large orders were fulfilled in Q3.

- The company posted a stunning jump in its battery business gross margin to 36% in the quarter – up from 8.3% a year ago and up 760 basis points sequentially. The company's sales mix, the falling cost of raw materials, and strong relationships with its largest customers all appear to be helping it maintain above average battery margins. We are anticipating some normalization of the gross margin in coming quarters given the overall pricing pressures in the industry.

- Sales of batteries used in electric vehicles and light electric vehicles (LEVs) remain limited at just $1.9 million but the company indicated they are in discussions with an unnamed Canadian EV manufacturer.

- The company now has announced contracts with:

    - Viessmann – a leading provider of heating systems

    - Anker Innovations – a leading provider of mobile charging products

    - Poweroak – a leading portable energy provider (marketed as BlueTTI) and,

    - Hello Tech – a leading provider of portable power stations (marketed as Jackery).

    In addition, the company alluded to new relationships with the largest battery manufacturer in Europe, the previously mentioned Canadian EV company, and new customers in India. As these new relationships expand, we believe that these contracts can offer upside to our current forecasts.

    As of 3/8/24, the company reported that it had received $107 million in new orders which gives us additional confidence in our growth forecast for 2024.

The largest lithium-ion battery companies continue to battle for market share and the sector has been under pressure as investors weigh the impact of price wars on margins. CBAK appears to have limited the impact of these price battles by maintaining long-term relationships with large, established players in the energy storage business.

Fourth Quarter 2023 Results

CBAK Energy reported fourth-quarter 2023 revenues of $56.2 million versus $54.5 million last year. More importantly, the company's revenue mix continues to shift toward value-added battery production and away from the lower margin battery raw materials. As a result of this shift in revenue mix, the company's total gross margin reached 22.6% up from just 7% in the same period of 2022.

The company has not provided forward guidance at this point, but management did note that they may provide guidance when appropriate in 2024. Operating expenses were higher than we anticipated as the company invested in sales infrastructure and R&D, thus, the company reported a small loss of $4.8 million ($0.05/share) vs our model which had forecast a $0.01/share profit for the quarter. Our model adjustments include slightly higher operating costs as the company expands its sales and marketing operations and invests in research and development.

Balance Sheet: CBAK Energy ended the year with $4.6 million in cash on the balance sheet and roughly $83 million in pledged deposits and receivables. The company's current liabilities remain worrisomely high at $160 million but we do believe that some or all of the company's short-term bank debt will be converted to long-term debt as construction projects reach completion at the Nanjing and Dalian facilities.

Growth Drivers and Near-Term Catalysts

- The company's management team is continuing to have negotiations with a variety of investors regarding an outside investment into the company's Sodium-Ion battery business. Sodium-Ion battery startups have drawn a great deal of investor interest recently and we believe that the fact that CBAK is currently in production with a mass-produced sodium-ion cylindrical cell will only increase investor interest. **While the company could not provide a timeline or a valuation range, management indicated that the current valuations of the sodium-ion business being discussed are greater than the total market capitalization of CBAK's publicly traded shares** (roughly $95 million today). Any news of a major investment into the sodium-ion business which values that segment above the value of the parent company would be a major catalyst for the shares.

- The future of the company's Hitrans business remains perplexing. When the company acquired Hitrans in 2021 it became the focus of the company's press releases and growth strategy, however just over two years later, the company's focus has shifted away from the raw material business and back to battery production. We believe that the low margins in the raw material business and the high variability of demand have negatively impacted the market's perception of CBAK. Management also indicated that they are holding discussions regarding the possibility of an investment into Hitrans that would also represent a value above the current market capitalization of CBAK. Given the current revenue run-rate at Hitrans (estimated at roughly $80 million) and margins in the low single digits, this seems like a rich valuation but we do believe that CBAK investors would welcome an investment in Hitrans that would allow the company to report it as a nonconsolidated minority holding.

- We believe that as the company gains more clarity into its order backlog, it will announce formal revenue guidance for 2024. If this guidance is materially above our current forecast - $198.5 million of battery sales and $278.6 million of total sales - it could be a potential catalyst for the shares.

- Finally, the company has historically marked expanded agreements with clients with press releases that disclosed the clients and the size of their orders. We believe the company is working to announce a number of these client relationships in the coming months that may act as positive catalysts for the shares.

