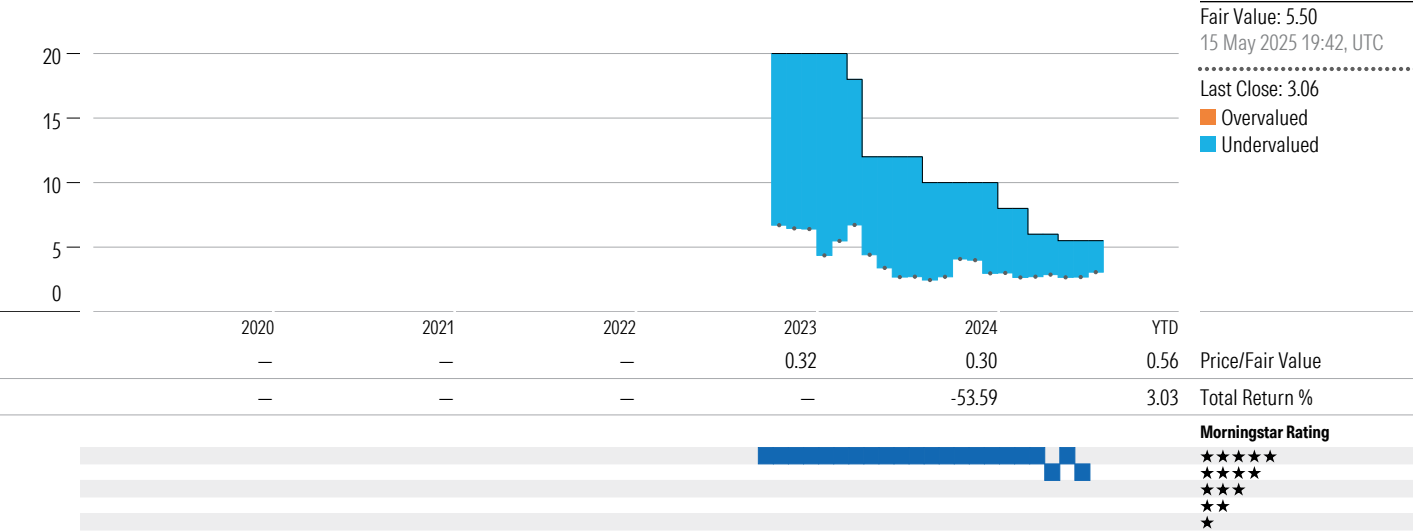


Lithium Americas Corp LAC ★★★★★ 16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

Price vs. Fair Value



Total Return % as of 16 Jul 2025. Last Close as of 16 Jul 2025. Fair Value as of 15 May 2025 19:42, UTC.

Contents

- Business Description
- Business Strategy & Outlook (15 May 2025)
- Bulls Say / Bears Say (15 May 2025)
- Economic Moat (15 May 2025)
- Fair Value and Profit Drivers (15 May 2025)
- Risk and Uncertainty (7 Mar 2025)
- Capital Allocation (15 May 2025)
- Analyst Notes Archive
- Financials
- ESG Risk
- Appendix
- Research Methodology for Valuing Companies

Important Disclosure

The conduct of Morningstar's analysts is governed by Code of Ethics/Code of Conduct Policy, Personal Security Trading Policy (or an equivalent of), and Investment Research Policy. For information regarding conflicts of interest, please visit: <http://global.morningstar.com/equitydisclosures>.

The primary analyst covering this company does not own its stock.

The ESG Risk Rating Assessment is a representation of Sustainalytics' ESG Risk Rating.

Lithium Americas' Thacker Pass Is Under Construction at One of the World's Largest Lithium Resources

Business Strategy & Outlook Seth Goldstein, CFA, Senior Equity Analyst, 15 May 2025

Lithium Americas aims to become a pure-play lithium producer. The company was created as a result of the former Lithium Americas separation, which split the firm's North America business, which is the current Lithium Americas, from its Argentina business, which was named Lithium Argentina.

Lithium Americas' only resource is the Thacker Pass project in Nevada, which is currently under construction. The company will own 62% of the project, with production expected later in the decade, while automaker General Motors owns the remaining 38%.

Upon entering production, Thacker Pass would become the first clay-based lithium resource in the world. Historically, lithium is extracted from either brine extraction or traditional hard rock mining. Although new, Thacker Pass' clay-based operation will more closely replicate that of hard rock mining. Alternatively, brine, which is prevalent in South America, is pumped from an aquifer into evaporation ponds, which eventually becomes concentrated into a lithium-rich salt. This salt is then processed into a lithium chemical at a downstream conversion plant.

Thacker Pass plans to be a large-scale lithium production site. Management targets 160,000 metric tons of annual capacity. This will be built in four phases of 40,000 metric tons of annual capacity.

Lithium Americas Corp LAC ★★★★★

16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

Sector

 Basic Materials

Industry

Other Industrial Metals & Mining

Business Description

Lithium Americas is a pure-play lithium producer. The firm owns 62% of one resource, Thacker Pass, which is located in northwest Nevada, with automaker General Motors owning the remaining 38%. Thacker Pass is under construction and expected to begin production in 2028. Thacker Pass is one of the largest known lithium resources in the world. The project would be the first clay-based asset to enter production, and we estimate it will be in bottom half of the global cost curve. Management plans to develop Thacker Pass into a fully integrated lithium production site, with downstream refining capabilities on site, and will sell into the lithium chemical market.

As electric vehicle adoption increases, we expect double-digit annual growth for lithium demand.

Lithium Americas should benefit as there should be more than enough demand for the company's three resources to enter production and expand capacity over time.

Aside from the Thacker Pass project, Lithium Americas owns small equity stakes in Green Technology Metals, a company developing two spodumene projects in Canada, and Ascend Elements, a company developing battery recycling technology.

Bulls Say Seth Goldstein, CFA, Senior Equity Analyst, 15 May 2025

- ▶ As a lithium pure play, Lithium Americas is well positioned to increase profits from EV growth through lithium batteries.
- ▶ The company's resource, the McDermitt Caldera, is one of the largest lithium resources in the world. This should allow annual production capacity to expand to 160,000 metric tons.
- ▶ Lithium prices will remain well above the marginal cost of production through at least the remainder of the decade, leading to excess profits and return on invested capital for Lithium Americas.

Bears Say Seth Goldstein, CFA, Senior Equity Analyst, 15 May 2025

- ▶ Thacker Pass is a new greenfield lithium project that will likely face delays and cost overruns, similar to other greenfield projects in the industry.
- ▶ Lithium prices will fall as new supply comes online faster than demand, which will weigh on profitability. Lithium Americas' project could prove value-destructive in the wake of lower prices.
- ▶ As Thacker Pass will be the first clay-based lithium resource in the world, it will likely have higher operating costs than management forecasts, leading to a materially higher position on the global cost curve.

Economic Moat Seth Goldstein, CFA, Senior Equity Analyst, 15 May 2025

We assign Lithium Americas a no-moat rating. The firm's only asset, Thacker Pass, is under construction; we estimate it will enter production in 2028.

Globally, lithium has been produced from either the evaporation of brine or the mining of hard rock minerals (spodumene or lepidolite). In general, lithium carbonate production via brine, which is prominent in Chile and Argentina, costs less than that of spodumene production, which is prevalent in Australia, and far less than lepidolite, which is produced in China.

