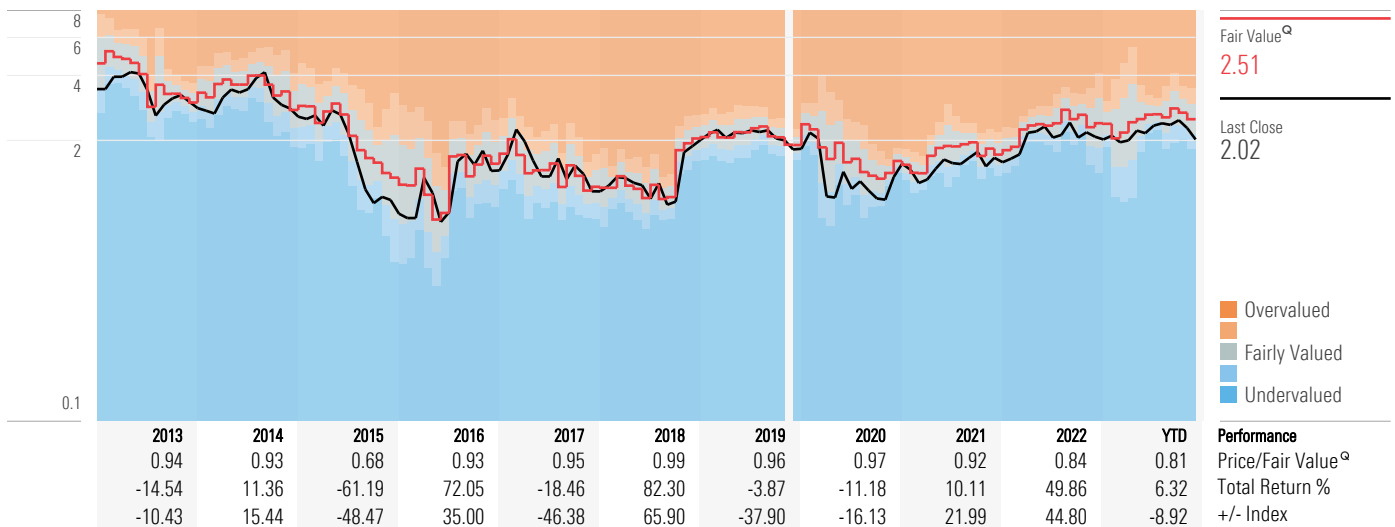


# Cia Energetica DE Minas Gerais - Cemig XCMIG ★★★★★ Q 29 Nov 2023, 23:39 UTC

<b>Economic Moat</b> <sup>Q</sup>	<b>Uncertainty</b> <sup>Q</sup>	<b>Price/Fair Value</b> <sup>Q</sup>	<b>ESG Risk Rating Assessment</b> <sup>1</sup>	<b>Trailing Dividend Yield %</b>	<b>Market Cap</b>	<b>Investment Style</b>	<b>Sector</b>	<b>Industry</b>
None	High	0.8	1 Nov 2023 05:00, UTC	6.32	5.0623 Bil	Large Value	Utilities	Utilities - Diversified



As of 29 Nov 2023 | Index: Morningstar Brazil GR BRL. Fair Value data as of 29 Nov 2023, 23:39 UTC.

<sup>1</sup>The ESG Risk Rating Assessment is a representation of Sustainalytics' ESG Risk Rating. Lee Davidson, Chief Analytics Officer for Morningstar, Inc, oversees the methodology that supports Quantitative Fair Value Estimates and Quantitative Star Ratings. Mr. Davidson is guided by the Morningstar, Inc. Code of Ethics in carrying out his responsibilities. For information regarding Conflicts of Interests, visit <http://global.morningstar.com/equitydisclosures>.