KEY POINTS

➢ CBAK Energy Technology (NASDAQ: CBAT) is an integrated lithium-ion battery company with manufacturing and raw materials divisions in China. The company operates manufacturing facilities in Dalian (a port city in Liaoning Province) and Nanjing (the capital of Jiangsu Province) with ambitious plans to expand production through 2027. The company is in the initial stages of expanding its Nanjing facility which will add up to 18 GWh of capacity when all construction is completed. The company has begun the interior work on the first phase of this project which could add up to 6GWh of capacity when completed.

➢ Demand for energy storage has ramped significantly in recent years and as industrial and grid storage needs emerge demand should accelerate further. The company appears to be establishing itself as a strong player in the market for large cylindrical cells. Today much of the company's production is 26-series cells but we anticipate that could shift to larger 46-series cells with higher energy density in the coming years.

➢ The lithium-ion battery market is almost entirely dominated by large Asian (principally Chinese) manufacturers today. Most of these companies are focused on providing battery packs to the EV market which creates an opportunity for cylindrical cells in the energy storage market where CBAK is focusing its efforts. Pricing pressure remains intense in the EV battery market as companies vie for market share but those price wars have not impacted CBAK as the company has remained focused principally on cylindrical cells for the energy storage market.

➢ As we noted in our initiation in August 2023, the acquisition of the Hitrans raw material business significantly impacted results in 2022 when soaring prices for raw materials boosted the company's top line significantly. Pricing has softened sharply in 2023 and Hitrans revenues have fallen sharply as a result. While he raw material business rebounded a bit in the fourth quarter of 2024, the company is deemphasizing Hitrans and the company may seek strategic alternatives for this business so that investors can focus on CBAK as a pure battery manufacturing story.

➢ The company has a long history as a public company and frankly, it has overpromised and underdelivered too often during that period. We believe that the company remains a "show me" stock with investors which could explain why the stock was unchanged after reporting earnings despite substantially outperforming on the top and bottom line.

➢ The company reported over $107 million of orders have been placed for the company's cells that have yet to be produced or delivered as of 3/8/2024.

➢ We are maintaining our target of $1.80/share for CBAK based on a blended valuation of our 2024 revenue forecast for the battery business and Hitrans. If the company can unlock value in its new sodium-ion business or the Hitrans business, then our price target could prove to be conservative.

RISKS

- The PRC government exerts substantial influence over a wide variety of issues related to the company's business. Since the company is based in the US with China-based operating subsidiaries, there are several issues related to the government's oversight that could result in a material adverse change in the company's operations and subsequently, the value of CBAK's common stock. In addition, it should be noted that rules and regulations in China can change quickly with little advance notice.

- The company's independent auditors have expressed substantial doubt about its ability to continue as a going concern. The company is working with its banks and lenders to ensure that they will have access to credit but improving the company's profitability will be an important step toward resolving this issue.

- The competitive landscape for lithium batteries is intense and many of the company's competitors are in much stronger financial positions. In the long run, the company will also face increased competition from new facilities that are expected to be built in North America and the EU.

- The company's customer concentration remains very high and the loss of any significant customer could impact the company's financial stability. In 2022, roughly 70% of revenues were derived from the company's five largest customers. In the battery business, customer concentration could be even higher. The acquisition of Viessmann by Carrier presents an opportunity and a risk given the proportion of battery sales Viessmann represents.

- The company indicated that it identified a material weakness in its internal control over financial reporting. Management believes that the company did not have appropriate policies and procedures in place to evaluate proper accounting and disclosures of key documents and agreements, and there was insufficient accounting personnel with an appropriate level of technical accounting knowledge. The company has implemented additional training to address this issue but it remains a risk. As noted in recent news, the company elected to change its auditor in July 2023 and we will see if this leads to improved internal financial controls.

VALUATION

CBAK has successfully launched its lithium-ion battery manufacturing operations and now has a stable battery cell business. Its clients include some of the most recognizable names in the residential and consumer markets. The challenge with valuing CBAK is that the company is significantly smaller than most public battery manufacturers today, its cells are not principally sold to the EV market (as most competitors' cells are) and the majority of the comparable public companies have a long history of profitability. While CBAK has recorded very strong gross margins in the battery business for two consecutive quarters, we have assumed margins will normalize a bit going forward and our new EPS estimates reflect these assumptions. As the higher value-added battery business represents the majority of the company's revenue and the principal source of profits, we believe investors will begin to recognize CBAK as an emerging battery cell manufacturer.

