

Next Economy Select

December 31, 2024

Green Alpha[®]

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Investment Philosophy

The driving forces behind economic growth are:

- companies accelerating productivity, and
- businesses tackling urgent global challenges.

High-performing enterprises can revolutionize efficiency while also developing solutions for critical issues like climate change, resource depletion, social inequality, and public health crises. By doing so, they can create economic expansion and actualize a more sustainable and equitable future. These innovative companies offer the most promising investment opportunities, providing security and growth potential for our clients' capital.

Our strategy is clear: we focus on identifying and investing in businesses that are developing brilliant, scalable, adaptable, and economically viable solutions to global challenges.



Why Invest in Next Economy Select?

- Active research, stock selection, and portfolio mgmt
- Very low minimum purchase of 1 ETF share provides democratized access to institutional-quality investing
- Seeks long-term capital growth to preserve and grow purchasing power
- 45-65 global, market-leading companies developing solutions to core economic and environmental risks

Inception Date: March 31, 2013

Vehicles: AXS Green Alpha ETF (ticker NXTE) and Separately Managed Accounts

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 shareholders, demonstrating revenue growth, expanding profit margins, and potential dividend increases.
- *Financial Health:* Businesses with robust balance sheets and smart capital allocation strategies.
- *Value:* Companies whose stock prices offer attractive value 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

This portfolio is a diversified, high-conviction approach to providing long-term capital growth. We focus on:

1. Market-leading Next Economy companies
2. Businesses with strong competitive advantages
3. Firms growing market share rapidly

Next Economy Select brings institutional-quality investing to individual investors through a small entry point.

Largest Positions

How the Next Economy Select portfolio is driving progress toward the Next Economy

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

- TSMC is the world's leading semiconductor foundry, providing essential manufacturing services for advanced logic chips. The company's clients include industry giants such as Apple, NVIDIA, and Qualcomm, who rely on TSMC's cutting-edge technology to produce their most sophisticated products. Strengths include:
 - *Technological Leadership:* TSMC currently operates at the 2nm node — the most advanced process technology globally. This leadership is driven by early adoption of innovative techniques like extreme ultraviolet lithography (EUV).
 - *Unmatched Scale and Efficiency:* TSMC's massive scale translates to unparalleled production efficiency, contributing to lower costs for electronic devices worldwide.
 - *Strategic Importance:* TSMC plays a critical role in the global technology ecosystem. Its ability to translate leading-edge chip designs into reality makes it an indispensable partner for companies driving innovation.
 - *Market Dominance:* With over 90% market share in advanced foundry services, TSMC's operational excellence and consistent delivery of new process nodes have solidified its position as the "state of the art" in the industry.
- TSMC's location in Taiwan places it at the center of US-China strategic competition in the technology sector. This geopolitical reality has significant implications for supply chain stability and government policies.
- TSMC invests significantly in R&D and capacity expansion to maintain its technological edge and meet growing global demand. The company is also mitigating geopolitical risks by diversifying manufacturing in the U.S. and Japan.

IBM *(Sector: Technology, Industry: Software & Tech Services)*

- IBM is a global leader delivering solutions to address the world's most pressing challenges. Following strategic divestiture of the legacy IT consulting business (now Kyndryl), IBM is focused on high-growth markets with significant potential:
 - *Hybrid Cloud:* IBM provides comprehensive hybrid cloud solutions, encompassing hardware, software, and services, enabling businesses to effectively manage complex IT environments across public, private, and on-premises clouds.
 - *AI & Automation:* IBM, a recognized leader in AI, offers the Watson platform and a suite of AI-powered solutions that optimize decision-making, enhance customer experiences, and streamline operations across diverse industries.
 - *Cybersecurity & Blockchain:* IBM prioritizes data protection with industry-leading cybersecurity offerings. Additionally, they develop and deploy blockchain solutions to facilitate secure and transparent transactions.
 - *Quantum Computing:* IBM is at the forefront of quantum innovation. The IBM Quantum platform and Qiskit open-source SDK democratize access to quantum computing, enabling researchers and businesses to explore and accelerate discoveries in fields like drug discovery, materials science, and financial modeling.
 - *Commitment to Progress:* IBM is dedicated to accelerating scientific discovery and business innovation through its advanced technologies and commitment to research and development.
- IBM is committed to environmental sustainability and responsible technology use, actively pursuing initiatives to reduce its carbon footprint and develop environmentally friendly solutions.
- IBM demonstrates their commitment through robust pay equity programs and the representation of women and diverse individuals. The senior leadership team has above-average diversity with a 29-year age spread (41 to 70 years old).