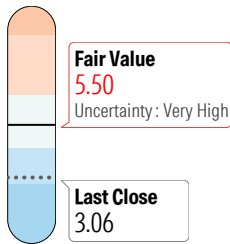
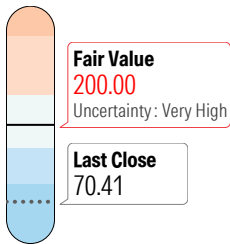
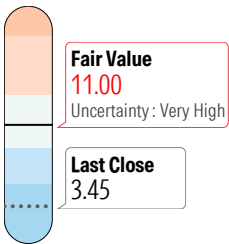
With Thacker Pass, Lithium Americas aims to introduce a new type of lithium resource, clay mining, which will more closely replicate hard rock-based production. Global lithium demand has quickly been ramping over the last several years, given EV adoption, but historically, the lithium market was relatively small. New greenfield projects weren't needed to supply the market, with brownfield investment being enough to meet demand growth. However, we estimate global lithium demand will

Lithium Americas Corp LAC ★★★★★

16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	4 Jun 2025 05:00, UTC

Competitors

	Lithium Americas Corp LAC	Albemarle Corp ALB	Lithium Argentina AG LAR
			
Economic Moat	None	Narrow	Narrow
Currency	USD	USD	CAD
Fair Value	5.50 15 May 2025 19:42, UTC	200.00 1 May 2025 22:22, UTC	11.00 15 May 2025 16:54, UTC
1-Star Price	9.63	350.00	19.25
5-Star Price	2.75	100.00	5.50
Assessment	Undervalued 16 Jul 2025	Undervalued 16 Jul 2025	Undervalued 16 Jul 2025
Morningstar Rating	★★★★★ 16 Jul 2025 21:59, UTC	★★★★★ 16 Jul 2025 21:26, UTC	★★★★★ 16 Jul 2025 22:02, UTC
Analyst	Seth Goldstein, Senior Equity Analyst	Seth Goldstein, Senior Equity Analyst	Seth Goldstein, Senior Equity Analyst
Capital Allocation	Standard	Standard	Standard
Price/Fair Value	0.56	0.35	0.31
Price/Sales	—	1.62	—
Price/Book	1.00	1.06	0.48
Price/Earning	—	—	—
Dividend Yield	0.00%	2.31%	0.00%
Market Cap	669.85 Mil	8.28 Bil	558.56 Mil
52-Week Range	2.02—5.20	49.43—113.91	2.36—5.50
Investment Style	Small Growth	Small Blend	Small Value

more than triple by 2030 to 2.5 million tons, well above the roughly 800,000 metric tons in 2022. As such, new greenfield projects will be required to supply the market, including new methods of lithium extraction, such as clay-based mining.

Thacker Pass is located in the McDermitt Caldera, in the mountains in northwest Nevada. Based on management's recent technical studies, the caldera is one of the largest rock-based lithium resources in the world. Lithium Americas also owns land rights to the northern part of the caldera, where there is potential for additional investment in production capacity.

Once the project enters production, Thacker Pass should sit on the bottom half of the lithium carbonate cost curve, at what we estimate as the second-lowest rock-based resource globally (behind Albemarle's and Tianqi's Greenbushes asset). As such, Thacker Pass should be profitable on an all-in sustaining cost basis, which accounts for operating costs, taxes and royalties, and maintenance capital expenditures.

Lithium Americas Corp LAC ★★★★★ 16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

Based on economics alone, we estimate the asset to be a relatively low-cost producer on the global cost curve, producing at USD 8,000 per ton.

Our no-moat rating is due to the material threat of value destruction related to project uncertainty. Although project feasibility studies indicate clay-based mining is a viable method for lithium extraction, the project carries additional risk as it is the first of its kind. Thacker Pass is currently under construction and could face material delays and cost overruns that could hurt shareholder returns. Even after construction is finished, we see risk that clay-based mining may ultimately prove to have a materially higher cost than currently forecast, potentially ending up on the higher end of the global cost curve. Given the material threat of value destruction for the project, we view a no-moat rating as appropriate for now but will revisit our rating as the project enters production.

Fair Value and Profit Drivers Seth Goldstein, CFA, Senior Equity Analyst, 15 May 2025

We reduce our fair value estimate to USD 5.50 from USD 6.00 following Lithium Americas' first-quarter results. The reduction is due primarily to a delayed production start for the Thacker Pass project to 2028 from 2027.

Our valuation assumes a roughly 11% weighted average cost of capital that includes a 1% equity risk premium, which accounts for the additional risk of Thacker Pass currently being in development. We value free cash flows generated beyond our 10-year explicit forecast horizon at a multiple of 11 times midcycle EBITDA. Our valuation also includes that the US Department of Energy's ATVM loan closes and funds USD 1.97 billion of phase 1 capital expenditures.

We forecast that Thacker Pass will enter production in 2028 with an initial 40,000 metric tons of capacity. We assume the phase 1 capital expenditures are USD 2.93 billion, in line with management's estimate, and includes contingency spending. We forecast Thacker Pass ramping to a total 160,000 metric tons of capacity over the long term, in line with management's guidance over four stages. After phase 1, we assume additional capital expenditures at Thacker Pass are funded by equity ownership, with Lithium Americas contributing 62% and GM contributing 38%.

Longer term, we expect lithium prices will remain volatile, but average selling at roughly the marginal cost of production, which we estimate to be USD 20,000 per metric ton. Our price forecast is based on our forecast for the marginal cost of lithium production on an all-in sustaining cost basis. We expect lithium demand to grow at nearly a 20% annual rate from 1.2 million metric tons in 2024 to 3.2 million metric tons by 2030. By 2030, roughly 95% of lithium demand will come from batteries that require high-quality lithium with few impurities. To meet demand, higher-cost supply will need to come online from lower-quality resources that will require higher processing costs.

Given the wide range of potential lithium prices, we see a range of outcomes for Lithium Americas. In a

Lithium Americas Corp

LAC★★★★

16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD	5.50 USD	0.56	669.85 USD Mil	None	Small Growth	Very High	Standard	
16 Jul 2025	15 May 2025 19:42, UTC		16 Jul 2025					4 Jun 2025 05:00, UTC

downside scenario, we forecast lithium prices to average USD 10,000 per metric ton for the remainder of the decade, which is below our estimate for the current marginal cost of production on an all-in sustaining cost basis, as we assume a wave of new low-cost supply alters the cost curve and keeps prices lower. We also assume Lithium Americas does not expand Thacker Pass beyond the first two phases ending with 80,000 metric tons of total annual capacity. In this scenario, our fair value estimate would be USD 1.

Risk and Uncertainty Seth Goldstein, CFA, Senior Equity Analyst, 7 Mar 2025

We assign a Very High Morningstar Uncertainty Rating to Lithium Americas.

As a pure-play lithium company with one lithium production asset currently in construction, project execution is the biggest risk facing Lithium Americas. This includes finishing construction on time and on budget, ramping up volumes, and producing battery-quality product. An additional risk to shareholders is Lithium Americas' need for additional funding, which may result in equity dilution from share issuances. The company has had to issue equity and convertible debt to finance construction of the Thacker Pass project and cover additional corporate expenses.

Volatility in lithium prices is another large risk. Lithium prices could decline if electric vehicle demand grows more slowly than expected. Electric vehicle demand could undershoot expectations if fuel cell technology were to overtake lithium as the dominant power source for next-generation vehicles. Lithium production could ramp up more quickly than demand warrants if too much supply enters the market. Further, new lithium production technologies could alter the supply curve. Additionally, Lithium Americas is also planning to make large investments to grow its production capacity over time, which adds additional execution risk and could result in cost overruns.