We have adjusted our model to reflect higher operating costs as the company expands its sales and marketing efforts, invests in research and development, and invests in the infrastructure to operate as a larger battery manufacturer. As a result of these changes, our full-year 2024 EPS estimate is reduced from $0.10/share to $0.02/share and we are introducing our 2025 EPS estimate of $0.16/share.

Smaller battery manufacturers tend to trade at roughly 1x forward sales (as a reminder we are forecasting battery sales of $198.6 million in 2024), while the largest companies in the sector trade at 15-20 times 2024 earnings.

Based on comparable valuations of public companies and the strong growth of the battery business we are maintaining our target valuation of $1.80/share or 11 times our current 2025 EPS estimate of $0.16/share.

If the company successfully attracts outside investments into either its sodium-ion battery business or Hitrans, it could materially impact our valuation.

SUMMARY

1) Despite the company's long operating history, CBAK should be viewed as an emerging lithium-ion battery manufacturer. The company plans to expand its capacity from 1.7 GWh in 2022 to 5 GWh by 2024 and ultimately have an installed capacity of 36 GWh by the end of 2027. Managing this expansion effectively and financing the growth will be a challenge for the company but demand remains robust in the lithium-ion battery market. We anticipate most of the new capacity will be absorbed quickly by the market.

2) The company has established itself as a leading manufacturer of cylindrical cells just as the cylindrical format is becoming more popular in the market and energy storage applications are growing significantly. The company is one of the first manufacturers to announce a large-scale commercial sodium-ion production facility which presents a substantial new revenue opportunity for the company.

3) As a result, of the company's past missteps, we feel like the valuation is much more reasonable today just as the battery business is about to experience meaningful growth. Investors continue to take a wait-and-see attitude with CBAK and it may take several quarters of sustained growth in the battery business before the market recognizes the potential upside in this story.

Finally, several items are difficult to quantify but may increase investor confidence over time. Addressing past financial reporting deficiencies, demonstrating that new production lines are operational, or securing new investments in the sodium-ion or Hitrans business.