Applied Materials, Sprouts Farmers Market, and ASML's Next Economy attributes are described on the following page.

Company Name	Weight
Taiwan Semiconductor Manuf.	8.41%
IBM	5.72%
Applied Materials	4.50%
Sprouts Farmers Market	4.04%
ASML Holding	3.99%
Natural Grocers by Vitamin Cottage	3.88%
Qualcomm	3.70%
Lam Research	3.70%
Digital Realty Trust	3.37%
CRISPR Therapeutics	3.13%
% of Portfolio	44.44%

Largest Positions *continued*

Applied Materials (Sector: Technology, Industry: Semiconductors)

- Applied Materials provides materials engineering solutions used to produce virtually every new chip and advanced display in the world. They are a vital player in the global semiconductor supply chain, providing the manufacturing essentials for creating the chips and displays that power our connected world. Here are some standout aspects:
 - *R&D and Cutting-Edge Technology:* They develop advanced manufacturing systems that enable the production of increasingly smaller, more powerful, and more energy-efficient chips. They invest heavily in R&D to stay ahead of the curve in a rapidly evolving industry and have a robust IP portfolio of 18,000+ patents. Applied Materials has one of the largest R&D operations in the industry, with 15 major locations worldwide.
 - *Materials Engineering Expertise:* Applied Materials is at the forefront of materials engineering, developing new materials and processes that push the boundaries of chip performance. They have been recognized for their innovation with numerous awards, including the National Medal of Technology and Innovation.
 - *Enabling Moore's Law:* Their tools and processes are crucial in helping the semiconductor industry continue to advance according to Moore's Law, doubling chip performance roughly every two years. This has enabled the incredible growth of computing power and the digital revolution.
 - *Sustainability:* Applied Materials is working on improving the energy efficiency of its tools and helping customers reduce their environmental impact. Further, they are targeting 100% renewable energy use globally by 2030 (currently at 70+%), and in 2022 they reached their interim goal of 100% renewable energy use in the U.S. Applied Materials is also committed to diversity and inclusion, with a workforce that represents over 50 nationalities.

Sprouts Farmers Market (Sector: Consumer Staples, Industry: Retail)

- Sprouts is a specialty grocery chain that has a large selection of produce, bulk foods, vitamins and supplements, and other natural and organic products. Their aim is to make healthy eating accessible and affordable, offering quality products at competitive prices. Their focus on affordability complements their health-conscious brand. Unique selling propositions include:
 - *Store Layout:* Sprouts stores are designed to resemble old-fashioned farmers markets, with produce at the center, creating a more engaging shopping experience.
 - *Natural, Organic, and Locally-Grown:* They emphasize natural, organic, and non-GMO products with a large percentage of each store's produce grown within a certain radius.
- Their Chief Forager, CMO, and Chief HR Officer are each female, as is 25% of the board of directors, with half of the board committees chaired by women. In addition, the senior management team has a strongly above-average age spread of 31 years (41 to 72 years old).

ASML Holding (Sector: Technology, Industry: Semiconductors)

- ASML is the only manufacturer of EUV lithography machines. These complex systems are essential for producing the most advanced semiconductor chips for cutting-edge smartphones, AI systems, and high-performance computing. ASML's EUV machines are among the most complex pieces of machinery built, representing the pinnacle of precision engineering.
- *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 flawless that if one was the size of Germany or Montana, 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 R&D,* 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.

Macroeconomic Commentary



In 2024, the pace and magnitude of change became more extraordinary. The interplay of climate transition, geopolitical dynamics, and technological advancement continues to reshape the investment landscape at an unprecedented rate. Successfully navigating these transformative forces requires both adaptability and disciplined risk management. And amid the complexity, we find compelling evidence of human ingenuity and progress that creates meaningful investment opportunities.