## Key Metrics as of 27 Nov 2023

Metrics		Percentile in Sector
Earnings Yield (%)	22.5	94.0
Sales Yield (%)	154.4	77.0
Book Value Yield (%)	101.6	71.0
Return on Assets (%)*	9.7	90.0
Revenue(Bil)*	7.3	76.0
Market Value (Bil)	5.5	71.0
Enterprise Value (Bil)	7.0	64.0
EV/MV Ratio	1.3	36.0
Volatility TTM (%)	20.6	41.0
Drawdown TTM (%)	21.3	41.0
Volume (Mil)	10.6	91.0

\*30 Jun 2023

## Business Description

Cia Energetica DE Minas Gerais - Cemig Formerly Energy Company of Minas Gerais is a Brazilian power company that generates, transmits, and distributes electricity. As one of the largest power companies in Brazil, the firm operates across most Brazilian states and Chile. The company has various subsidiaries and operates chiefly through its generation, transmission, distribution, and gas segments. The majority of the company's revenue is derived from electricity sales to consumers. The company generates power primarily through hydroelectric resources and secondarily through thermal and wind resources.

## Valuation <sup>Q</sup> as of 30 Nov 2023

Morningstar maintains a 4-star quantitative star rating for Cia Energetica DE Minas, derived from the firm's valuation and uncertainty scores. The company's shares last closed at 2.02, below our quantitative fair value estimate of 2.51. These shares have traded between a 20.75% and 2.83% discount to their fair value estimate over the past year. In Morningstar's equity coverage universe for this methodology, the company's valuation rating lands at the 65th percentile; in the utilities sector, the firm's score lies at the 49th percentile (higher percentile indicates more undervalued). Furthermore, Cia Energetica DE Minas maintains a quantitative valuation uncertainty rating of High. The company has held this star rating since the previous rating of 3, which was last assigned on 11/27/2023. The uncertainty rating for Cia Energetica DE Minas has remained High since the previous rating of Very High, which was last assigned on 11/27/2023.

The key factors behind these ratings are the company's earnings yield and volatility. The earnings yield is 22.22%, and its maximum annualized trail-

ing 12-month volatility is 30.51%. The earnings yield falls at the 93rd percentile in the utilities sector while the volatility is at the 41st percentile. Over the past year, the company's earnings yield has been between 8.34% and 22.54%; its volatility has ranged between 18.11% and 30.51%.

## Economic Moat <sup>Q</sup> as of 29 Nov 2023

Quantitatively, we do not believe Cia Energetica DE Minas has an economic moat. Its moat score of 0.15 corresponds to the 16th percentile in the utilities sector. Furthermore, this rating has not changed over the past year, while the company's moat score fell from its maximum of 0.42 in this period (score of 1 indicates greatest economic moat).

The company also maintains a quantitative financial health rating of Moderate. Its score sits at the 56th percentile overall and the 69th percentile in the sector.

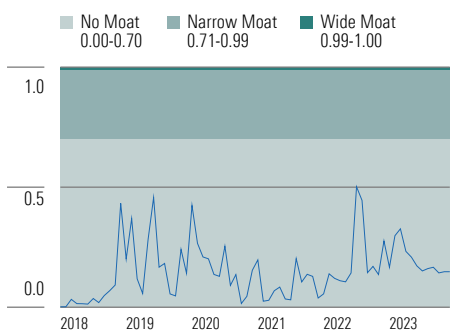
Examining the company's financials and market statistics, we find these ratings are principally driven by its book value yield and enterprise value-to-market value ratio. The book value yield is 100.18%, sitting at the 70th percentile in the utilities sector. The company's enterprise value-to-market value ratio is 1.29, corresponding to the 68th percentile in the equity coverage universe and the 36th percentile in the sector.

## Fundamentals as of 29 Nov 2023

The earnings per share for Cia Energetica DE Minas is 2.38. The company earns a return on invested capital of 19.81%, falling at the 92nd percentile in the utilities sector. The firm maintains a dividend yield of 5.6%. We calculate the above figures over a trailing 12-month period.