PROJECTED INCOME STATEMENT

CBAK Energy Technology t

3/15/23

(USD in 000's; December Year-End)	2020	2021*	2022A	Mar 1Q23A	June 2Q23A	Sept 3Q23A	Dec 4Q23A	2023A	Mar 1Q24E	June 2Q24E	Sept 3Q24E	Dec 4Q24E	2024E	Mar 1Q25E	June 2Q25E	Sept 3Q25E	Dec 4Q25E	2025E
Battery Revenues																		
Uninterruptible supplies	22,749.0	33,308.0	83,604.0	25,815.1	20,948.0	42,810.7	34,928.6	124,502.3	41,440.7	44,756.0	49,231.6	51,693.2	187,121.5	53,244.0	56,438.6	63,211.2	68,268.1	241,162.0
Light Electric Vehicles	39.0	733.0	6,413.8	1,968.1	1,147.9	1,114.1	1,377.4	5,607.4	994.3	1,491.5	2,088.1	2,714.5	7,288.5	3,528.9	5,293.3	6,352.0	7,622.4	22,796.6
Electric Vehicles	260.0	244.0	4,695.3	1,820.2	135.7	402.9	524.5	2,883.3	419.0	733.2	1,173.1	1,818.3	4,143.7	2,091.1	2,404.8	2,645.2	2,909.8	10,050.9
Total Battery Revenues	23,048.0	34,285.0	94,713.1	29,603.4	22,231.6	44,327.7	36,830.4	132,993.1	42,854.0	46,980.7	52,492.8	56,226.1	198,553.6	58,864.0	64,136.7	72,208.5	78,800.3	274,009.5
Battery Revenues % change (yoy)				97.1%	-13.5%	71.5%	30.9%	40.4%	45%	111%	18%	53%	49.3%	37%	37%	38%	40%	38.0%
Raw Material Revenues																		
Precursor	-	9,139.0	78,680.0	10,621.0	10,070.6	10,379.5	-		10,798.8	10,852.8	10,907.1	10,961.6	43,520.3	11,071.2	11,181.9	11,293.7	11,406.7	44,953.6
Cathode	-	8,726.0	75,331.0	2,173.0	10,118.2	8,734.0	-		9,131.4	9,085.7	9,040.3	9,266.3	36,523.7	9,196.8	9,104.8	9,013.8	9,012.9	36,328.3
Total Raw Material Revenues	-	17,865.0	154,011.0	12,794.0	20,188.9	19,113.5	19,348.9	71,445.3	19,930.2	19,938.5	19,947.4	20,227.9	80,044.0	20,268.0	20,286.8	20,307.5	20,419.6	81,281.9
Other sales	14,518.0	520.0																
Sales	**37,566.2**	**52,669.7**	**248,725.8**	42,397.4	42,420.5	63,441.1	56,179.4	**204,438.4**	62,784.2	66,919.2	72,440.2	76,454.0	**278,597.6**	79,132.0	84,423.5	92,516.0	99,219.9	**355,291.4**
% change (yoy)			**372%**			10%	3%	**-18%**	48%	58%	14%	36%	**36%**	26%	26%	28%	30%	**28%**
Cost of Revenues	34,852	47,559	230,630	39,491	38,536	51,193	43,494	172,714	54,126	57,377	61,725	64,890	238,118	66,905	71,011	77,322	82,514	297,752
Gross Profit	2,714	5,110	18,096	2,906	3,884	12,249	12,685	31,724	8,659	9,542	10,715	11,564	40,480	12,227	13,413	15,194	16,706	57,540
% change (yoy)													28%					42%
Gross Profit Margin	**7.2%**	**9.7%**	**7.3%**	**6.9%**	**9.2%**	**19.3%**	**22.6%**	**15.5%**	**13.8%**	**14.3%**	**14.8%**	**15.1%**	**14.5%**	**15.5%**	**15.9%**	**16.4%**	**16.8%**	**16.2%**
Operating Expenses:																		
Research and Development	1,678.9	5,274.3	10,635.5	2,455.3	2,980.7	2,578.0	3,914.0	11,928.1	3,561.8	3,383.7	3,552.9	3,623.9	14,122.3	3,551.5	3,373.9	3,542.6	3,613.4	14,081.3
Sales and marketing	701.4	2,301.7	2,007.8	721.0	963.6	1,116.0	2,103.3	4,903.9	1,850.9	1,943.5	2,040.6	2,254.9	8,089.9	2,570.6	2,956.2	3,399.6	3,909.5	12,835.9
General and Administrative	3,746	10,027	9,738	2,479.1	3,582.9	3,241.0	4,486.1	13,789.1	4,037.5	4,077.8	4,200.2	4,305.2	16,621	4,348.2	4,391.7	4,523.5	4,636.6	17,900
	6,126	17,603	22,381	5,655	7,527	6,935	10,503	30,621	9,450	9,405	9,794	10,184	38,833	10,470	10,722	11,466	12,160	44,817
% of Sales	16.3%	33.4%	9.0%	13.3%	17.7%	10.9%	18.7%	15.0%	15.1%	14.1%	13.5%	13.3%	13.9%	13.2%	12.7%	12.4%	12.3%	12.6%
Operating Income (Loss)	**(3,412)**	**(12,493)**	**(4,285)**	**(2,749)**	**(3,643)**	**5,314**	**2,182**	**1,103**	**(792)**	**138**	**921**	**1,380**	**1,647**	**1,757**	**2,691**	**3,728**	**4,546**	**12,722**
Impairment Charge on PPE & goodwill	4,346	-	**6,388**				**(7,070)**	**(7,070)**										
(Provision for) recovery of doubtful accounts	(722)	780	(831)	(131)	(130)	(25)	(999)	(1,285)										
Other Income, net	(40)	3,644	(7,252)	183	238	602	(4,046)	(3,023)	0	0	0	0	-	0	0	0	0	-
Finance Expenses/(Income)	1,399	(785)	(491)	(5)	(252)	447	(623)	(433)	0	0	0	0	-	0	0	0	0	0
Changes in fair value of warrants liability	2,072	61,802	5,710	85	36	15	0	136	0	0	0	0	-	0	0	0	0	0
Impairment of non-marketable equity securities	-	(693)	0	0	0	0	0	(2,393)	0	0	0	0	0	0	0	0	0	0
Income before Taxes	**(7,847)**	**53,826**	**(12,556)**	**(2,607)**	**(3,247)**	**5,459**	**(4,858)**	**(6,053)**	**(792)**	**138**	**921**	**1,380**	**1,647**	**1,757**	**2,691**	**3,728**	**4,546**	**12,722**
Loss (income) attributable to non-controlling interests	40	(73)	1,879	824	304	571	4,391	6,090	(158)	28	184	276	329	351	538	746	909	2,544
Income tax (expense)/credit		7,733	1,228	403	307	305	(3,502)	(2,486)	63	(11)	(74)	(110)	(132)	(141)	(215)	(298)	(364)	(1,018)
Net Income (Loss) attributable to CBAK	**(7,807)**	**61,486**	**(9,448)**	**(1,380)**	**(2,636)**	**6,335**	**(3,968)**	**(2,449)**	**(887)**	**154**	**1,032**	**1,545**	**1,844**	**1,967**	**3,014**	**4,176**	**5,092**	**14,249**
EPS reported	**(0.13)**	**0.70**	**(0.11)**	**(0.02)**	**(0.03)**	**0.07**	**(0.04)**	**(0.03)**	**(0.01)**	**0.00**	**0.01**	**0.02**	**0.02**	**0.02**	**0.03**	**0.05**	**0.06**	**0.16**
% change (yoy)			**N/A**	N/A	N/A	N/A	N/A	**N/A**	N/A	N/A	N/A	N/A	**N/A**	N/A	N/A	N/A	N/A	**N/A**
Diluted Shares (weighted average)	**61992.4**	**87881.9**	**88927.0**	89013.4	89191.4	89904.3	89919.0	**89252.0**	90098.8	90279.0	90459.6	90640.5	**90369.5**	90821.8	91003.4	91185.4	91367.8	**91094.6**
Margins:																		
Gross Margin	**7.2%**	**9.7%**	**7.3%**	6.9%	9.2%	19.3%	22.6%	**15.5%**	13.8%	14.3%	14.8%	15.1%	**14.5%**	15.5%	15.9%	16.4%	16.8%	**16.2%**
Research and Development as a % of Sales	4.5%	10.0%	4.3%	5.8%	7.0%	4.1%	7.0%	5.8%	5.7%	5.1%	4.9%	4.7%	5.1%	4.5%	4.0%	3.8%	3.6%	4.0%
General & Administrative as a % of Sales	10.0%	19.0%	3.9%	5.8%	8.4%	5.1%	8.0%	6.7%	6.4%	6.1%	5.8%	5.6%	6.0%	5.5%	5.2%	4.9%	4.7%	5.0%

