Sierra Club Green Alpha

March 31, 2024

Green Alpha®

Why Invest in Sierra Club Green Alpha?

- Active research, stock selection, and portfolio mgmt
- Harness Green Alpha's Next Economy™ insights alongside Sierra Club's unequaled environmental and social standards
- Access 30-50 market leaders addressing vital economic and environmental challenges

Inception Date: December 31, 2010

Vehicle: Separately Managed Accounts

Investment Philosophy

Today's economy derives its most significant growth from innovative, high-performing businesses actively developing and expediting economic productivity gains, and those expanding solutions addressing critical systemic issues such as the climate crisis, resource degradation, inequality, and diseases.

These companies represent the most promising investment opportunities for both safeguarding and increasing our clients' capital.

Green Alpha adheres to a straightforward philosophy: we actively seek out companies pioneering swiftly scalable and rapidly adaptable, economically competitive solutions.

Research

Across portfolios, we aim to identify companies meeting the following criteria:

- They offer products and/or services that mitigate the risk profile of the global economy by providing solutions to pressing economic and environmental challenges.
- Companies allocating a significant portion of revenue to R&D, CapEx, and possessing more IP than their peers.
- Those led by shareholder-aligned, effective, and diverse executive teams and BODs with a record of increasing revenues and expanding profit margins, which in turn drives earnings growth.
- Companies with prudent capital allocation priorities and strong balance sheets.
- Those with shares trading at attractive valuations relative to proven and anticipated growth prospects.

Portfolio Construction

Green Alpha is proud to be the only financial services firm licensed to utilize the Sierra Club's rigorous environmental and social guidelines. Not only are the Sierra Club's criteria is aligned with ours on a forward-looking basis, the Sierra Club® also requires a firm's entire operating history to be compliant with their guidelines.

Every portfolio holding is a high-impact, forward-looking Next Economy solutions provider contributing to the transition to a sustainable economy, with a Sierra Club-compliant operating history.

Largest Positions

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

Company Name	Ticker	Weight
Lam Research Corp	LRCX	6.26%
Taiwan Semiconductor Manufacturing	TSM	5.01%
First Solar	FSLR	4.50%
ASML Holding	ASML	4.46%
SL Green Realty	SLG	4.28%
% of Portfolio		24.54%

Lam Research *(Sector: Technology, Industry: Semiconductors)*

- Lam Research is a global leader in the design, manufacture, and service of advanced equipment used to create the semiconductor chips powering our digital world.
- The company's cutting-edge technologies in deposition, etching, cleaning, and other processes enable the production of smaller, faster, and more energy-efficient chips. This drives innovation in solutions like AI, 5G, automotive, and cloud computing.
- Lam Research's commitment to innovation is evident in its significant R&D investments, resulting in over 17,000 patents granted or pending. This focus fuels technological breakthroughs in semiconductor manufacturing. A Q1 example of this leadership was in the announcement the world's first production-oriented pulsed laser deposition (PLD) tool to enable next-generation MEMS-based microphones and radio frequency (RF) filters.
- Lam serves a global customer base of leading semiconductor companies. Their collaborative partnerships and focus on customer needs solidify their position as a driving force within the industry.
- The company supports diverse perspectives with female representation on the executive team, including roles in Corporate Strategy, Legal, HR, and Communications.

Taiwan Semiconductor Manufacturing Co. *(Sector: Technology, Industry: Semiconductors)*

