

Sierra Club Green Alpha

December 31, 2025



Green Alpha®

Performance and Sector Attribution	2
Macroeconomic Commentary	3
Largest Positions	4
Portfolio Characteristics	6
Sector, Geographic, and Market Cap Allocations	7
Disclosures	8

Why Sierra Club Green Alpha?

- Active research, stock selection, and portfolio mgmt
- Leverage Green Alpha's Next Economy™ insights alongside Sierra Club's renowned sustainability criteria
- Gain exposure to 30-50 market leaders solving critical economic and environmental challenges

Inception Date: December 31, 2010

Vehicle: Separately Managed Accounts

Investment Philosophy

The driving forces behind economic growth are:

- companies accelerating economic productivity gains, and
- businesses addressing risks of macro concern.

High-performing enterprises revolutionize efficiency while simultaneously developing solutions for critical issues like climate change, resource degradation, economic inequality, and human disease burdens. In doing so, they create economic expansion and actualize a more de-risked and equitable future. These innovative companies offer the most promising investment opportunities, providing security and growth potential for our clients' capital.

Since 2008 we have focused on identifying and investing in businesses that are developing brilliant, scalable, adaptable, and economically better solutions to global challenges.



Research

We select companies for our portfolios based on:

- *Impact:* Businesses offering innovative solutions to critical economic, environmental, and other global challenges.
- *Innovation Leadership:* Companies investing heavily in R&D, intellectual property, and capital expenditures.
- *Strong Management:* Diverse, effective teams aligned with long-term value creation, who are demonstrating revenue growth, expanding profit margins, and potential dividend increases.
- *Financial Health:* Businesses with robust balance sheets and coverage ratios, and smart capital allocation strategies.
- *Value:* Companies whose stock prices offer attractive entry points relative to proven performance and growth prospects.

These and other factors help us construct portfolios that aim for strong returns and build a more sustainable economy. We concentrate on long-term success in an evolving landscape.