In Green Alpha's macroeconomic commentary, we examine how these transformational forces are reshaping our world, and what they mean for long-term investors. This page includes brief summaries; you can find the article [here](#).

Market Environment

Global markets navigated significant challenges in 2024 amid persistent inflation, geopolitical tensions, and unprecedented climate impacts. Despite these headwinds, markets demonstrated resilience as inflation moderated without triggering a recession. Key risks remain, particularly around trade policies, government debt levels, and demographic shifts in major economies.

Macroeconomic Trends

Aging populations in Europe, Japan, and China continue to pressure fiscal sustainability and labor markets. The U.S. faces similar demographic headwinds, with declining worker-to-retiree ratios threatening entitlement programs. Government debt levels and higher interest rates may force continued austerity measures across developed markets in 2025.

Sector Transformation

The energy sector is undergoing structural change as renewables achieve cost advantages over traditional sources. Solar deployment accelerated in 2024, and battery costs fell to below \$100/kWh. This technological shift suggests continued margin pressure on traditional energy assets while creating opportunities in the renewable supply chain.

Technology & Innovation

Artificial intelligence deployment accelerated across sectors, driving productivity gains and margin expansion. Notable developments in biotechnology, particularly in multi-omics and AI applications, are creating new addressable markets in healthcare, agriculture, and materials. These innovations present both opportunities and disruption risks across portfolios.

Investment Implications

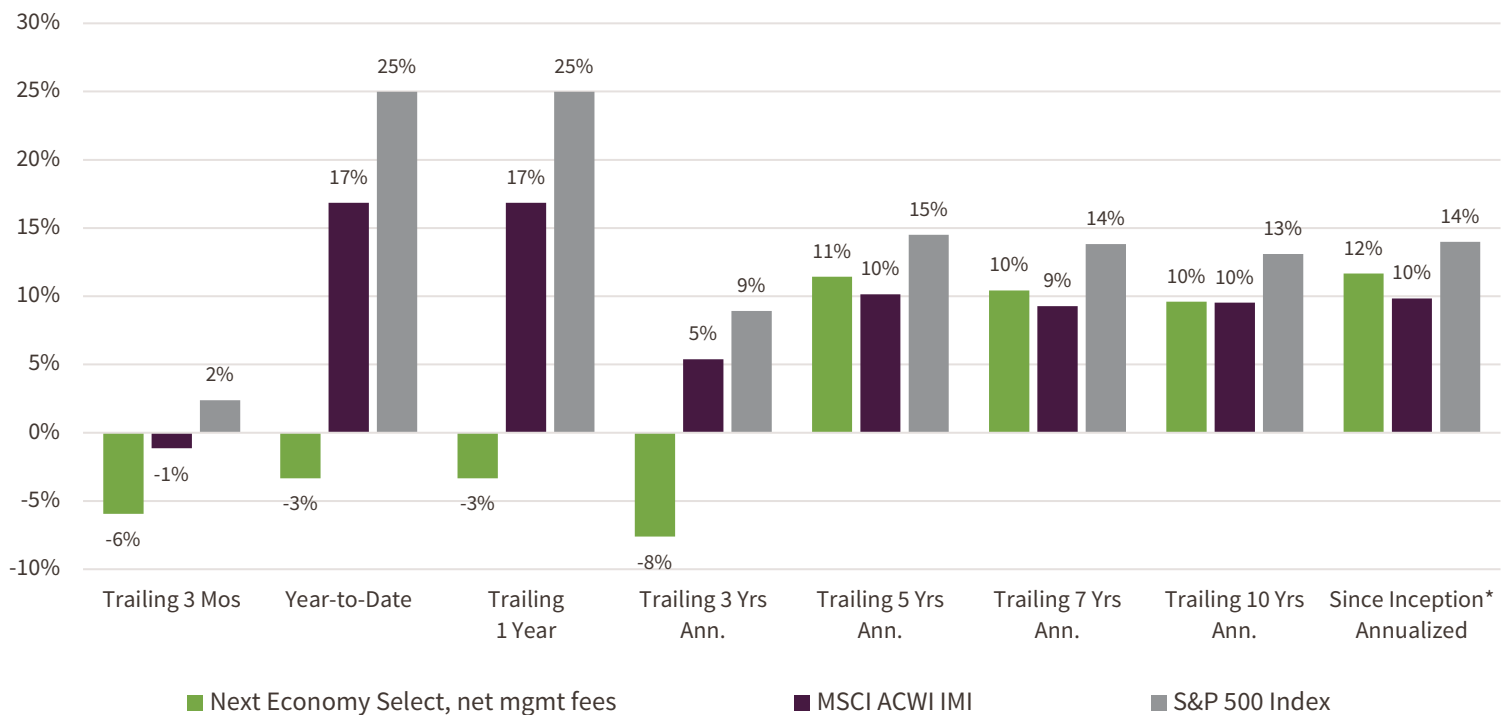
The pace of technological change and climate transition demands portfolio flexibility and careful risk management. We see compelling opportunities in:

- Companies leveraging AI for operational efficiency
- Renewable energy supply chain leaders
- Biotechnology innovators with strong intellectual property positions
- Firms successfully navigating demographic shifts

While macroeconomic headwinds persist, technological advancement continues to create attractive secular growth opportunities for long-term investors. The rapid pace of innovation across these sectors presents significant investment opportunities despite climate challenges. Success requires unprecedented market flexibility and institutional adaptation as the world undergoes transformative change.

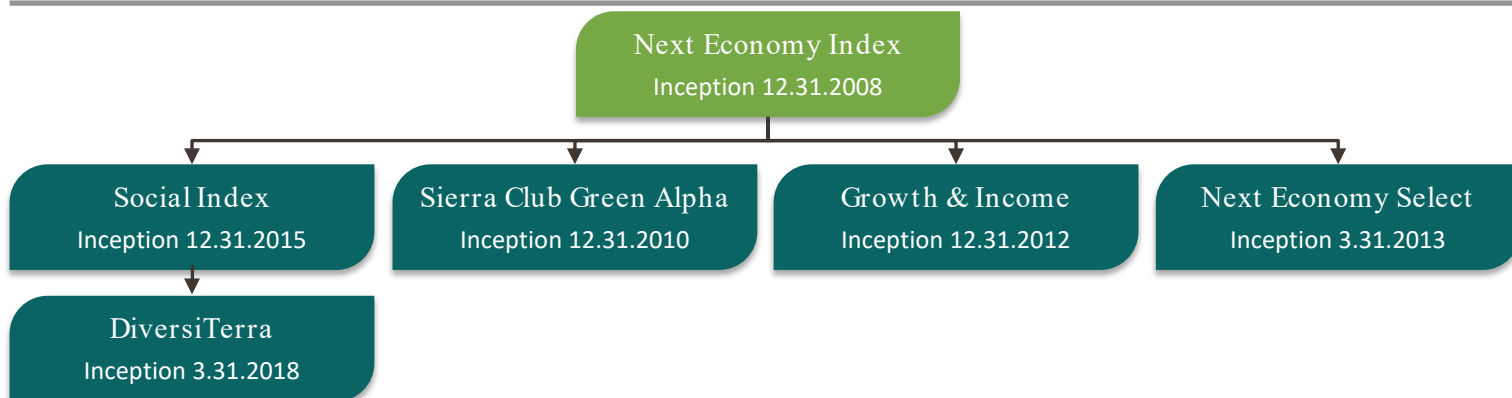
Full content: <https://greenalphaadvisors.com/2024-macro-commentary-next-economy-forces-reshaping-markets/>