The largest environmental, social, and governance risks regard emissions, effluents, and waste. Potentially stricter US emissions regulations could result in additional costs or environmental remediation. Although we see a low probability of this, it would have a moderate materiality if this were to occur. Outside of regulation, battery customers could set emissions reduction requirements. While we see this as having a moderate probability to occur, we see a low materiality as all lithium producers would be subject to the same requirements, so the company could likely pass along these costs.

Capital Allocation Seth Goldstein, CFA, Senior Equity Analyst, 15 May 2025

We assign a Standard Capital Allocation Rating to Lithium Americas based on our framework that assesses the balance sheet, investment decisions, and shareholder distributions.

We view Lithium America's balance sheet as sound. The company currently has a net cash position. The company plans to use debt and equity to finance construction at its Thacker Pass project. The debt, which will account for the majority of funds raised, will come from the US Department of Energy's ATVM loan, which will last 24 years. Additionally, the GM and Orion deals should cover all Lithium Americas'

Lithium Americas Corp LAC ★★★★★ 16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

required project funding and corporate expenses over the next several years until Thacker Pass enters production.

We see management's investments as fair with a neutral execution rating. Thacker Pass is currently under construction. While we credit management with advancing the project to construction from development, it is too early to determine management's ability to execute the project. Construction brings major risks of cost overruns or delays, and production risk remains even after construction is completed.

Similarly, it is still too early to judge the efficacy of its capital investment in the project. If the project successfully ramps up volumes and is able to achieve unit operating costs that are consistent with its development studies, we are in favor of management's plan to invest in additional production capacity.

Finally, we think the firm's distribution strategy is appropriate. As Lithium Americas has no revenue, we think it is appropriate to invest in the construction of Thacker Pass. The firm currently does not pay a dividend or buy back shares, and we would not expect this to change at least until the first two phases of Thacker Pass are in production, the firm is generating positive free cash flow, and the US Department of Energy loan starts to be repaid. Further, as Thacker Pass sits on one of the largest rock-based lithium reserves in the world, we would prefer management invest in new capacity rather than returning excess cash to shareholders based on our current outlook for lithium demand, prices, and Thacker Pass unit production costs.


CEO Jonathan Evans was also CEO and president of the old Lithium Americas before the separation. Previously, he was the vice president and general manager for the lithium division at FMC (now Livent) until 2013. Before FMC, he held numerous executive management positions at firms such as DiversiTech, Arysta LifeScience, AMRI, and General Electric.

Analyst Notes Archive

Mined Commodities: Lithium Prices to Recover, with Most of our Lithium Coverage Cheap Jon Mills, CFA, Equity Analyst, 28 May 2025

Demand from China has been the main driver of rising commodity prices in the past two decades. More recently, gold is close to historical highs on safe-haven demand. However, driven by weak China steel end-user demand and slower global growth, most other commodity prices have fallen. Why it matters: Prices nevertheless remain generally elevated versus the 20-year average, as well as relative to cost support. Costs tend to loosely track commodity price changes, albeit with a lag. Unit costs have risen in recent years, driven by rising commodity prices and cost inflation. After many years of focusing on returning excess cash to shareholders—with gold miners being the notable exception, instead focusing on mergers and acquisitions—elevated commodity prices are now encouraging miners to tilt toward growth, particularly in energy transition commodities. The bottom line: Our fair values are retained,

Lithium Americas Corp LAC ★★★★★ 16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

with wide dispersion across our coverage. Coal miners are cheap, led by Glencore and Whitehaven, and so is minerals sands miner Iluka. However, driven by gold prices near historical highs, gold miners are generally expensive, with Barrick the exception. In our iron ore coverage, Mineral Resources and Vale trade at material discounts to fair value, while Deterra is also cheap. Lower near-term lithium prices see most of our lithium coverage significantly undervalued, led by Lithium Argentina and Albemarle. Big picture: Durable competitive advantages are rare in mining, and our coverage reflects this. Wide-moat Deterra Royalties and narrow-moat lithium miners, including Sociedad Quimica y Minera and Albemarle, are some exceptions. Long view: In the longer term, commodity prices should trade close to the marginal cost of production, which is generally around the 90th percentile of the industry cost curve. Between the lines: For further details, please see our "Industry Landscape: Mining" published May 27, 2025.

Lithium Americas: New Stock Offering Should Keep Project Funded to Account for Tariff Impact Seth Goldstein, CFA, Senior Equity Analyst, 19 May 2025

Lithium Americas announced plans for an at-the-market equity issuance of up to \$100 million in proceeds that would be used to fund tariff-related building materials construction costs. Lithium Americas shares were down 10% at the time of writing. Why it matters: Lithium Americas does not currently generate any revenue. The company is constructing its first lithium project at Thacker Pass, with General Motors, its project partner. The project is fully funded, but cost overruns will likely require additional funding. Lithium Americas estimates 75% of its capital expenditures for the project are related to labor, contractors, and other services, which are not exposed to tariff risks. However, the raw materials, including steel, aluminum, and other building materials, likely face tariff risks. The bottom line: For now, we maintain our USD 5.50 (CAD 7.75) fair value estimates for no-moat Lithium Americas. At current prices, we view the stock as undervalued, trading in 4-star territory. The impact of the equity issuance on our fair value estimate depends on Lithium Americas' share price versus our fair value estimate when the equity is issued. At the current stock price, we estimate a USD 1 decrease to our USD fair value estimate, which includes higher capital expenditures. While Thacker Pass is under construction over the next several years, the ability for management to keep the project on schedule and on budget will be the company-specific driver of share price movements. Lithium prices are also a catalyst for all lithium producers, including Lithium Americas.

Lithium Americas Earnings: Thacker Pass Construction Underway Seth Goldstein, CFA, Senior Equity Analyst, 15 May 2025

Lithium Americas reported first-quarter earnings. The company continues to make progress on the construction of its first project, Thacker Pass. Lithium Americas shares were up slightly on the earnings results. Why it matters: Thacker Pass is Lithium Americas' only project. The project is in the early stages of construction with a timeline to finish construction by the end of 2027. Through the construction

Lithium Americas Corp LAC ★★★★★

16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

phase, keeping the project on schedule and on budget are the most important company-specific drivers. Lithium Americas' shares will be sensitive to the outlook for General Motors, the company's partner at the Thacker Pass project. GM owns a 32% stake in the project and will buy lithium from the project. GM recently announced it will use a new lithium-ion battery that will reduce EV costs. The bottom line: We reduce our fair value estimate to \$5.50 (CAD 7.75) from \$6.00 (CAD 8.50) for no-moat Lithium Americas. The reduction is due to our outlook for a delay in the start of production at Thacker Pass from 2027 to 2028. At current prices, we view shares as significantly undervalued, trading at less than 60% of our updated fair value estimate. Big picture: Over the long term, we remain bullish on lithium. We forecast growing global EV sales and the buildout of energy storage system batteries will drive lithium demand to 3.2 million metric tons by 2030 from 1.2 million in 2024. The lithium market is currently oversupplied, but we expect demand will grow faster than supply in 2025 and 2026. This will cause the supply deficit to shrink. We expect the market will return to balance by the end of 2026, driving prices higher.