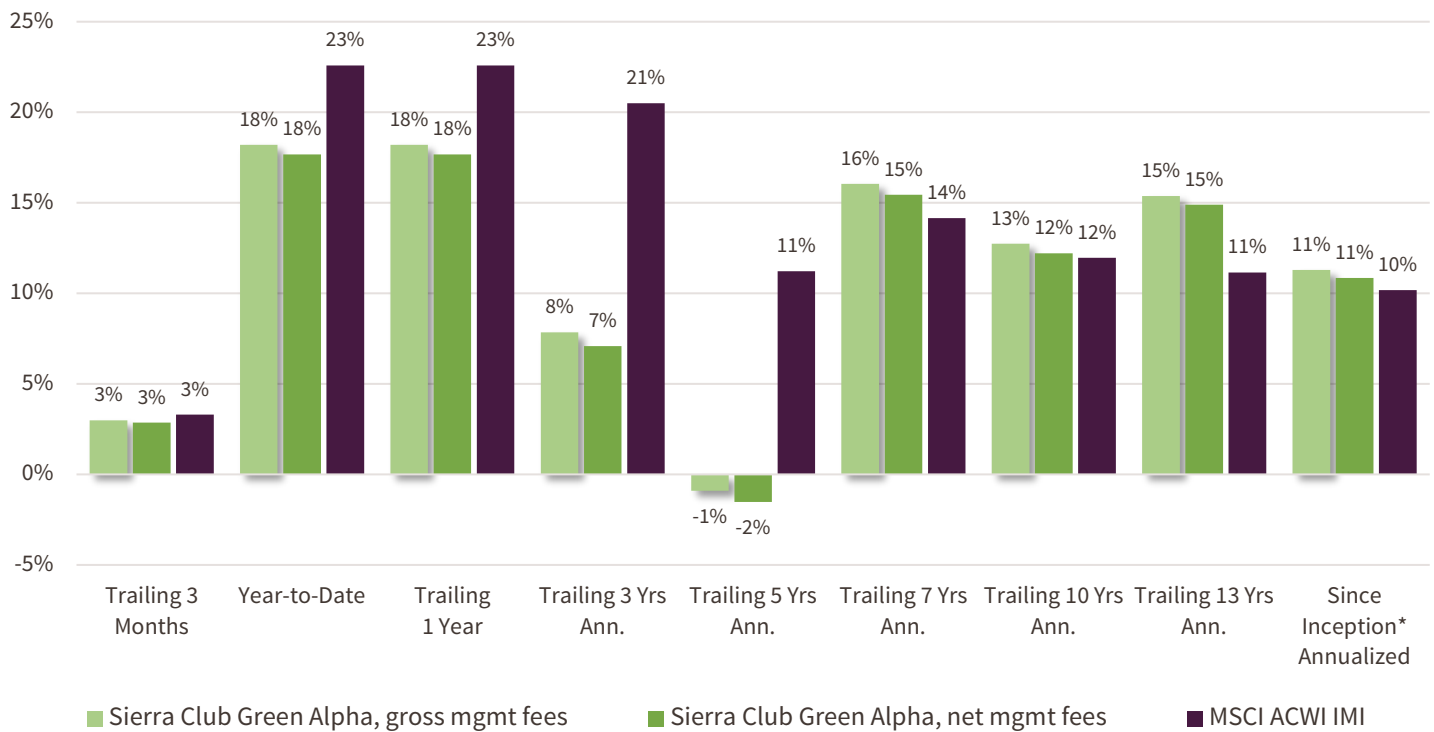
Portfolio Construction

Green Alpha has exclusive rights to utilize the Sierra Club's stringent environmental criteria, which we then apply to our Next Economy™ methodology. This unique collaboration ensures:

1. Forward-looking alignment with Sierra Club's vision
2. Historical compliance vs. rigorous guidelines
3. Selection of high-impact companies driving sustainability

Every holding represents a cutting-edge solution actively shaping the transition to a sustainable economy. Our portfolio not only anticipates future trends, but also upholds a proven track record of environmental and social responsibility, as validated by Sierra Club's exacting standards.

Portfolio Performance & Attribution



Year-to-Date Sector Attribution by Bloomberg Industry Classification Standard	Average Weight (%)		Total Return (%)			Contribution to Return (%)		
	Portfolio	MSCI ACWI IMI (SPGM)	Portfolio	MSCI ACWI IMI (SPGM)	+/-	Portfolio	MSCI ACWI IMI (SPGM)	+/-
Technology	29.02	24.06	44.60	27.63	16.96	11.89	6.70	6.15
Consumer Discretionary	13.97	3.83	35.31	15.71	19.60	4.95	0.58	4.75
Health Care	3.81	11.56	93.79	27.43	66.36	2.76	3.15	-0.40
Industrials	8.20	9.91	27.95	11.14	16.81	2.44	1.15	1.48
Utilities	4.35	2.19	45.12	25.71	19.41	1.71	0.56	1.28
Consumer Staples	9.16	9.31	17.12	15.15	1.97	1.62	1.31	0.35
Materials	3.01	4.11	8.20	41.83	-33.63	0.28	1.61	-1.43
Cash	2.35	0.46	0.00	15.56	-15.56	0.00	0.11	-0.11
Energy	2.13	18.02	-14.33	30.00	-44.33	-0.47	5.30	-6.39
Financials	11.66	5.86	-20.55	8.99	-29.54	-1.74	0.59	-2.60
Real Estate	12.33	1.96	-28.80	6.88	-35.68	-4.24	0.13	-4.82
Communications		9.08		31.04	-31.04		2.77	-3.02
Government		0.12		4.24	-4.24		0.01	-0.01

*Portfolio Inception: December 31, 2010. All returns presented above that are greater than 1 year in length have been annualized. Performance data quoted represents past performance. Past performance does not guarantee future results and current performance may be lower or higher than the data quoted. The sector attribution table is supplemental to the fully compliant composite returns presented at the top of the page. Please see the final page of this document for additional important disclosures.

Macroeconomic Commentary



While Silicon Valley bets on "God in a box" AI models, the global economy is being quietly reshaped by the physical "Electric Stack"—the batteries, magnets, and electrons that turn intelligence into work. Our 2025 commentary explores why the next decade belongs not to those with the most data, but to those who can orchestrate the kinetic reality of the Next Economy™. Click [here](#) to read our entire post.