Source: Zacks SCR, Brian Lantier, Company Filings

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BALANCE SHEET

CBAK Energy Technology, Inc.
Balance Sheet in US Dollars
12/31/23

(US Dollars USD in 000s)

Assets	
Current Assets	
Cash and Cash Equivalents	4,643
Pledged Deposits	54,180
Trade and bills receivable, net	28,653
Inventories	33,413
Prepayment & other receivables	7,459
Receivables from a former subsidiary, net	75
Income Tax recoverable	0
Total current assets	128,423
Property, plant & tquipment (net)	91,629
Construction in progress	37,798
Long-term investments, net	2,565
Prepaid land use rights	11,713
Intangible Assets (net)	841
Deposit paid for acquisition - long-term investment	7,101
Operating lease right-of-use assets, net	1,085
Deferred tax assets, net	0
Total Assets	**281,155**
Liabilities	
Current Liabilities	
Trade and bills payable	82,430
Short-term bank borrowings	32,588
Other short-term loans	340
Accrued expenses and other payables	41,993
Payables to a former subsidiary, net	411
Deferred government grants, current	375
Product warranty provisions	24
Warrants liability	0
Operating lease liability, current	692
Finance lease liability, current	1,644
Total current liabilities	160,496
Deferred government grants, non-current	6,203
Product warranty provisions	523
Operating lease liability, non-current	475
Accrued expenses & other payables, non-current	0
Total Liabilities	**167,697**
Shareholder's Equity	
Common stock	90
Donated shares	14,102
Additional Paid-in Capital	247,466
Statutory reserves	1,231
Accumulated Deficit	(134,396)
Accumulated Other Comprehensive Loss	(11,601)
Shareholder's Equity	**116,890**
Less: Treasury Shares	(4,067)
Total shareholders' equity	**112,824**
Non-controlling interests	634
Total equity	**113,458**
Total Liabilities & Equity	**281,155**

