

# DiversiTerra

July 31, 2022



## Green Alpha<sup>®</sup>

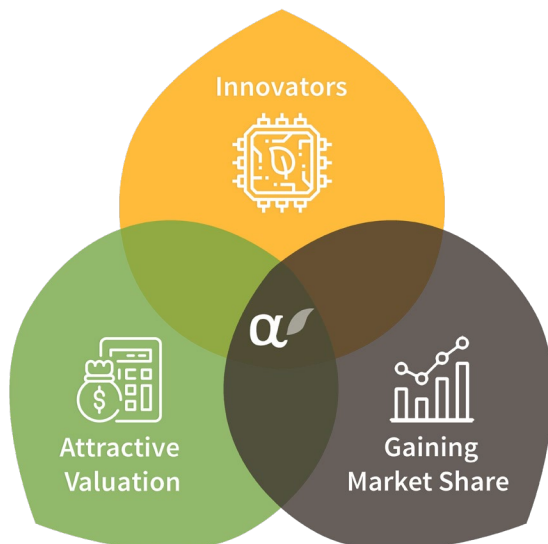
Largest Positions .....	2
Performance and Year-to-Date Commentary .....	3
Portfolio Characteristics .....	5
Sector, Geographic, and Market Cap Allocations .....	6
Disclosures .....	7

## Investment Philosophy

We consider the greatest growth drivers of the twenty-first century to be high-functioning, inventive companies generating and accelerating solutions to system-level risks like the climate crisis, resource degradation, worsening inequality, and human disease burdens. Consequently, those companies are our chief opportunity for investments that preserve and grow clients' purchasing power.

Green Alpha's investment philosophy is straightforward: seek enterprises creating smart, scalable and rapidly evolving, economically-competitive solutions. Don't invest in companies causing global systemic risks.

Our investments seek to de-risk the global economy, which in turn reduces clients' long-term investment risks.



## Why Invest in DiversiTerra?

- Active research, stock selection, and portfolio management
- Invests at the intersection of the most diverse companies in the Next Economy™ universe that are foremost on Green Alpha's conviction list
- 45-65 global, market-leading, solutions-oriented companies led by diverse executive teams and boards

**Inception:** March 31, 2018

**Vehicle:** Separately Managed Accounts

## Research

Across our portfolios, we seek companies:

- with products and/or services lowering the global economy's risk profile by creating solutions to our most pressing economic and environmental risks
- committing more capital to R&D and owning more intellectual property than their peers
- run by effective, diverse executive teams and boards of directors with consistent track records of increasing revenues and expanding margins, leading to earnings growth and potential dividend increases
- that trade at compelling valuations relative to proven and anticipated growth, within acceptable levels of risk

## Portfolio Construction

DiversiTerra is an actively managed gender-lens portfolio. Our gender lens is focused on the reality that women suffer the greatest effects of the climate crisis, resource degradation, inequality, and disease; therefore, they disproportionately benefit from investments in solutions.

Diverse teams outperform homogeneous ones on a variety of critical metrics; thus, this portfolio seeks to invest in companies run by the most diverse executive teams and boards. DiversiTerra is a high-conviction subset of Green Alpha's Social Index portfolio.

# Largest Positions

How DiversiTerra is driving progress toward the Next Economy

## Vestas Wind Systems (Sector: Energy)

- A leader in the global transition, Vestas is the world's most advanced wind turbine manufacturer, and the global leader in onshore, offshore, and grid-connected installations. Vestas is also a leading service contract provider, furnishing the company with meaningful higher-margin recurring revenue. Vestas' order intake velocity, always strong, has accelerated: 2.9 GW in new 2022 orders, which has pushed Vestas' delivery dates to early 2024, giving good transparency into revenue growth. The order backlog is \$49.53 billion.
- They have 132 GW under service contracts, with 125 GW located offshore.
- Vestas is targeting carbon neutral operations, without use of carbon offsets, by 2030. They are also targeting zero-waste production by 2040.
- The board is 42% female. Women serve on all committees and comprise half of the Nomination & Compensation Committee.