Topics Covered

- **The Electric Stack: What Actually Matters**
 - *The Four Layers of Kinetic Work*
 - *The Jevons Paradox: Why Efficiency Drives Explosive Demand*
- **The Electrostate and the Petrostate**
 - *A New Geopolitical Order: Controlling the Intelligence of the Grid*
- **Transition Reality Check: What's Actually Working**
 - *Established Tech vs. Speculative Hype*
 - *The Price Bottleneck in Hard-to-Abate Sectors*
- **AI in Context: Powerful But Not Sufficient**
 - *From "God in a Box" to System Orchestration*
 - *The Biological Stress Test: Why "Ground Truth" Requires Physics*
- **The Bet America is Making**
 - *The DeepSeek Shock: Commodity Intelligence and the Deployment Gap*
- **Next Economics: Who Captures Value?**
 - *Decoupling Development from Degradation*
 - *The Second Mine: Mastering the Circular Stack and Molecular Loops*
- **The Kinetic Forecast: What We're Watching in 2026**
 - *Fleet Turnover and the Interconnection Crisis*
 - *The Shift from AI Land-Grabs to Budget Scrutiny*
- **Closing Thoughts: Following the Physics**
 - *Our Mandate for 2026: Orchestration over Extraction*

Largest Positions

How the Sierra Club Green Alpha portfolio is driving progress toward the Next Economy

Taiwan Semiconductor Manufacturing (TSM) Sector:

Technology | Industry: Semiconductors

- Foundational Semiconductor Manufacturing Capabilities:** TSMC manufactures the vast majority of the world's advanced logic chips that power everything from AI data centers to electric vehicle systems. Their upcoming 2nm "N2" process, entering mass production this year, utilizes innovative nanosheet transistors to deliver a 30% reduction in power consumption, providing the efficiency required to sustain the global explosion in compute demand.
- A Key Driver of Industrial Decarbonization:** Committing to 100% renewable energy (RE100) across all global operations by 2040 and significantly increasing its use of reclaimed water in manufacturing. By expanding its geographic footprint with new leading-edge facilities in Arizona, Japan, and Germany, TSMC is building a more resilient and distributed global supply chain, ensuring that the "brains" of the Next Economy are both sustainable and secure

Lam Research Corp (LRCX) Sector: Technology | Industry: Semiconductors

- Critical architect of the Next Economy infrastructure:** Providing the specialized tools required to build the high-bandwidth memory and advanced 3D chips that power the AI era. Their breakthrough innovations in etching and deposition allow for massive increases in compute density while simultaneously reducing the energy footprint of the global data ecosystem.
- Leading the semiconductor industry in climate responsibility:** Having been the first U.S. equipment manufacturer to receive SBTi approval for greenhouse gas reduction targets aligned with a 1.5°C trajectory. By deploying AI-driven virtualization and designing tools that maximize manufacturing yield, Lam ensures the hardware foundation of the digital future is built with resource efficiency at its core.

Vestas Wind Systems (VWDRY) Sector: Energy | Industry: Renewable Energy

- Pinnacle of Turbine Engineering:** The V236-15.0 MW offshore turbine is a marvel of industrial scale, with a single unit capable of generating 80 GWh per year—enough energy to power 20,000 households. Its massive 115.5-meter blades and 60% capacity factor allow developers to maximize energy density while drastically reducing the capital expenditure required for foundations and subsea cabling.
- Competitive Dynamics in the Wind Energy Sector:** Vestas commands a competitive position with a combined order backlog exceeding €68 billion and a 30% market share in wind installations outside of China. This hardware footprint is fortified by a high-margin service division that manages a record 159 GW fleet, providing deep recurring revenue that insulates the balance sheet from the cyclical nature of turbine manufacturing.

Company Name	Ticker	Weight
Taiwan Semiconductor Manufacturing	TSM	9.19%
Lam Research	LRCX	6.47%
Vestas Wind Systems	VWDRY	4.92%
Brookfield Renewable	BEPC	4.52%
JinkoSolar Holding	JKS	4.33%
% of Portfolio		28.93%