- Taiwan Semiconductor Manufacturing Co (“TSMC”) is the world’s largest semiconductor foundry, providing advanced chip manufacturing and fabrication services to companies on a made-to-order basis. TSMC maintains a clear dominance where their specialized factories manufacture advanced custom chips for companies like Apple, NVIDIA, and Qualcomm.
- TSMC stands alone as the one foundry already operating at the 2nm node, the most advanced chip manufacturing process available anywhere in the world currently. No other competing fab comes close in leading-edge capability and capacity. Early adoption of pioneering techniques like extreme ultraviolet lithography (EUV) underpins this leadership.
- We believe that TSMC stands as the most important company in all of technology due to their vital role as an enabler to virtually every semiconductor innovator pushing the performance envelope—those firms critically depend on TSMC to transform their chip visions into scaled reality.
- Key to Innovation: Many of the world's biggest tech companies rely on TSMC to turn their cutting-edge chip designs into reality. This makes TSMC an integral part of global technological innovation.
- With over 90% of advanced global foundry market share, an unparalleled focus on sustaining the most capable fab infrastructure, and customers heavily reliant on their new node introduction cadence, TSMC's name goes nearly synonymous with "state of the art" among computing architects. Their operational prowess dominates the leading edge of possibility, and their work arguably underpins the entire modern economy.

First Solar *(Sector: Energy, Industry: Renewable Energy)*

- First Solar is a leading global provider of comprehensive photovoltaic (PV) solar solutions, designing and manufacturing solar modules and systems for utility-scale and commercial installations. Their modules utilize a proprietary thin-film semiconductor technology, designed and manufactured in highly automated factories. This achieves efficiencies and performance reliability advantages vs conventional panel manufacturing.

First Solar, ***ASML Holding***, *and* ***SL Green Realty’s*** *Next Economy attributes are continued on the following page.*

Largest Positions *continued*

First Solar *continued*

- Unique among large solar manufacturers, First Solar is a U.S.-headquartered company and does not use crystalline silicon (c-Si) semiconductors. That means they have fewer supply chain dependencies than traditional c-Si solar PV makers, and avoid dependencies on China, which dominates the c-Si industry.
- Catalysts driving results are an already-strong order flow and the Inflation Reduction Act ("IRA"). Under the IRA, First Solar stands to earn subsidies as high as 17 cents/watt, which is more than half of their production cost.
- They plan to grow revenues by investing $1.1 billion in a new 3.5 GW module factory in Alabama, the company's fourth domestic facility, while an additional $185 million will add 1 GW of new manufacturing to the company's plant in Ohio.
- First Solar has vertically integrated manufacturing providing the lowest carbon footprint among all solar module makers.

ASML Holding *(Sector: Technology, Industry: Semiconductors)*

- ASML is the world's only manufacturer of EUV lithography machines. These complex systems are absolutely essential for producing the most advanced semiconductor chips found in cutting-edge smartphones, AI systems, and high-performance computing.
- Extreme Precision Mirrors: The heart of an EUV system is a series of meticulously crafted mirrors that reflect and focus the extreme ultraviolet light. These mirrors are so smooth that if one was the size of Germany, the highest "bump" would be less than a millimeter tall!
- Chip Manufacturing Equipment Pioneer: Beyond EUV, ASML designs and builds a broader range of high-tech systems used in the semiconductor production process, including deep ultraviolet (DUV) lithography systems.
- ASML invests heavily in research and development, consistently pushing the limits of lithography technology, and holds a vast portfolio of patents to protect its innovations and maintain its competitive advantage.
- Market Dominance: ASML's unique position in EUV technology gives them a significant market share within the critical semiconductor equipment industry. The complexity, precision, price, size and scale of their lithography tools creates a very wide moat around ASML's monopoly.

SL Green Realty Corp *(Sector: Real Estate, Industry: REIT)*

- SL Green is a fully integrated real estate investment trust (REIT) specializing in the acquisition, management, and development of commercial properties, primarily office buildings, in New York City's Manhattan borough.
- Portfolio: SLG owns and operates a vast portfolio of high-quality office properties, including iconic buildings like One Vanderbilt and One Astor Plaza. They also have investments in retail properties and debt and preferred equity. L Green is recognized as the largest commercial landlord in Manhattan, holding significant market share and influence
- Value Creation: The company aims to maximize the value of its properties through strategic leasing, redevelopment, and operational efficiencies.
- SL Green's sustainability focus is among the industry's best:
  - Science-Based Targets: SLG has committed to emissions reduction targets aligned with the Science Based Targets initiative (SBTi), demonstrating their ambition in combating climate change.
  - Renewable Energy: SLG actively pursues renewable energy sources, both through on-site installations and by purchasing renewable energy credits.
  - Energy Efficiency Upgrades: SLG extensively invests in energy-efficient retrofits of their buildings. This includes lighting upgrades, HVAC optimization, and building envelope improvements.
  - Water Conservation: They implement water-saving measures in their properties, reducing their environmental footprint.