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)	+/-
Consumer Staples	7.13	6.43	132.51	6.50	126.01	6.05	0.48	6.09
Technology	36.82	22.98	13.54	30.58	-17.05	4.57	6.56	-1.43
Consumer Discretionary	6.85	10.16	6.34	16.77	-10.43	0.95	1.67	-0.62
Industrials	2.99	11.15	28.66	13.10	15.56	0.73	1.49	-0.66
Real Estate	13.86	2.14	7.47	-0.63	8.10	0.65	-0.03	0.75
Communications	1.47	8.15	2.85	30.15	-27.29	0.05	2.31	-2.23
Utilities	2.48	2.10	2.55	12.65	-10.10	0.04	0.27	-0.24
Financials	3.91	16.42	-1.51	26.48	-27.99	0.03	4.15	-4.12
Cash	0.42	0.65	0.00	5.53	-5.53	0.00	0.07	-0.06
Materials	1.69	4.51	-18.43	-6.74	-11.69	-0.34	-0.31	-0.06
Energy	10.99	4.53	-38.87	-3.55	-35.32	-5.51	-0.12	-5.94
Health Care	11.38	11.22	-54.51	2.00	-56.51	-8.83	0.38	-10.00
Government	0.00	0.05	0.00	1.37	-1.37	0.00	0.00	0.00

*Composite Inception: March 31, 2013. 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.



- **Highest conviction stocks, two investment vehicles:** democratizing access to leading Next Economy companies via an ETF and separately managed accounts, providing clients of all shapes and sizes with institutional-quality options
- **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	Next Economy Select	Benchmark: MSCI ACWI IMI (SPGM)	Next Economy Index	Social Index	Growth & Income	Sierra Club Green Alpha	DiversiTerra
# of Securities	57*	2,691	152	113	36	49	56
Active Share vs MSCI ACWI IMI	97%	-	91%	94%	96%	98%	94%
Active Share vs Next Economy Index	68%	-	-	36%	75%	70%	68%
Sales Growth, Trailing 3-Yr	25%	16%	34%	40%	23%	27%	33%
P/E, Current	27.5	21.6	30.4	29.0	26.0	30.0	32.8
P/E, 1-Year Forward	22.3	18.9	25.6	24.5	16.9	21.0	23.9
Price/Sales	1.4	0.3	2.0	2.3	1.0	0.7	2.2
Price/Book	2.1	0.3	2.3	2.1	1.4	1.6	2.6
LT Debt/Equity	71%	84%	70%	85%	227%	69%	57%
Current Ratio	4.6	2.6	3.4	3.8	4.2	3.9	3.3
Dividend Yield	2.01%	1.86%	1.01%	1.08%	4.25%	2.23%	1.35%
Market Cap, Wtd Avg (\$B)	\$138.32	\$680.55	\$162.15	\$109.05	\$138.71	\$105.88	\$212.64
Market Cap, Median (\$B)	\$5.24	\$2.81	\$7.73	\$11.67	\$16.41	\$5.66	\$6.34
Turnover, Trailing 2-Yr Avg	20%	Not Available	25%	36%	13%	15%	17%
Beta, Trailing 3-Yrs	1.50	1.00	1.41	1.52	1.34	1.45	1.45
U.S.-Domiciled Companies	70%	63%	81%	89%	70%	70%	84%
% Revenue Derived in U.S.	52%	45%	52%	62%	54%	53%	58%

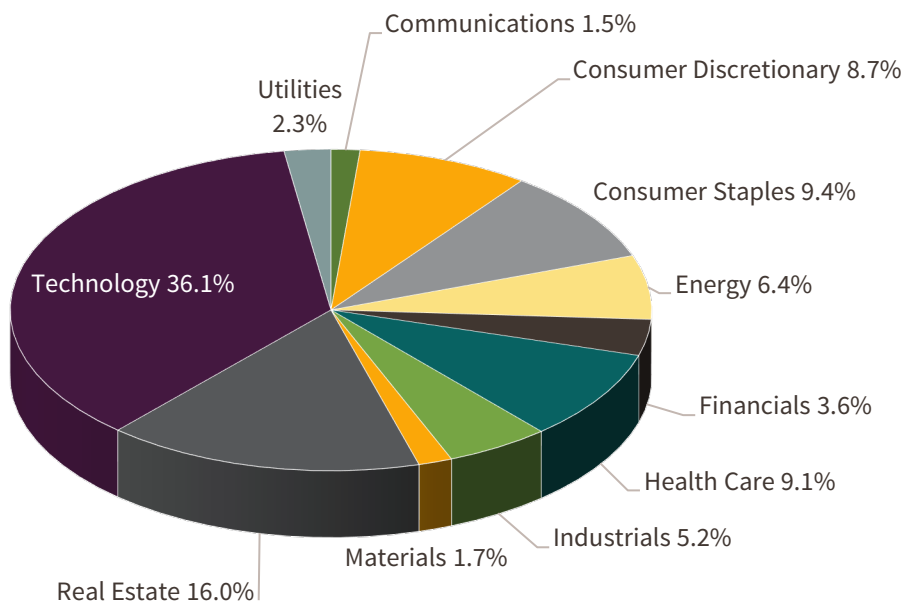
Characteristics are sourced from FactSet, based on a representative account and include cash. Please see additional disclosures on last page.