Examining valuation further, we find Cia Energetica

## Economic Moat <sup>Q</sup> History as of 29 Nov 2023



# Cia Energetica DE Minas Gerais - Cemig XCMIG ★★★★★

Q 29 Nov 2023, 23:39 UTC

<b>Economic Moat</b> <sup>Q</sup>	<b>Uncertainty</b> <sup>Q</sup>	<b>Price/Fair Value</b> <sup>Q</sup>	<b>ESG Risk Rating Assessment</b> <sup>1</sup>	<b>Trailing Dividend Yield</b> %	<b>Market Cap</b>	<b>Investment Style</b>	<b>Sector</b>	<b>Industry</b>
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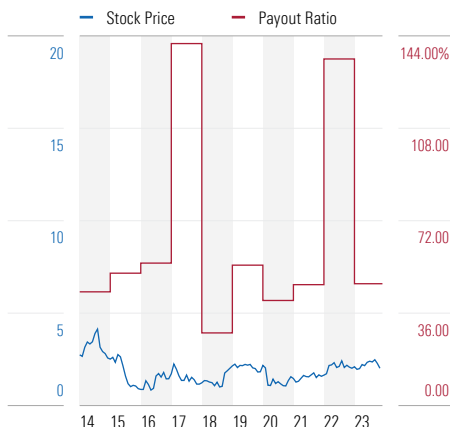
## Earnings as of 27 Nov 2023

Earnings	%	Percentile in Sector
Dividend Yield*	5.6	67.0
Payout Ratio*	47.5	40.0
Price to Earnings	4.5	9.0
Price to Cash Flow	4.1	16.0
ROIC**	19.8	92.0

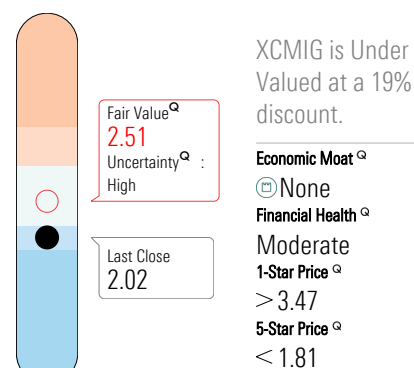
\*31 Oct 2023

\*\*30 Jun 2023

## Dividends as of 29 Nov 2023



## Valuation <sup>Q</sup> as of 29 Nov 2023

Economic Moat <sup>Q</sup>

None

Financial Health <sup>Q</sup>

Moderate

1-Star Price <sup>Q</sup>

&gt; 3.47

5-Star Price <sup>Q</sup>

&lt; 1.81

DE Minas holds a price-to-earnings ratio of 4.55, a figure greater than 10% of its sector peers. The company's price-to-free cash flow ratio is 4.16, greater than 16% of its sector peers. These values are calculated using the stock's price at last market close.

## Contact

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## Financials as of 29 Nov 2023 (Fiscal Year End 31 Dec 2023)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	Fiscal
15	20	22	19	22	22	25	25	34	34	17	Revenue (Bil)
3,477	5,109	3,497	2,781	2,894	2,879	3,012	4,298	5,624	4,962	3,182	Operating Income (Mil)
23.77	26.07	15.99	14.81	13.33	12.91	11.82	17.04	16.72	14.4	18.22	Operating Margin (%)
3,104	3,137	2,469	335	1,001	1,722	3,194	2,864	3,751	4,092	2,642	Net Income (Mil)
1.64	1.65	1.30	0.05	0.25	0.70	1.45	1.30	1.70	1.86	1.20	Diluted Earnings/Share
3,515	3,734	3,008	1,213	580	1,008	2,036	8,607	3,685	6,612	2,736	Operating Cash Flow (Mil)
-977	-920	-1,083	-1,141	-1,117	-878	-1,002	-173	-233	-292	-401	Capital Spending (Mil)
2,538	2,814	1,925	72	-537	130	1,034	8,434	3,452	6,320	2,335	Free Cash Flow (Mil)
1,899	1,899	1,899	1,899	2,201	2,454	2,203	2,203	2,206	2,200	2,201	Avg Shares Outstand(Mil)

## Valuation as of 29 Nov 2023

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Current	Calendar
0.94	0.93	0.68	0.93	0.95	0.99	0.96	0.97	0.92	0.84	0.81	Price/Fair Value <sup>Q</sup>
0.94	1.04	0.35	0.50	0.44	0.93	0.78	0.90	0.90	0.72	0.67	Price/Sales
4.18	4.68	2.25	10.17	23.89	32.32	10.56	22.46	5.77	8.76	4.56	Price/Earnings
4.49	4.33	2.69	3.11	2.84	—	9.09	4.25	3.44	6.70	3.76	Price/Cash Flow
1.35	1.27	0.54	0.68	0.76	1.33	1.18	1.30	1.14	1.23	1.01	Price/Book