Macroeconomic Commentary

> The first quarter of 2024 revealed a more-persistent-than-hoped picture of inflation. While showing significant deceleration compared to 2023 peaks, inflation rates remained stubbornly above central bank targets. This defied earlier expectations of a rapid return to price stability, forcing a retrenchment in interest rate expectations. The Federal Reserve, and its global counterparts, signaled that rates will likely stay higher for longer than previously anticipated. Stock markets, with their fixation on immediate, and even incorrect but narrative-promoted results, entered a realm of extreme short-termism. Share prices became increasingly volatile, exhibiting rapid reactions to the smallest shifts in inflation data or monetary policy announcements. The focus on short-term fluctuations often overshadowed longer-term trends during the period; therefore, overlooked potential growth opportunities.

Disruptive sectors like electric vehicles (EVs) and renewable energy faced misleading criticisms in Q1. Despite visible growth and advancements, narratives emerged suggesting a slowdown in EV demand and the failure of the renewable energy transition. These narratives circulated primarily among market commentators, who focused on short-term share price dips. This underscores a dangerous disconnect between on-the-ground business results and their corresponding stock performance.

Some Key Observations and Themes from the Quarter

- **Resilient, but Weakening Consumer:** Consumer spending, a prime driver of the economy, showed signs of strain due to high prices and borrowing costs. Yet, household balance sheets remained strong, providing a buffer for consumption.
- **The Labor Market Paradox:** Job reports continued to defy expectations with low unemployment and robust job growth. This, however, increased wages and contributed to the sticky inflation. It raised concerns about a potential wage-price spiral.
- **Geopolitical Volatility:** Renewed geopolitical tensions impacted energy prices and global supply chains, creating further hurdles for policymakers trying to tame inflation.

EVs and the Green Transition: A Reality Check

The skepticism directed towards EVs and renewable energy in Q1 stems from a misunderstanding of long-term transformational trends. While short-term fluctuations in demand or input costs exist, the broader trajectory remains undeniably clear:

- **EV Adoption is Accelerating:** Sales of EVs continued their upward trend. Major automakers ramped up production to meet demand. Charging infrastructure steadily expanded, further driving adoption. China's leading EV makers are producing compelling cars at extremely competitive prices relative to internal combustion engine automobiles.
- **Renewable Energy Installations are Soaring:** Deployment of wind and solar grew significantly, driven by falling costs and favorable policy support. Storage technologies continued to improve, addressing intermittent supply concerns.