Lithium Argentina and Albemarle the Cheapest Lithium Miners as We Expect Prices to Recover Jon Mills, CFA, Equity Analyst, 23 Apr 2025

Gold is higher in the March quarter as worries over tariffs affecting economic growth see a flight to safety. Despite likely slower global growth, copper is up as investors try to get ahead of potential tariffs on US copper imports. Iron ore is flat, while metallurgical and thermal coal are down. Why it matters: Most miners' share prices fell in the quarter, especially in response to tariffs, though gold miners rose. With an average price/fair value estimate of 0.92 at April 14, 2025, there is value across a range of commodities. The bottom line: We reiterate our assumed commodity prices and the fair value estimates for our mining coverage are retained. Lithium Argentina and Albemarle are the cheapest, trading at 79% and 74% discounts to their USD 10 and USD 225 estimates given we're optimistic on lithium longer-term. Low near-term lithium prices and balance sheet concerns see Mineral Resources shares undervalued by 73%. But we expect earnings to rise as its lower-cost, long-life Onslow iron ore mine ramps and as lithium prices recover, with improved cash flow driving deleveraging. Iluka trades 63% below fair value as we expect soft mineral sands demand to recover, while we're optimistic on the value of the Eneabba rare earths refinery. Lower near-term thermal and metallurgical coal prices drive Glencore's 43% discount to our valuation. Big picture: The effect of tariffs on our mining coverage is likely to be mostly indirect rather than direct, via slower global growth. The likely effect on China's exports is also a headwind for its economy and, in turn, commodity demand led by iron ore and copper. China accounts for about 75% of seaborne iron ore demand and 55% of refined copper demand. But if things get much worse, we think monetary and fiscal stimulus is likely in the US and elsewhere, which is bullish for near-term commodity demand and prices. Between the lines: For further details, please see our "Industry Pulse: Mining 2025 Q1."

Lithium Americas Corp

LAC★★★★

16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD	5.50 USD	0.56	669.85 USD Mil	None	Small Growth	Very High	Standard	
16 Jul 2025	15 May 2025 19:42, UTC		16 Jul 2025					4 Jun 2025 05:00, UTC

Lithium: We See Near-Term Downside Risk to Lithium Prices From Economic Impact of Tariffs

Seth Goldstein, CFA,Senior Equity Analyst,3 Apr 2025

President Donald Trump announced sweeping tariffs, which featured a minimum 10% tariff on all US imports, with only limited exceptions, and higher rates for select countries. Most US-listed lithium producers were down on the news. Why it matters: Tariffs affect US lithium imports and ultimately raise prices for the end-market products, namely electric vehicles and the batteries used in energy storage systems. Higher auto prices could reduce sales volumes and lithium demand. We see limited impact on ESS demand. However, should the US tariff policy lead to a broader recession, including in countries outside the US, auto demand could fall, further weighing on lithium demand growth. As lithium is currently oversupplied with multiyear low prices, lower demand growth could prolong low prices. The bottom line: For now, we maintain our fair value estimates for the four US-listed lithium producers under our coverage. Our top picks are narrow-moat Albemarle, trading at just 30% of our \$225 fair value estimate, and narrow-moat SQM, trading at roughly half of our \$80 fair value estimate. We see less immediate impact to lithium demand from tariffs. China accounted for over 60% of EVs sold in 2024, while the US was just 10%. We expect EV sales will continue strong growth in China, which should drive global lithium demand growth. We expect lithium prices will remain near cyclically low levels for most of 2025 as oversupply conditions remain. However, we forecast demand will grow faster than supply, leading the market to return to balance in 2026. This should drive prices and producer profits higher.

Lithium Americas Earnings: Thacker Pass Project Construction Progresses

Seth Goldstein, CFA,Senior Equity Analyst,28 Mar 2025

Lithium Americas continues to make progress on the company's first project—at the Thacker Pass lithium resource in Nevada. Lithium Americas shares were down nearly 5% at the time of writing as the market reacted to the potential impact of tariffs. Why it matters: Thacker Pass is Lithium Americas' only project. The project is in the early stages of construction with a timeline to enter production in 2027. Through the construction phase, keeping the project on schedule and on budget are the most important company-specific drivers. Lithium Americas' shares will be sensitive to the outlook for General Motors, the company's partner at the Thacker Pass project. GM owns a 32% stake in the project and will buy lithium from the project. Tariffs will likely raise GM's costs, including for EVs, which could lead to lower sales volumes. The bottom line: We slightly reduce our fair value estimate for no-moat Lithium Americas to \$6.00/CAD 8.50 from \$6.50/CAD 10.00. The reduction is driven by our outlook for higher operating expenses over our forecast. At current prices, we view Lithium Americas' shares as materially undervalued, with the stock trading in 5-star territory and at less than 50% of our updated fair value estimate. Big picture: Lithium prices will be the biggest catalyst for shares moving forward. While we see prices remaining near cyclically low levels for most of 2025, we see a modest price increase by the end of the year with a larger rise in prices in 2026. We forecast higher prices as lithium demand grows

Lithium Americas Corp

LAC★★★★★

16 Jul 2025 21:59, UTC

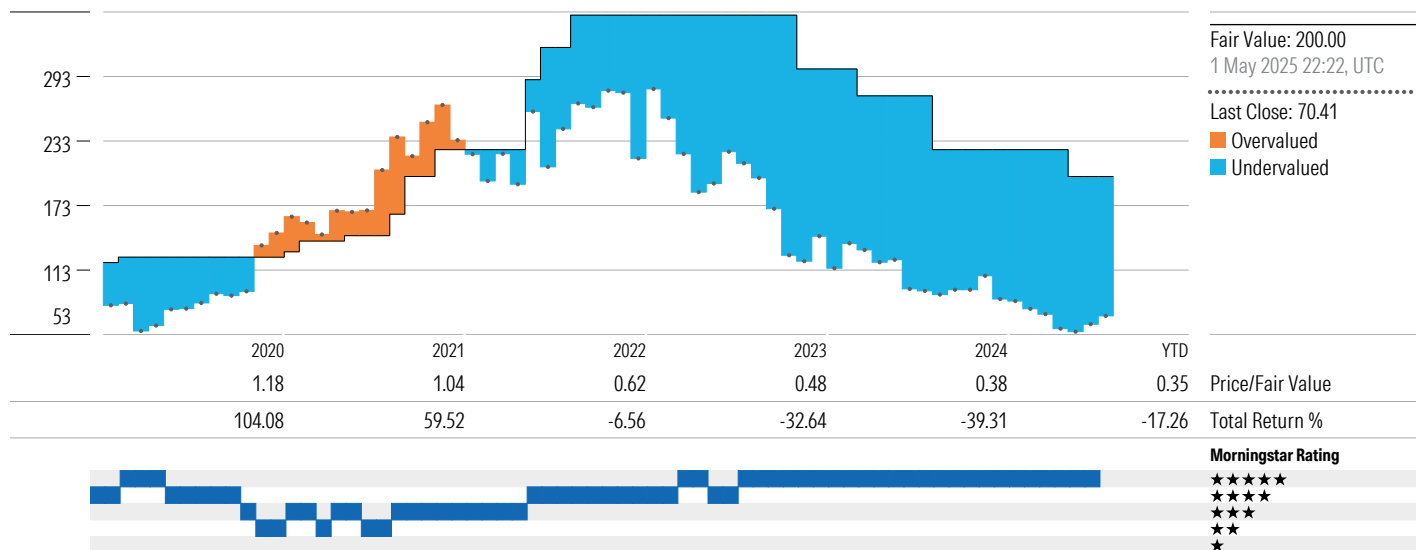
Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD	5.50 USD	0.56	669.85 USD Mil	None	Small Growth	Very High	Standard	
16 Jul 2025	15 May 2025 19:42, UTC		16 Jul 2025					4 Jun 2025 05:00, UTC

faster than supply. This will move the market from oversupplied to balanced, sending prices closer to our estimate for the marginal cost of production of \$20,000 per metric ton on an all-in sustaining cost basis.