*The AXS Green Alpha ETF holds one company more than SMAs in the strategy due to its ability to purchase foreign ordinaries.

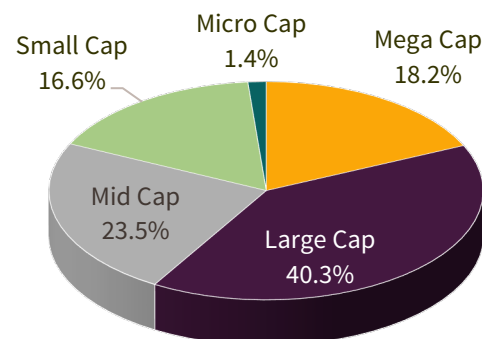
Portfolio Allocations

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

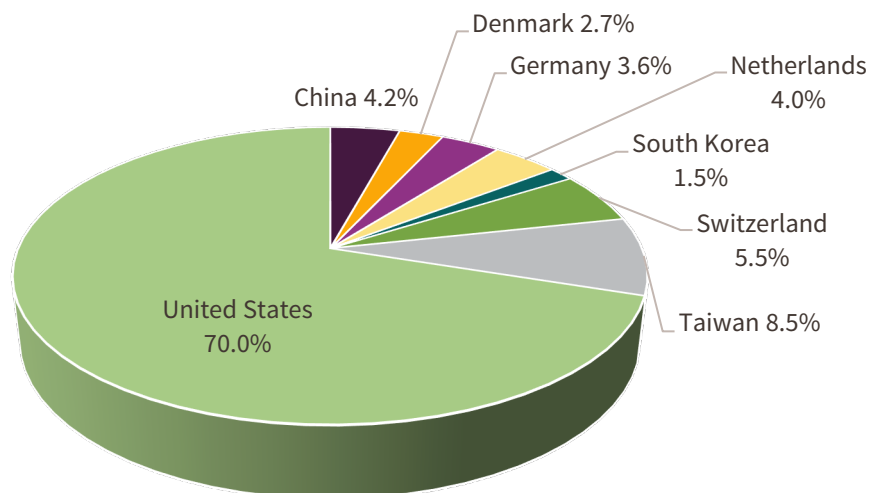
Sectors



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 represents 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 May 31, 2023, composite membership includes a minimum account size of \$100,000. Next Economy Select performance results reflect actual performance for a composite, net of actual management fees and transaction costs. Some assets managed in the Next Economy Select strategy within the composite receive a reduced fee from the standard 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. Next Economy Select performance results do not reflect the reinvestment of dividends and interest. Extreme periods of underperformance or outperformance are due to the concentrated nature of the strategy and the impact of specific security selection. Such results may not be repeatable.
- From the strategy’s inception through June 30, 2021, performance data are sourced from Bloomberg Finance L.P. Beginning June 30, 2021, the composite and all performance results are maintained and calculated by Green Alpha’s portfolio accounting system Advent APX.
- While both the AXS Green Alpha ETF (NXTE) and separately managed accounts within the Next Economy Select portfolio aim to follow the same investment strategy, due to the structural and operational differences between an ETF and separately managed accounts, there may be differences in holdings, sector allocations, and risk exposure between the two vehicle options. To understand the differences, please reach out to Green Alpha investment personnel at info@greenalphaadvisors.com.
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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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