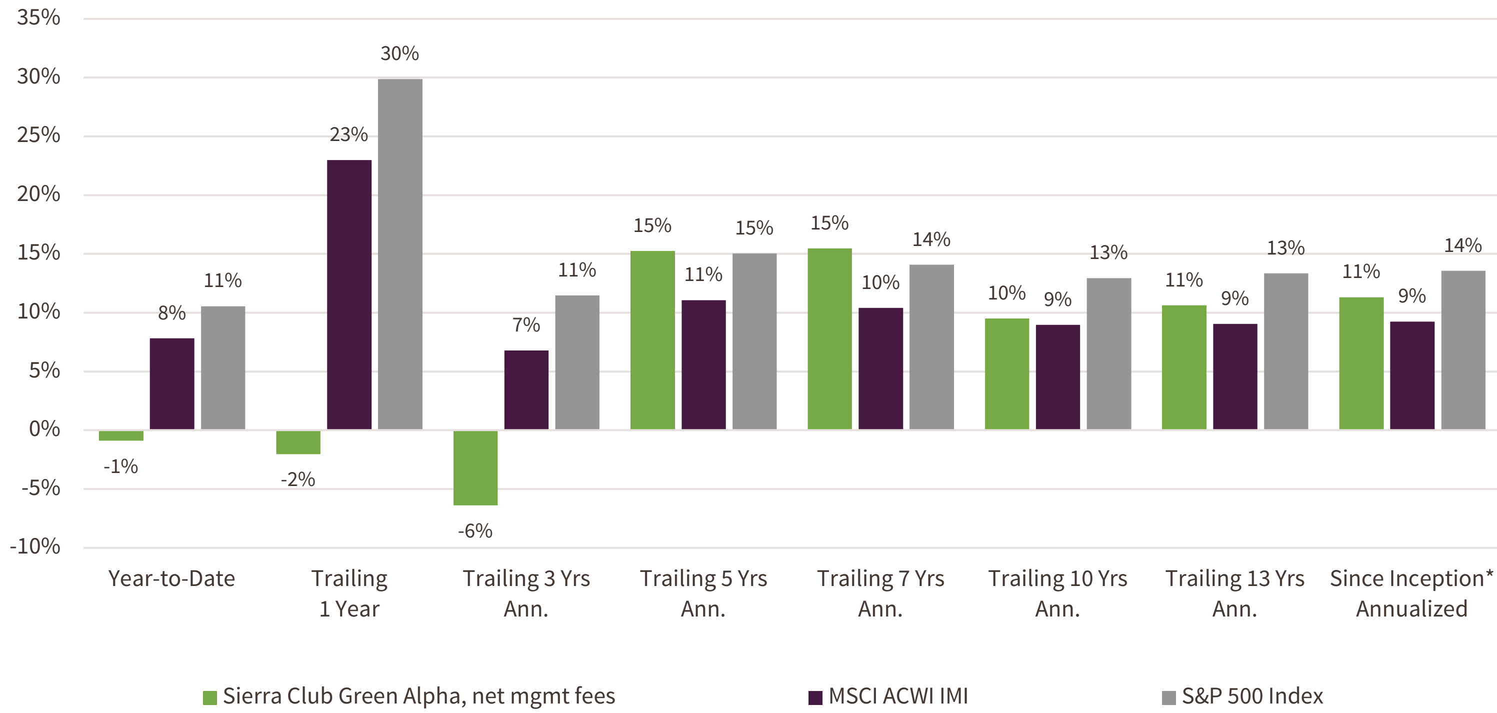
The Stock Market Disconnect

The negative narratives around promising sectors contrasted starkly with their business fundamentals. Many EV manufacturers reported record production and sales in Q1, with strong growth projections. Renewable energy companies announced major capacity expansions. This performance was decoupled from stock valuations, suggesting that the market remains fixated on immediate returns, missing the potential of future growth.

Conclusion

Q1 2024 demonstrated that taming inflation would be a more arduous task than many had hoped. It also highlighted a market environment where short-term noise reigns, threatening to overshadow promising long-term economic shifts. Discerning investors can navigate this landscape by grounding their decisions on verifiable data–as opposed to on narrative–and a recognition of the transformational forces at play in the global economy.

Portfolio Performance & Commentary



For the first quarter 2024, the Sierra Club Green Alpha portfolio returned -0.90% net of management fees, versus its benchmark, the MSCI All Country World Investable Market Index (MSCI ACWI IMI), which returned 7.82%.

The sectors detracting the most from the strategy's returns were Energy and Utilities.

- Within the Energy sector, underperformance versus the benchmark was the result of the portfolio's relative overweight exposure to solar energy—specifically PV manufacturing, advanced materials for turbine blades, wind turbine manufacturing and service, energy storage, and many balance-of-systems providers such as inverter makers, and cabling and distributed system providers. Interestingly, the business results for many renewable energy companies were quite strong in the quarter, revealing a continuing disconnect between markets and reality, which we believe is the result of a prevailing negative news narrative.
- The portfolio's sole Utilities exposure is a renewable electricity generation pure play, which, although growing and largely immune to the current interest rate environment due to 20-year and longer offtake agreements, was down on the anti-renewables news narrative.

The strategy's best performing sectors were Technology and Consumer Staples.