Lithium Americas Corp LAC ★★★★★ 16 Jul 2025 21:59, UTC

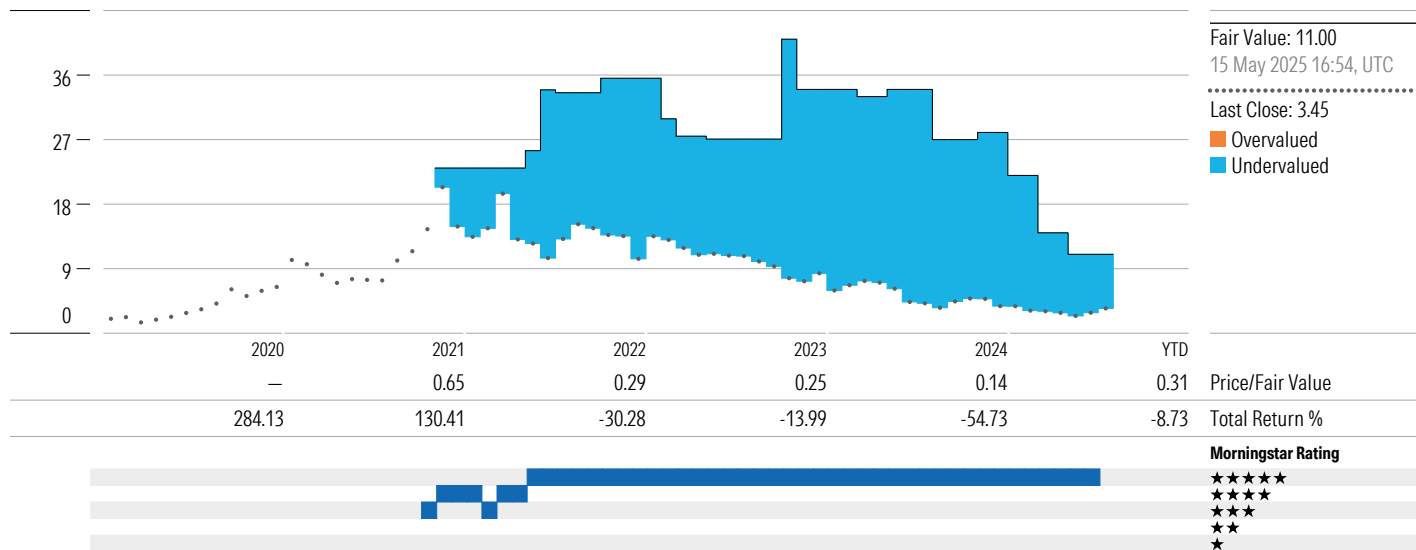
Competitors Price vs. Fair Value

Albemarle Corp ALB



Total Return % as of 16 Jul 2025. Last Close as of 16 Jul 2025. Fair Value as of 1 May 2025 22:22, UTC.


Lithium Argentina AG LAR



Total Return % as of 16 Jul 2025. Last Close as of 16 Jul 2025. Fair Value as of 15 May 2025 16:54, UTC.

Lithium Americas Corp LAC ★★★★★

16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

Morningstar Valuation Model Summary

Financials as of 15 May 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Revenue (USD K)	0	0	0	0	0	0	84,838	230,422
Operating Income (USD K)	-63,774	-9,254	-56,972	-36,000	-31,585	-84,422	-17,085	51,612
EBITDA (USD K)	-62,239	-6,096	-42,385	-21,459	-17,044	-39,642	27,776	101,123
Adjusted EBITDA (USD K)	-62,239	-6,096	-42,385	-21,459	-17,044	-39,642	27,776	101,123
Net Income (USD K)	-67,798	-6,608	-42,431	-74,238	-112,458	-152,086	-124,083	-95,060
Adjusted Net Income (USD K)	-67,798	-6,608	-42,431	-74,238	-112,458	-152,086	-124,083	-95,060
Free Cash Flow To The Firm (USD K)	-825,236	368,957	-578,568	-366,847	-1,001,790	132,041	-165,566	-115,398
Weighted Average Diluted Shares Outstanding (Mil)	47	160	201	219	219	219	219	219
Earnings Per Share (Diluted) (USD)	-1.44	-0.04	-0.21	-0.34	-0.51	-0.70	-0.57	-0.43
Adjusted Earnings Per Share (Diluted) (USD)	-1.44	-0.04	-0.21	-0.34	-0.51	-0.70	-0.57	-0.43
Dividends Per Share (USD)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Margins & Returns as of 15 May 2025

	3 Year Avg	Actual			Forecast					5 Year Avg
		2022	2023	2024	2025	2026	2027	2028	2029	
Operating Margin %	—	—	—	—	—	—	—	-20.1	22.4	—
EBITDA Margin %	-219.0	—	—	—	—	—	—	32.7	43.9	-1.1
Adjusted EBITDA Margin %	—	—	—	—	—	—	—	32.7	43.9	—
Net Margin %	0.0	—	—	—	—	—	—	-146.3	-41.3	-37.5
Adjusted Net Margin %	—	—	—	—	—	—	—	-146.3	-41.3	—
Free Cash Flow To The Firm Margin %	—	—	—	—	—	—	—	-195.2	-50.1	—

Growth & Ratios as of 15 May 2025

	3 Year CAGR	Actual			Forecast					5 Year CAGR
		2022	2023	2024	2025	2026	2027	2028	2029	
Revenue Growth %	—	—	—	—	—	—	—	—	171.6	—
Operating Income Growth %	8.6	43.3	-85.5	515.7	-36.8	-12.3	167.3	-79.8	-402.1	—
EBITDA Growth %	182.4	42.0	-90.2	595.3	-49.4	-20.6	132.6	-170.1	264.1	31.3
Adjusted EBITDA Growth %	-1.1	42.0	-90.2	595.3	-49.4	-20.6	132.6	-170.1	264.1	-219.0
Earnings Per Share Growth %	-25.6	180.5	-97.1	412.8	60.7	51.5	35.2	-18.4	-23.4	15.5
Adjusted Earnings Per Share Growth %	-25.6	180.5	-97.1	412.8	60.7	51.5	35.2	-18.4	-23.4	15.5

Valuation as of 15 May 2025

	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Price/Earning	—	-160.0	-14.1	-9.0	-6.0	-4.4	-5.4	-7.1
Price/Sales	—	—	—	—	—	—	7.4	2.7
Price/Book	—	2.7	0.9	1.2	1.5	2.3	3.9	8.7
Price/Cash Flow	—	—	—	—	—	—	—	—
EV/EBITDA	—	-144.8	-7.5	-9.3	-11.8	-5.1	7.2	2.0
EV/EBIT	—	-95.5	-5.6	-5.6	-6.4	-2.4	-11.7	3.9
Dividend Yield %	—	—	—	—	—	—	—	—
Dividend Payout %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Free Cash Flow Yield %	—	—	—	—	—	—	—	—

Operating Performance / Profitability as of 15 May 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
ROA %	-7.9	-1.5	-4.1	-2.3	-3.7	-5.2	-3.3	-2.6
ROE %	-8.5	-1.7	-4.5	-8.5	-14.8	-25.1	-25.7	-24.5
ROIC %	-60.2	-72.9	-34.1	-5.9	-1.9	-3.5	-0.7	2.1

Lithium Americas Corp LAC ★★★★★

16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

Financial Leverage (Reporting Currency)