## Operating Performance as of 29 Nov 2023 (Fiscal Year End 31 Dec 2023)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Q3	Fiscal (%)
8.79	9.68	6.51	0.81	2.38	3.33	5.7	5.51	7.07	7.74	2.29	Return on Assets
25.15	26.23	20.35	2.59	7.35	11.76	20.53	17.17	20.31	19.85	5.37	Return on Equity
14.75	16.46	13.53	7.76	7.02	8.13	12.34	10.93	14.93	18.31	3.7	Rtn on Invested Capital

## Dividends as of 29 Nov 2023

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Current	Calendar (%)
0.79	1.75	0.29	0.47	0.08	0.43	0.48	0.42	0.86	1.96	0.13	Dividend Per Share
—	22.03	7.3	9.18	6.59	1.07	1.56	1.98	8.34	7.23	6.32	Trailing Dividend Yield
—	—	—	—	—	—	—	—	—	—	—	Buyback Yield

# Appendix

**Economic Moat** <sup>®</sup>History as of 29 Nov 2023 (No Moat: 0.00-0.70, Narrow Moat: 0.70-0.99, Wide Moat: 0.99-1.00)

Year	January	February	March	April	May	June	July	August	September	October	November	December
2023	0.17	0.30	0.33	0.23	0.21	0.17	0.15	0.16	0.17	0.14	0.15	—
2022	0.06	0.14	0.12	0.11	0.11	0.14	0.50	0.44	0.14	0.17	0.14	0.28
2021	0.20	0.03	0.03	0.07	0.08	0.03	0.03	0.20	0.11	0.14	0.13	0.04
2020	0.42	0.27	0.21	0.20	0.14	0.13	0.25	0.09	0.14	0.02	0.05	0.15
2019	0.20	0.37	0.12	0.06	0.28	0.46	0.17	0.18	0.06	0.05	0.24	0.14
2018	0.00	0.00	0.03	0.02	0.01	0.01	0.04	0.02	0.05	0.07	0.09	0.43

## Quantitative Equity Report Overview

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### Quantitative Equity Ratings

Morningstar's quantitative equity ratings consist of: (i) Quantitative Fair Value Estimate, (ii) Quantitative Star Rating, (iii) Quantitative Uncertainty, (iv) Quantitative Economic Moat, and (v) Quantitative Financial Health (collectively the "Quantitative Ratings").

The Quantitative Ratings are calculated daily and derived from the analyst-driven ratings of a company's peers as determined by statistical algorithms. Morningstar, Inc. ("Morningstar", "we", "our") calculates Quantitative Ratings for companies whether or not it already provides analyst ratings and qualitative coverage. In some cases, the Quantitative Ratings may differ from the analyst ratings because a company's analyst-driven ratings can significantly differ from other companies in its peer group.

i. **Quantitative Fair Value Estimate:** Intended to represent Morningstar's estimate of the per share dollar amount that a company's equity is worth today. Morningstar calculates the Quantitative Fair Value Estimate using a statistical model derived from the Fair Value Estimate Morningstar's equity analysts assign to companies. Please go to <http://global.morningstar.com/equitydisclosures> for information about Fair Value Estimate Morningstar's equity analysts assign to companies.

ii. **Quantitative Economic Moat:** Intended to describe the strength of a firm's competitive position. It is calculated using an algorithm designed to predict the Economic Moat rating a Morningstar analyst would assign to the stock. The rating is expressed as Narrow, Wide, or None.

**Narrow** – assigned when the probability of a stock receiving a "Wide Moat" rating by an analyst is greater than 70% but less than 99%.

**Wide** – assigned when the probability of a stock receiving a "Wide Moat" rating by an analyst is greater than 99%.

**None** – assigned when the probability of an analyst receiving a "Wide Moat" rating by an analyst is less than 70%.

iii. **Quantitative Star Rating:** Intended to be the summary rating based on the combination of our Quantitative Fair Value Estimate, current market price, Quantitative Uncertainty Rating, and momentum. The rating is expressed as One-Star, Two-Star, Three-Star, Four-Star, and Five-Star.

★ – the stock is overvalued with a reasonable margin of safety.

*Log (Quant FVE/Price) < -1\*Quantitative Uncertainty*

*Micro-Caps: Log (Quant FVE/Price) < -1.5\*Quantitative Uncertainty*

★★ – the stock is somewhat overvalued.