- Technology was by far the best performing sector. Semiconductors, including the entire value chain, but primarily from upstream manufacturing equipment and foundry services, contributed the lion's share of returns, followed by software related to infrastructure and data security, tech hardware and storage (related to the AI server boom). Consumer electronics also contributed modestly, while a leader in silicon carbide semiconductors was the primary detractor from returns.
- In Consumer Staples, gains were led by consumer products and retailers, including natural and organic food and beverage makers, and the retail locations that distribute them. This sector has significant exposure within the portfolio, at more than 8% weighting during the quarter.

**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. Please see the final page of this document for additional important disclosures.*

Next Economy Index
Inception 12.31.2008

- **Social Index** – Inception 12.31.2015
  - **DiversiTerra** – Inception 3.31.2018
- **Sierra Club Green Alpha** – Inception 12.31.2010
- **Growth & Income** – Inception 12.31.2012
- **Next Economy Select** – Inception 3.31.2013

- **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

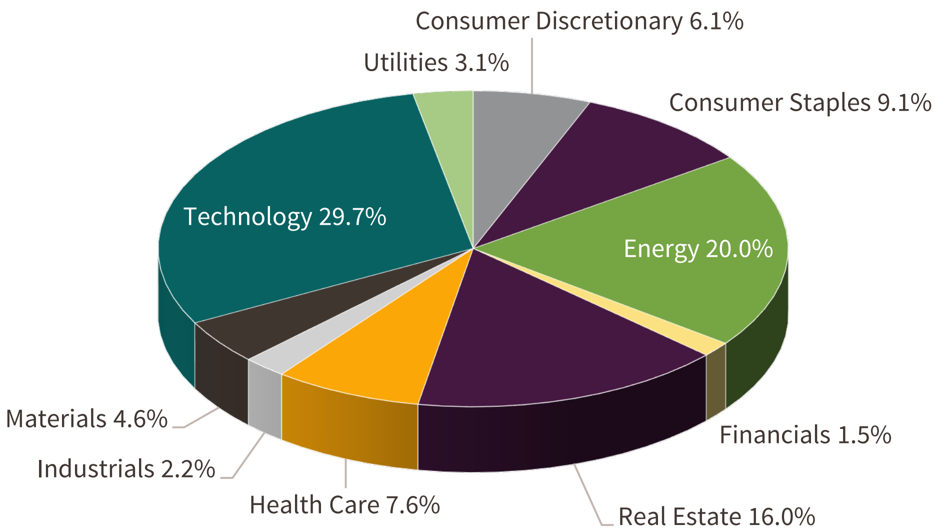
Characteristics	Sierra Club Green Alpha	Benchmark: MSCI ACWI IMI (SPGM)	Next Economy Index	Social Index	Next Economy Select	Growth & Income	DiversiTerra
# of Securities	46	2,644	150	114	61	36	58
Active Share vs SPGM	96%	-	92%	93%	97%	97%	95%
Active Share vs Next Economy Index	68%	-	-	29%	66%	69%	61%
Sales Growth, Trailing 3-Yr	25%	15%	34%	49%	32%	23%	44%
P/E, Current	19.4	20.2	27.7	30.1	23.3	19.8	29.8
P/E, 1-Year Forward	17.7	17.8	25.1	26.6	20.7	16.0	21.8
Price/Sales	0.9	1.9	2.3	2.3	1.7	1.2	2.1
Price/Book	1.9	2.8	2.9	2.8	2.3	1.8	2.5
LT Debt/Equity	56%	165%	54%	54%	45%	86%	55%
Current Ratio	3.7	2.4	3.7	3.8	5.1	3.3	4.1
Dividend Yield	2.00%	1.95%	1.16%	1.03%	1.85%	3.90%	1.56%
Market Cap, Wtd Avg ($B)	$131.65	$484.77	$126.15	$120.81	$124.18	$108.03	$114.34
Market Cap, Median ($B)	$8.01	$2.66	$7.21	$9.29	$5.46	$28.20	$5.99
Turnover, Trailing 2-Yr Avg	10%	Not Available	25%	39%	16%	10%	28%
Beta, Trailing 3-Yrs	1.36	1.00	1.35	1.43	1.40	1.27	1.35
U.S.-Domiciled Companies	72%	60%	79%	88%	66%	67%	82%
% Revenue Derived in U.S.	52%	45%	52%	60%	51%	51%	59%