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Debt/Capital %	—	0.4	3.3	62.8	60.1	57.3	63.5	60.9
Assets/Equity	1.1	1.1	1.1	3.7	4.1	4.8	7.9	9.6
Net Debt/EBITDA	-0.7	31.4	13.5	3.1	-69.4	-33.0	51.1	17.2
Total Debt/EBITDA	-0.7	-0.6	-0.5	-103.2	-130.0	-55.9	115.7	31.8
EBITDA/ Net Interest Expense	-15.4	-16.2	—	-0.3	-0.1	-0.3	0.2	0.5

Forecast Revisions as of 15 May 2025

Prior data as of 28 Mar 2025	2025		2026		2027	
	Current	Prior	Current	Prior	Current	Prior
Fair Value Estimate Change (Trading Currency)	5.50	5.96	—	—	—	—
Revenue (USD K)	0	0	0	0	0	38,893
Operating Income (USD K)	-36,000	-58,876	-31,585	-54,214	-84,422	-100,428
EBITDA (USD K)	-21,459	-44,335	-17,044	-39,673	-39,642	-55,648
Net Income (USD K)	-74,238	-91,395	-112,458	-129,429	-152,086	-164,090
Earnings Per Share (Diluted) (USD)	-0.34	-0.46	-0.51	-0.64	-0.70	-0.82
Adjusted Earnings Per Share (Diluted) (USD)	-0.34	-0.46	-0.51	-0.64	-0.70	-0.82
Dividends Per Share (USD)	0.00	0.00	0.00	0.00	0.00	0.00

Key Valuation Drivers as of 15 May 2025


Cost of Equity %	11.0
Pre-Tax Cost of Debt %	8.0
Weighted Average Cost of Capital %	10.8
Long-Run Tax Rate %	25.0
Stage II EBI Growth Rate %	6.0
Stage II Investment Rate %	0.0
Perpetuity Year	20

Additional estimates and scenarios available for download at <https://pitchbook.com/>.

Discounted Cash Flow Valuation as of 15 May 2025

	USD Mil
Present Value Stage I	-1,658
Present Value Stage II	2,217
Present Value Stage III	0
Total Firm Value	559
Cash and Equivalents	594
Debt	0
Other Adjustments	20
Equity Value	1,173
Projected Diluted Shares	219
Fair Value per Share (USD)	5.50

Lithium Americas Corp **LAC** ★★★★★ 16 Jul 2025 21:59, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
3.06 USD 16 Jul 2025	5.50 USD 15 May 2025 19:42, UTC	0.56	669.85 USD Mil 16 Jul 2025	None	Small Growth	Very High	Standard	 4 Jun 2025 05:00, UTC

ESG Risk Rating Breakdown

Exposure

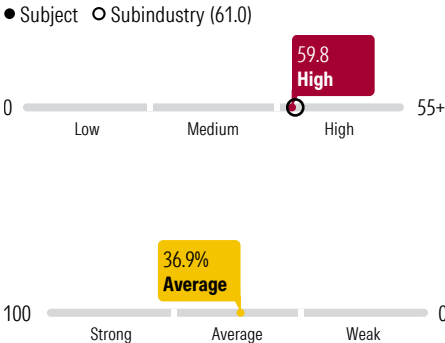
Company Exposure¹	59.8
- Manageable Risk	53.2
Unmanageable Risk²	6.6

Management

Manageable Risk	53.2
- Managed Risk³	19.6
Management Gap⁴	33.6

Overall Unmanaged Risk

40.2



- ▶ Exposure represents a company's vulnerability to ESG risks driven by their business model
- ▶ Exposure is assessed at the Subindustry level and then specified at the company level
- ▶ Scoring ranges from 0-55+ with categories of low, medium, and high-risk exposure

- ▶ Management measures a company's ability to manage ESG risks through its commitments and actions
- ▶ Management assesses a company's efficiency on ESG programs, practices, and policies
- ▶ Management score ranges from 0-100% showing how much manageable risk a company is managing

ESG Risk Rating



ESG Risk Ratings measure the degree to which a company's value is impacted by environmental, social, and governance risks, by evaluating the company's ability to manage the ESG risks it faces.

1. A company's Exposure to material ESG issues 2. Unmanageable Risk refers to risks that are inherent to a particular business model that cannot be managed by programs or initiatives 3. Managed Risk = Manageable Risk multiplied by a Management score of 36.9% 4. Management Gap assesses risks that are not managed, but are considered manageable 5. ESG Risk Rating Assessment = Overall Unmanaged Risk = Management Gap plus Unmanageable Risk

ESG Risk Rating Assessment⁵



ESG Risk Rating is of Jun 04, 2025. Highest Controversy Level is as of Jul 08, 2025. Sustainalytics Subindustry: Agricultural Chemicals. Sustainalytics provides Morningstar with company ESG ratings and metrics on a monthly basis and as such, the ratings in Morningstar may not necessarily reflect current Sustainalytics' scores for the company. For the most up to date rating and more information, please visit: sustainalytics.com/esg-ratings/.

Peer Analysis 04 Jun 2025

Peers are selected from the company's Sustainalytics-defined Subindustry and are displayed based on the closest market cap values

Company Name	Exposure	Management	ESG Risk Rating
Lithium Americas Corp	59.8 High 0 —●— 55+	36.9 Average 100 —●— 0	40.2 Severe 0 —●— 40+
Albemarle Corp	53.9 Medium 0 —●— 55+	69.8 Strong 100 —●— 0	20.1 Medium 0 —●— 40+
Lithium Argentina AG	70.7 High 0 —●— 55+	28.8 Average 100 —●— 0	52.2 Severe 0 —●— 40+
—	— — 0 —●— 55+	— — 100 —●— 0	— — 0 —●— 40+
—	— — 0 —●— 55+	— — 100 —●— 0	— — 0 —●— 40+

Appendix

Historical Morningstar Rating

Lithium Americas Corp LAC 16 Jul 2025 21:59, UTC

Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	★★★★	★★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★★★★	★★★★★	★★★★★	—	—	—	—	—	—	—	—	—
Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
—	—	—	—	—	—	—	—	—	—	—	—
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
—	—	—	—	—	—	—	—	—	—	—	—
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
—	—	—	—	—	—	—	—	—	—	—	—

Albemarle Corp ALB 16 Jul 2025 21:26, UTC

Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★	★★★★	★★★★
Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★	★★★	★★★	★★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★	★★★	★★★	★★★	★★	★★	★★★	★★★	★★	★★★	★★★	★★
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★

Lithium Argentina AG LAR 16 Jul 2025 22:02, UTC

Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★	★★★	★★★★	★★★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★★	★★★	—	—	—	—	—	—	—	—	—	—
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
—	—	—	—	—	—	—	—	—	—	—	—

Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market-price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate and (4) the current market price. This process ultimately culminates in our single-point star rating.

1. Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a

long period of time. We define economic profits as returns on invested capital (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward the firm's cost of capital more quickly than companies with moats.

When considering a company's moat, we also assess whether there is a substantial threat of value destruction, stemming from risks related to ESG, industry disruption, financial health, or other idiosyncratic issues. In this context, a risk is considered potentially value destructive if its occurrence would eliminate a firm's economic profit on a cumulative or midcycle basis. If we deem the probability of occurrence sufficiently high, we would not characterize the company as possessing an economic moat.

2. Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest,

after taxes (EBI) and the net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested ("RONIC")—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market-value weights.

3. Uncertainty Around That Fair Value Estimate

Morningstar's Uncertainty Rating is designed to capture the range of potential outcomes for a company's intrinsic value. This rating is used to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating is aimed at identifying the confidence we should have in assigning a fair value estimate for a given stock.