*Log (Quant FVE/Price) between (-1\*Quantitative Uncertainty, -0.5\*Quantitative Uncertainty)*

*Micro-Caps: Log (Quant FVE/Price) between (-1.5\*Quantitative Uncertainty, -0.75\*Quantitative Uncertainty)*

★★★ – the stock is approximately fairly valued.

*Log (Quant FVE/Price) between (-0.5\*Quantitative Uncertainty, 0.5\*Quantitative Uncertainty)*

*Micro-Caps: Log (Quant FVE/Price) between (-0.75\*Quantitative Uncertainty, 0.75\*Quantitative Uncertainty)*

★★★★ – the stock is somewhat undervalued.

*Log (Quant FVE/Price) between (0.5\*Quantitative Uncertainty, 1\*Quantitative*

*Uncertainty)*

*Micro-Caps: Log (Quant FVE/Price) between (0.75\*Quantitative Uncertainty, 1.5\*Quantitative Uncertainty)*

★★★★★ – the stock is undervalued with a reasonable margin of safety.

*Log (Quant FVE/Price) > 1\*Quantitative Uncertainty*

*Micro-Caps: Log (Quant FVE/Price) > 1.5\*Quantitative Uncertainty*

After the initial calculation for the star rating, there is a final filtering step based on the momentum of the company. We rank the companies based on their 12-1 month momentum, then restrict those below the 30th percentile to a maximum of 3 stars.

iv. **Quantitative Uncertainty:** Intended to represent Morningstar's level of uncertainty about the accuracy of the Quantitative Fair Value Estimate. Generally, the lower the Quantitative Uncertainty, the narrower the potential range of outcomes for that particular company. The rating is expressed as Low, Medium, High, Very High, and Extreme.

**Low** – the interquartile range for possible fair values is less than 10%

**Medium** – the interquartile range for possible fair values is less than 15% but greater than 10%

**High** – the interquartile range for possible fair values is less than 35% but greater than 15%

**Very High** – the interquartile range for possible fair values is less than 80% but greater than 35%

**Extreme** – the interquartile range for possible fair values is greater than 80%

v. **Quantitative Financial Health:** Intended to reflect the probability that a firm will face financial distress in the near future. The calculation uses a predictive model designed to anticipate when a company may default on its financial obligations. The rating is expressed as Weak, Moderate, and Strong.

**Weak** – assigned when Quantitative Financial Health < 0.2

**Moderate** – assigned when Quantitative Financial Health is between 0.2 and 0.7

**Strong** – assigned when Quantitative Financial Health > 0.7

### Other Definitions

i. **Last Close** – Price of the stock as of the close of the market of the last trading day before date of the report.

ii. **Quantitative Valuation** – Using the below terms, intended to denote the relationship between the security's **Last Price** and Morningstar's quantitative fair value estimate for that security.

**Undervalued – Last Price** is below Morningstar's quantitative fair value estimate.

**Fairly Valued – Last Price** is in line with Morningstar's quantitative fair value estimate.

**Fairly Valued – Last Price** is in line with Morningstar's quantitative fair value estimate.

**Overvalued – Last Price** is above Morningstar's quantitative fair value estimate.

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Sustainalytics analyzes over 1,300 data points to assess a company's exposure to and management of ESG risks. In other words, ESG Risk Ratings measures a company's unmanaged ESG Risks represented as a quantitative score. Unmanaged Risk is measured on an open-ended scale starting at zero (no risk) with lower scores representing less unmanaged risk and, for 95% of cases, the unmanaged ESG Risk score is below 50.

Based on their quantitative scores, companies are grouped into one of five Risk Categories (negligible, low, medium, high, severe). These risk categories are absolute, meaning that a 'high risk' assessment reflects a comparable degree

of unmanaged ESG risk across all subindustries covered.

The ESG Risk Rating Assessment is a visual representation of Sustainalytics ESG Risk Categories on a 1 to 5 scale. Companies with Negligible Risk = 5 Globes, Low Risk = 4, Medium Risk = 3 Globes, High Risk = 2 Globes, Severe Risk = 1 Globe. For more information, please visit [sustainalytics.com/esg-ratings/](https://sustainalytics.com/esg-ratings/)

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