Largest Positions *continued*

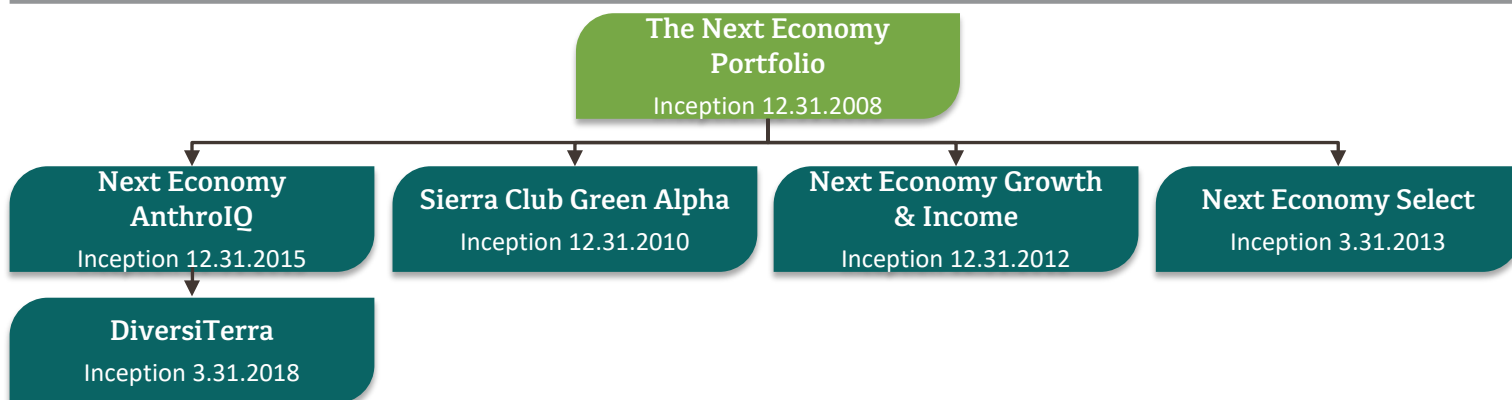
Brookfield Renewable (BEPC) *Sector: Utilities | Industry: Electric Utilities*

- **Utility-Scale AI Infrastructure:** BEPC has evolved from a pure-play green utility into the essential power backbone for the AI revolution, leveraged by massive framework agreements like its landmark deal to provide 10.5 GW of capacity to Microsoft. This strategic pivot secures high-margin, long-term contracts with the world's most creditworthy tech giants, creating a "toll-booth" economic model on the massive energy consumption required for next-generation data centers.
- **Diversified Baseload Strategy:** By integrating its legacy hydro-power assets with the recent acquisition of Westinghouse, BEPC now provides a unique "any-and-all" energy solution that combines 24/7 carbon-free nuclear reliability with rapid-deployment solar and wind. This technological breadth allows the company to capture premium pricing in a supply-constrained power market, outcompeting specialized rivals who lack the scale and reliability of a diversified, global operational platform.

JinkoSolar Holding Co Ltd (JKS) *Sector: Energy | Industry: Renewable Energy*

- **Technological Vanguard and Efficiency Leadership:** JinkoSolar has solidified its technical supremacy by repeatedly shattering efficiency records, most recently achieving an industry-leading 27.79% for its N-type TOPCon cells and pushing perovskite-silicon tandem cells past the 34.76% threshold. This innovation is anchored by the mass-market **Tiger Neo 3** module, which delivers a staggering 670W output to maximize power density and minimize hardware costs for the world's largest energy installations.
- **Global Manufacturing Scale and Market Hegemony:** Commanding nearly 20% of the global solar market, JinkoSolar leverages massive economies of scale and a vertically integrated supply chain to maintain its status as the world's largest module shipper. The launch of a new 10 GW "Giga-factory" in Saudi Arabia in early 2026—the largest of its kind outside China—fortifies its geographic edge and ensures a competitive advantage in high-growth international energy markets.

Please see the final page of this document for important disclosures about portfolio, benchmark, and characteristic information.



- **Sierra Club® criteria** – the only portfolio available in the market that utilizes the Sierra Club’s proprietary, rigorous social and environmental screening criteria
- **Fundamentals-driven:** the underlying quality of companies and the price paid for their shares are key drivers of LT returns
 - ✓ **High growth:** indicated by Sales Growth, and a decrease from Current P/E to Forward P/E as revenue and earnings grow
 - ✓ **Compelling valuation:** demonstrated by Price/Sales and Price/Book metrics relative to growth expectations
 - ✓ **Strong balance sheet and management execution:** conveyed by capital stewardship, LT Debt/Equity, Current Ratio
- **Diversified** – we seek solutions wherever we can find them: across the globe, in companies of all sizes, and every industry
- **Public equities, long-only:** most investors’ largest asset class, so their largest opportunity for impact
- **Fossil fuel free since inception:** we never invest in companies that prospect, extract, refine, or transport fossil fuels, nor in fossil-fired utilities or internal combustion engine manufacturers