Our Uncertainty Rating is meant to take into account anything that can increase the potential dispersion of future

Morningstar Equity Research Star Rating Methodology



Research Methodology for Valuing Companies

outcomes for the intrinsic value of a company, and anything that can affect our ability to accurately predict these outcomes. The rating begins with a suggested rating produced by a quantitative process based on the trailing 12-month standard deviation of daily stock returns. An analyst overlay is then applied, with analysts using the suggested rating, historical rating data, and their own knowledge of the company to inform them as they make the final Uncertainty Rating decision. Ultimately, the rating decision rests with the analyst. Analysts take into account many characteristics when making their final decision, including cyclical factors, operational and financial factors such as leverage, company-specific events, ESG risks, and anything else that might increase the potential dispersion of future outcomes and our ability to estimate those outcomes.

Our recommended margin of safety—the discount to fair value demanded before we'd recommend buying or selling the stock—widens as our uncertainty of the estimated value of the equity increases. The more uncertain we are about the potential dispersion of outcomes, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the Uncertainty Rating provides guidance in portfolio construction based on risk tolerance.

Our Uncertainty Ratings are: Low, Medium, High, Very High, and Extreme.

Margin of Safety		
Qualitative Analysis	★★★★★ Rating	★ Rating
Uncertainty Ratings		
Low	20% Discount	25% Premium
Medium	30% Discount	35% Premium
High	40% Discount	55% Premium
Very High	50% Discount	75% Premium
Extreme	75% Discount	300% Premium

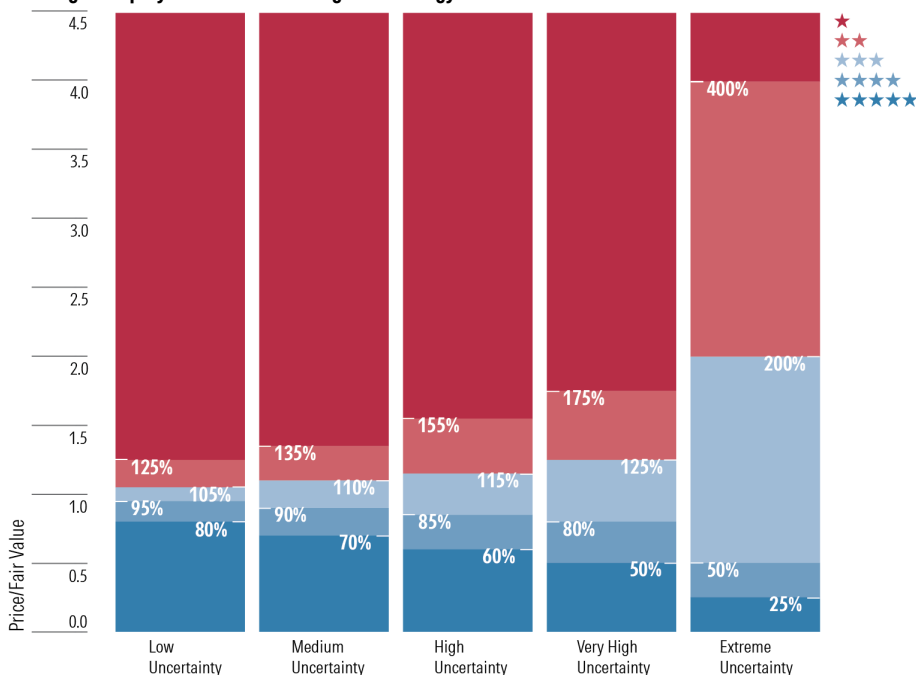
Our uncertainty rating is based on the interquartile range, or the middle 50% of potential outcomes, covering the 25th percentile–75th percentile. This means that when a stock hits 5 stars, we expect there is a 75% chance that the intrinsic value of that stock lies above the current market price. Similarly, when a stock hits 1 star, we expect there is a 75% chance that the intrinsic value of that stock lies below the current market price.

4. Market Price

The market prices used in this analysis and noted in the report come from exchange on which the stock is listed which we believe is a reliable source.

For more details about our methodology, please go to <https://shareholders.morningstar.com>

Morningstar Equity Research Star Rating Methodology



Morningstar Star Rating for Stocks

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically re-calculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow, and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true the market price will converge on our fair value estimate over time generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multi-year time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to Capital loss.

Other Definitions

Last Price: Price of the stock as of the close of the market of the last trading day before date of the report.

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments,

Research Methodology for Valuing Companies

and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

Capital Allocation (or Stewardship) analysis published prior to Dec. 9, 2020, was determined using a different process. Beyond investment strategy, financial leverage, and dividend and share buyback policies, analysts also considered execution, compensation, related party transactions, and accounting practices in the rating.

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

Capital Allocation (or Stewardship) analysis published prior to Dec. 9, 2020, was determined using a different process. Beyond investment strategy, financial leverage, and dividend and share buyback policies, analysts also considered execution, compensation, related party transactions, and accounting practices in the rating.

Sustainalytics ESG Risk Rating Assessment: The ESG Risk Rating Assessment is provided by Sustainalytics; a Morningstar company.

Sustainalytics' ESG Risk Ratings measure the degree to which company's economic value at risk is driven by environment, social and governance (ESG) factors.

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/

Ratings should not be used as the sole basis in evaluating a company or security. Ratings involve unknown risks and uncertainties which may cause our expectations not to occur or to differ significantly from what was expected and should not be considered an offer or solicitation to buy or sell a security.

Risk Warning

Please note that investments in securities are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's Uncertainty Rating serves as a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

General Disclosure

Unless otherwise provided in a separate agreement, recipients accessing this report may only use it in the country in which the Morningstar distributor is based. Unless stated otherwise, the original distributor of the report is Morningstar Research Services LLC, a U.S.A. domiciled financial institution.

This Report is for informational purposes, should not be the sole piece of information used in making an investment decision, and has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. This publication is intended to provide information to assist investors in making their

own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed herein may not be suitable for all investors; investors must exercise their own independent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status and financial position. Morningstar encourages Report recipients to read all relevant issue documents (e.g., prospectus) pertaining to the security concerned, including without limitation, information relevant to its investment objectives, risks, and costs before making an investment decision and when deemed necessary, to seek the advice of a financial, legal, tax, and/or accounting professional. The information, data, analyses and opinions presented herein are not warranted to be accurate, correct, complete or timely. Unless otherwise provided in a separate agreement, neither Morningstar, Inc. or the Equity Research Group represents that the report contents meet all of the presentation and/or disclosure standards applicable in the jurisdiction the recipient is located.

Except as otherwise required by law or provided for in a separate agreement, the analyst, Morningstar, Inc. and the Equity Research Group and their officers, directors and employees shall not be responsible or liable for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions within the report.

The Report and its contents are not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject Morningstar, Inc. or its affiliates to any registration or licensing requirements in such jurisdiction.

Where this report is made available in a language other than English and in the case of inconsistencies between the English and translated versions of the report, the English version will control and supersede any ambiguities associated with any part or section of a report that has been issued in a foreign language. Neither the analyst, Morningstar, Inc., or the Equity Research Group guarantees the accuracy of the translations.

This report may be distributed in certain localities, countries and/or jurisdictions ("Territories") by independent third parties or independent intermediaries and/or distributors ("Distributors"). Such Distributors are not acting as agents or representatives of the analyst, Morningstar, Inc. or the Equity Research Group. In Territories where a Distributor distributes our report, the Distributor is solely responsible for complying with all applicable regulations, laws, rules, circulars, codes and guidelines established

Research Methodology for Valuing Companies

by local and/or regional regulatory bodies, including laws in connection with the distribution third-party research reports.