Source: SEC Filings

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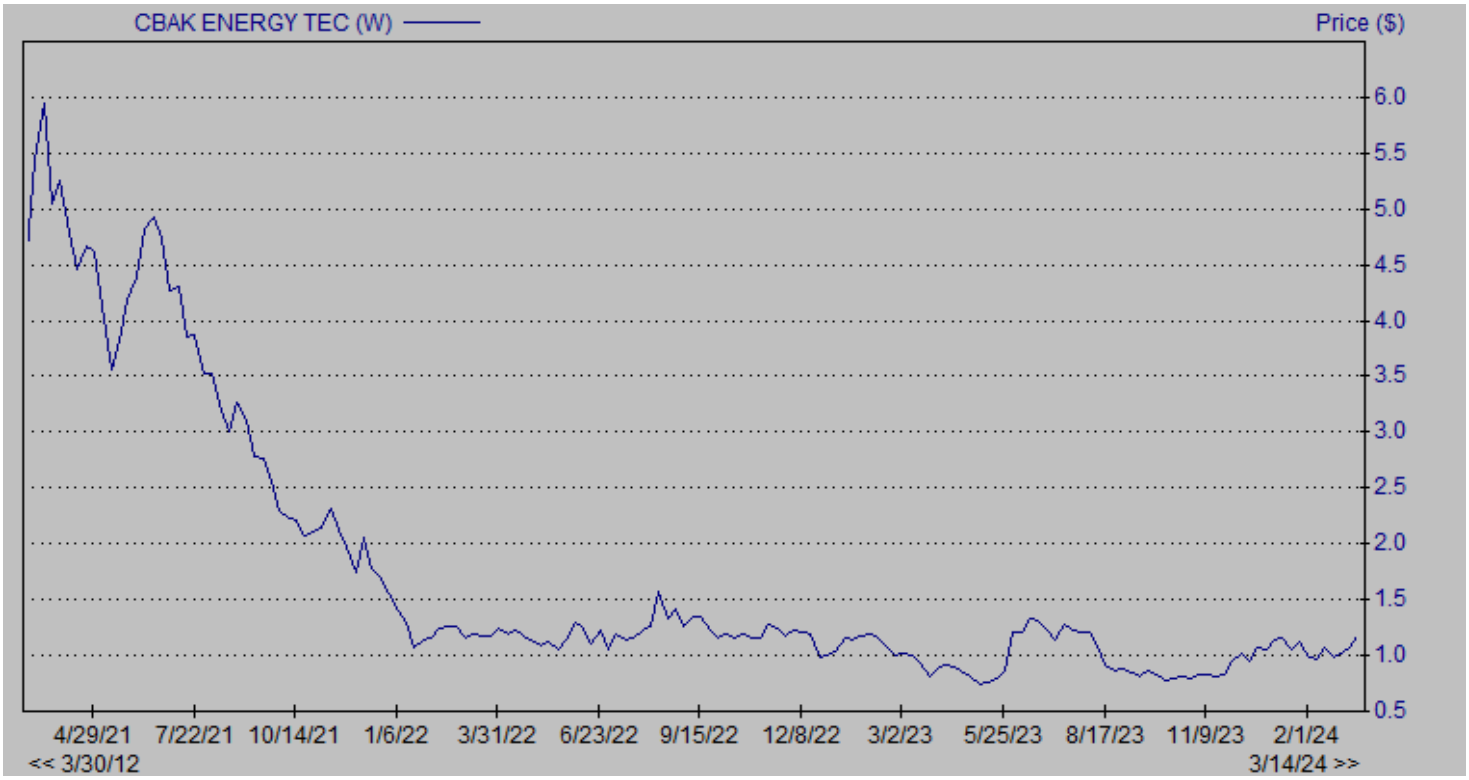
HISTORICAL STOCK PRICE



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