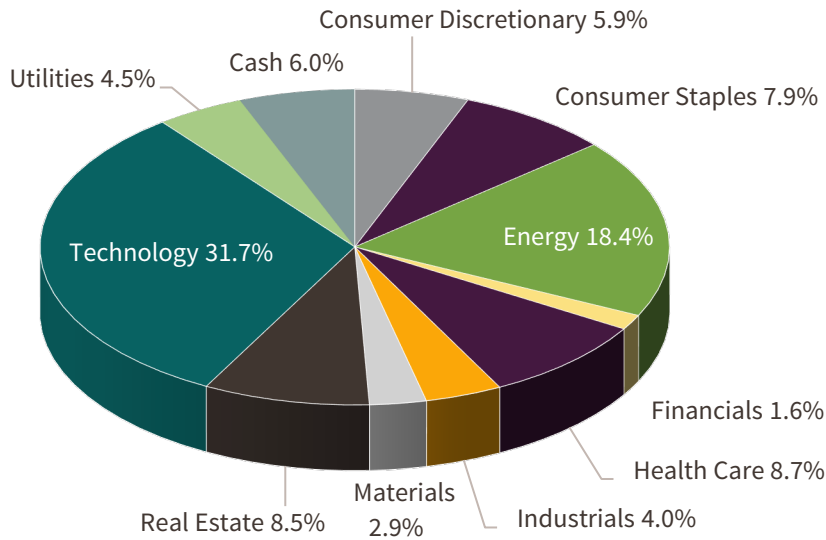
Characteristics	Sierra Club Green Alpha	Benchmark: MSCI ACWI IMI (SPGM)	The Next Economy Portfolio	Next Economy AnthroIQ	Next Economy Select	Next Economy Growth & Income	DiversiTerra
# of Securities	47	2,908	154	110	52	34	52
Active Share vs SPGM	98%	-	93%	93%	97%	96%	95%
Active Share vs Next Economy Index	71%	-	-	38%	67%	74%	65%
Sales Growth, Trailing 3-Yr	14%	14%	15%	17%	15%	7%	12%
P/E, Current	28.7	22.3	27.7	28.1	25.3	24.3	27.4
P/E, 1-Year Forward	22.3	20.2	22.1	21.2	22.0	19.5	24.9
Price/Sales	1.0	2.3	2.7	3.2	1.6	1.4	2.8
Price/Book	2.3	3.3	2.8	3.2	2.6	2.0	2.8
LT Debt/Equity	33%	34%	31%	37%	37%	47%	38%
Current Ratio	2.9	1.9	3.2	2.9	3.1	2.1	2.9
Dividend Yield	1.61%	1.68%	1.06%	0.92%	1.60%	3.48%	1.33%
Market Cap, Wtd Avg (\$B)	\$210.52	\$864.50	\$128.96	\$169.22	\$245.87	\$284.98	\$208.29
Market Cap, Median (\$B)	\$7.29	\$3.56	\$7.73	\$9.63	\$6.39	\$25.68	\$8.34
Turnover, Trailing 2-Yr Avg	10%	Not Available	28%	9%	9%	9%	12%
Beta, Trailing 3-Yrs	1.75	1.00	1.68	1.79	1.88	1.44	1.74
U.S.-Domiciled Companies	72%	83%	83%	90%	70%	68%	83%
% Revenue Derived in U.S.	50%	44%	55%	59%	54%	48%	57%

Characteristics are sourced from FactSet, based on a representative account and include cash. Please see additional disclosures on last page.

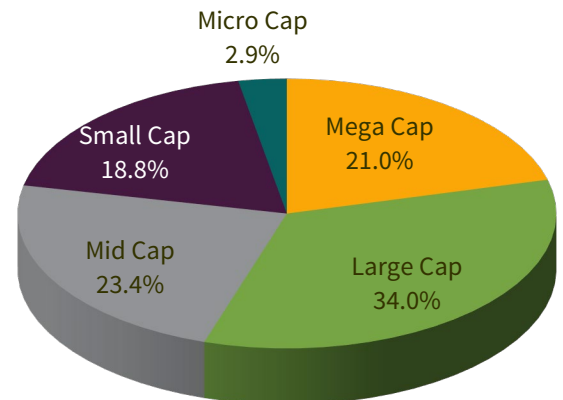
Portfolio Allocations

Our search for Next Economy companies is unconstrained. For the Sierra Club Green Alpha portfolio, we seek solutions to systemic risks wherever they exist – across sectors, market caps, and geographies.