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

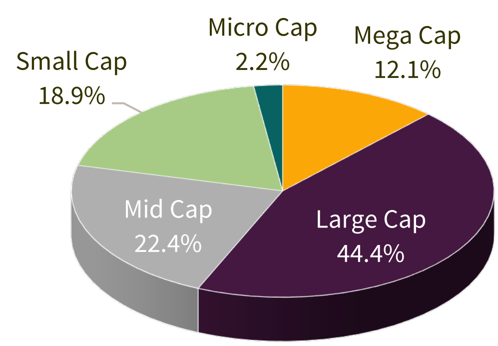
Portfolio Allocations

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.

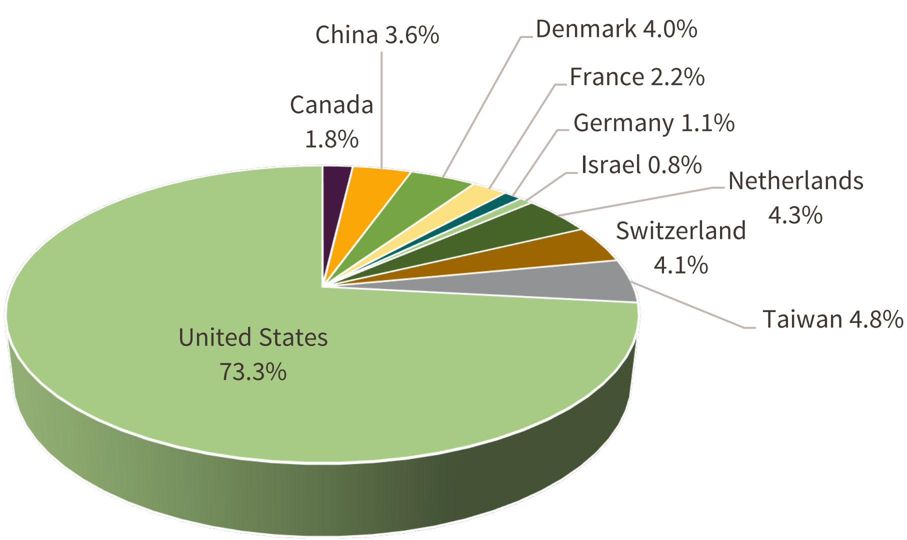
Sectors



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. All charts on this page are shown as percent of equity. Please see the final page of this document for additional important disclosures.

Important Disclosures

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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.
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- 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.
- Green Alpha portfolios may invest in companies with small and medium market capitalizations, which may have more limited product lines, markets, and financial resources than larger companies. In addition, their securities may trade less frequently and in more limited volume than those of larger companies. Small or mid-cap stocks may be more volatile than those of larger companies and, where trading volume is thin, the ability to dispose of such securities may be more limited. Green Alpha portfolios may also invest in foreign domiciled companies. Investing in foreign securities may involve additional risks, including exchange-rate fluctuations, limited liquidity, high levels of volatility, social and political instability, and reduced regulation. Emerging markets are often more volatile than developed markets and investing in emerging markets involves greater risks. International investing may not be suitable for everyone. An investment in Green Alpha portfolios should be considered a long-term investment.
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- The MSCI All Country World Investable Market Index (ACWI IMI) captures large, mid, and small cap representation across 23 developed markets and 27 emerging markets countries. With more than 8,750 constituents, the index is comprehensive, covering approximately 99% of the global equity investment opportunity set. Investors cannot invest directly in this index.
- 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.
- The S&P 500 Index is an unmanaged index of 500 common stocks chosen for market size, liquidity, and industry group representation. It is market-value weighted. The S&P 500 Index figures do not reflect any fees, expenses, or taxes. Investors cannot invest directly in this index.
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