Conflicts of Interest

- ▶ No interests are held by the analyst with respect to the security subject of this investment research report.
- ▶ Morningstar, Inc. may hold a long position in the security subject of this investment research report that exceeds 0.5% of the total issued share capital of the security. To determine if such is the case, please click <http://msi.morningstar.com> and <http://mdi.morningstar.com>
- ▶ Analysts' compensation is derived from Morningstar, Inc.'s overall earnings and consists of salary, bonus and in some cases restricted stock.
- ▶ Neither Morningstar, Inc. or the Equity Research Group receives commissions for providing research nor do they charge companies to be rated.
- ▶ Morningstar's overall earnings are generated in part by the activities of the Investment Management and Research groups, and other affiliates, who provide services to product issuers.
- ▶ Morningstar employees may not pursue business and employment opportunities outside Morningstar within the investment industry (including but not limited to, working as a financial planner, an investment professional or investment professional representative, a broker-dealer or broker-dealer agent, a financial writer, reporter, or analyst) without the approval of Morningstar's Legal and if applicable, Compliance teams.
- ▶ Neither Morningstar, Inc. or the Equity Research Group is a market maker or a liquidity provider of the security noted within this report.
- ▶ Neither Morningstar, Inc. or the Equity Research Group has been a lead manager or co-lead manager over the previous 12-months of any publicly disclosed offer of financial instruments of the issuer.
- ▶ Morningstar, Inc.'s investment management group does have arrangements with financial institutions to provide portfolio management/investment advice some of which an analyst may issue investment research reports on. However, analysts do not have authority over Morningstar's investment management group's business arrangements nor allow employees from the investment management group to participate or influence the analysis or opinion prepared by them.
- ▶ Morningstar, Inc. is a publicly traded company (Ticker Symbol: MORN) and thus a financial institution the security of which is the subject of this report may own more than 5% of Morningstar, Inc.'s total outstanding shares. Please access Morningstar, Inc.'s proxy statement, "Security Ownership of Certain Beneficial Owners and Management" section <https://shareholders.morningstar.com/investor-relations/financials/sec-filings/default.aspx>

- ▶ Morningstar, Inc. may provide the product issuer or its related entities with services or products for a fee and on an arms' length basis including software products and licenses, research and consulting services, data services, licenses to republish our ratings and research in their promotional material, event sponsorship and website advertising.

Further information on Morningstar, Inc.'s conflict of interest policies is available from <http://global.morningstar.com/equitydisclosures>. Also, please note analysts are subject to the CFA Institute's Code of Ethics and Standards of Professional Conduct.

Risk Warning Please note that investments in securities are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security's investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions.

For more information about Morningstar's methodologies, please visit global.morningstar.com/equitydisclosures

For a list of securities which the Equity Research Group currently covers and provides written analysis on please contact your local Morningstar office. In addition, for historical analysis of securities covered, including their fair value estimate, please contact your local office.

For recipients in Australia: This Report has been issued and distributed in Australia by Morningstar Australasia Pty Ltd (ABN: 95 090 665 544; ASFL: 240892). Morningstar Australasia Pty Ltd is the provider of the general advice ('the Service') and takes responsibility for the production of this report. The Service is provided through the research of investment products.

To the extent the Report contains general advice it has been prepared without reference to an investor's objectives, financial situation or needs. Investors should consider the advice in light of these matters and, if applicable, the relevant Product Disclosure Statement before making any decision to invest. Refer to our Financial Services Guide (FSG) for more information at <http://www.morningstar.com.au/fsg.pdf>

For recipients in New Zealand: This report has been is-

sued and distributed by Morningstar Australasia Pty Ltd and/or Morningstar Research Ltd (together 'Morningstar'). This report has been prepared and is intended for distribution in New Zealand to wholesale clients only and has not been prepared for use by New Zealand retail clients (as those terms are defined in the Financial Markets Conduct Act 2013). The information, views and any recommendations in this material are provided for general information purposes only, and solely relate to the companies and investment opportunities specified within. Our reports do not take into account any particular investor's financial situation, objectives or appetite for risk, meaning no representation may be implied as to the suitability of any financial product mentioned for any particular investor. We recommend seeking financial advice before making any investment decision.

For recipients in Hong Kong: The Report is distributed by Morningstar Investment Management Asia Limited, which is regulated by the Hong Kong Securities and Futures Commission to provide services to professional investors only. Neither Morningstar Investment Management Asia Limited, nor its representatives, are acting or will be deemed to be acting as an investment professional to any recipients of this information unless expressly agreed to by Morningstar Investment Management Asia Limited.

For recipients in India: This investment research is issued by Morningstar Investment Adviser India Private Limited. Morningstar Investment Adviser India Private Limited is registered with SEBI as a Portfolio Manager (registration number INP000006156) and as a Research Entity (registration number INH000008686). Morningstar Investment Adviser India Private Limited has not been the subject of any disciplinary action by SEBI or any other legal/regulatory body. Morningstar Investment Adviser India Private Limited is a wholly owned subsidiary of Morningstar Investment Management LLC. In India, Morningstar Investment Adviser India Private Limited has one associate, Morningstar India Private Limited, which provides data-related services, financial data analysis, and software development. The research analyst has not served as an officer, director, or employee of the fund company within the last 12 months, nor have they or their associates engaged in market-making activity for the fund company. The ESG-related information, methodologies, tool, ratings, data and opinions contained or reflected herein are not directed to or intended for use or distribution to India-based clients or users and their distribution to Indian resident individuals or entities is not permitted, and Morningstar/Sustainalytics accepts no responsibility or liability whatsoever for the actions of third parties in this respect.

*The Conflicts of Interest disclosure above also applies to relatives and associates of Manager Research Analysts in

Research Methodology for Valuing Companies

India # The Conflicts of Interest disclosure above also applies to associates of Manager Research Analysts in India. The terms and conditions on which Morningstar Investment Adviser India Private Limited offers Investment Research to clients, varies from client to client, and are detailed in the respective client agreement.

For recipients in Japan: The Report is distributed by Ibbotson Associates Japan, Inc., which is regulated by Financial Services Agency, for informational purposes only. Neither Ibbotson Associates Japan, Inc., nor its representatives, are acting or will be deemed to be acting as an investment professional to any recipients of this information.

For recipients in Singapore: The Report is intended for Institutional Investor audiences and is distributed by Morningstar Investment Adviser Singapore Pte. Limited, which is licensed by the Monetary Authority of Singapore to provide financial advisory services in Singapore. Morningstar Investment Adviser Singapore Pte. Limited is the entity responsible for the creation and distribution of the research services described in this Report.

This content is provided for informational purposes only and may be shared or redistributed by Institutional Investors to their clients or other permitted persons, subject to obtaining the appropriate licence from Morningstar. Redistribution of this content is subject to any applicable conditions or limitations, including those agreed commercially or contractually with Morningstar. The person who shares or redistributes this content shall be solely responsible for compliance with all relevant legal and regulatory obligations in the jurisdictions in which the material is made available.

Investors should consult a financial adviser regarding the suitability of any investment product, taking into account their specific investment objectives, financial situation or particular needs, before making any investment decision.

Morningstar, Inc., and its affiliates rely on certain exemptions (Financial Advisers Regulations, Section 27(1)(e), Section 32B and 32C) to provide its investment research to recipients in Singapore.

For recipients in Korea: The report is distributed by Morningstar Korea Ltd., which has filed to the Financial Services Committee, for informational purposes only. Neither Morningstar Korea Ltd. nor its representatives are acting or will be deemed to be acting as an investment advisor to any recipients of this information.