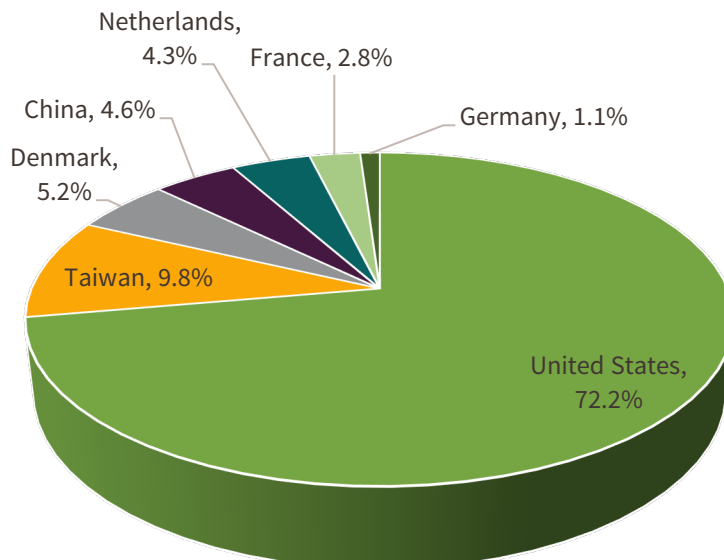
Sectors



Market Capitalizations



Companies' Main Headquarters



Allocation data is sourced from FactSet and is based on a representative account. The exception is the sector chart, which utilizes the Bloomberg Industry Classification Standard from Bloomberg. The market cap and headquarters charts are shown as percent of equity. Please see the final page of this document for additional important disclosures.

Important Disclosures

- Green Alpha Advisors, LLC is a registered investment advisor. Registration as an investment advisor does not imply any certain level of skill or training.
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- Performance quoted throughout this document represent past performance. Past performance does not guarantee future results, and current performance may be lower or higher than the data quoted. Investment returns and principal will fluctuate with market and economic conditions, and investors may have a gain or loss when shares are sold.
- Beginning November 30, 2021, the Sierra Club Green Alpha strategy performance results are a composite of discretionary client accounts invested in the strategy on specific custodial platforms. Green Alpha’s discretionary client accounts that are not included in the composite are those custodied at Folio Institutional due to operational limitations of Folio’s data feeds to Green Alpha’s portfolio accounting system Advent APX. Beginning May 31, 2023, composite membership also includes a minimum account size of \$25,000. The Sierra Club Green Alpha composite performance results reflect actual performance for a composite of discretionary client accounts meeting custodian and minimum account size requirements. Net of actual management fees and transaction costs. Some assets managed in the Sierra Club Green Alpha strategy within the composite receive a reduced fee from the standard management fee schedule. Actual client returns experienced will vary from the composite returns based on a variety of factors, and we encourage you to ask about specific factors. Accounts are included in the composite for full-month periods under management with Green Alpha Investments. The Sierra Club Green Alpha performance results do not reflect the reinvestment of dividends and interest.
- Actual advisory fees may vary among clients with the same investment strategy. Green Alpha’s standard fee schedules are available within Form ADV Part 2. For those details and additional legal information, please see information and files here: <http://greenalphaadvisors.com/about-us/legal-disclaimers/>.
- From the strategy’s inception through November 30, 2021, Sierra Club Green Alpha performance results reflected the actual performance of a representative account, net of actual management fees and transaction costs. Assets managed in the Sierra Club Green Alpha strategy representative account received a reduced fee from the standard fee schedule. Sierra Club Green Alpha representative account performance results did not reflect the reinvestment of dividends and interest. Please contact Green Alpha for information about the representative account selection process.
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- The SPDR MSCI Global Stock Market ETF (ticker: SPGM) seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the MSCI ACWI IMI. Investors can invest directly in SPGM.
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