## Brookfield Renewable (Sector: Utilities)

- Brookfield is a leading zero-carbon, 100% renewables-based energy utility. They own ~21 GW of electricity production capacity with a pipeline of ~62 GW, making them one of the world's largest pure-play public renewable companies.
- Brookfield is conservatively managed, continually looking for acquisitions at favorable prices and organic development to grow generation capacity, and has revenues largely backed by long-term power purchase agreements. Brookfield is inflation resilient and may benefit from an inflationary environment. Their generating costs are fixed, but their PPAs are indexed to inflation.
- Women comprise 33% of board directors, 25% of overall workforce, and 50% of executive management. In addition, the Audit Committee Chair is female. The Exec Team has a strongly above-average age spread of 48 years, as does the board at 38 years.

## IBM (Sector: Technology)

- IBM is driving innovation to mitigate global risks. Having divested from its legacy managed-infrastructure business, IBM has re-emerged as a Next Economy™ powerhouse. Their primary initiatives include blockchain code and technology, cloud computing, AI and machine learning, and quantum computing. IBM has recognized that these innovations, in their words, "can exponentially alter the speed and scale at which we can uncover solutions to complex problems. We've come to call this accelerated discovery."
- IBM has led the U.S. in the number of patents received annually for 29 years in a row and is a top patent holder across many domains: cloud and cognitive software; quantum computing; enabling distributed ledger; pioneering AI; developing security methods atop lattice cryptography; advancing nanotechnology; developing and applying Watson AI across industries.
- Females comprise 33%+ of IBM's workforce. Women with significant authority include IBM's COO, General Counsel, and CHRO. IBM is a longstanding leader on pay equity for both women and minority populations.

## Taiwan Semiconductor (Sector: Technology)

- TSM is by far the largest semiconductor foundry in the world with 54% market share overall, and 85%+ market share among the most advanced chip makers. TSM is one of two companies capable of producing advanced 3-nanometer chips and is ahead on the next generation as it prepares to produce its 2-nanometer chips in 2023 via the most advanced foundry technology in the world.
- Their strategic Arizona plant will make advanced 5-nanometer transistors. They are a relentless competitor, aggressively investing to grow capacity and innovate. The result is a (for now) nearly insurmountable lead in advanced chip manufacturing.
- Women comprise 15% of senior leadership. Women with significant authority include President of TSMC Europe, VP of HR, VP of Legal and General Counsel/Corporate Governance Officer, and Senior VP of Sales. In addition, the ESG Committee Chair is female.

## Moderna (Sector: Health Care)

- Discovery-to-clinical-stage biotechnology firm focused on using messenger RNA to develop and deploy therapies and vaccines. Moderna's revolutionary science has potential applications for many areas, including oncology, infectious diseases, and cardiovascular diseases. A robust early-and-advanced stage pipeline means future growth may be impressive, even excluding revenues from a COVID-19 vaccine. Interesting vaccines in their pipeline include those for HIV and CMV.
- Executive leadership is 40% women, including Chief Brand, Chief Commercial, Chief Legal, and Chief Human Resources Officers. The Exec team has an above-average age spread at 32 years. Women make up 47% of the workforce. The board is 30% women, including chairs of the Audit and Product Development Committees, and the age spread is above average at 25 years.

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

Company Name	Ticker	Weight
Vestas Wind Systems	VWDRY	4.68%
Brookfield Renewable	BEPC	4.28%
IBM	IBM	3.78%
Taiwan Semiconductor	TSM	3.34%
Moderna	MRNA	2.99%
CRISPR Therapeutics	CRSP	2.73%
Lam Research	LRCX	2.54%
Equinix	EQIX	2.52%
First Solar	FSLR	2.49%
Block	SQ	2.47%
<b>% of Portfolio</b>		<b>31.82%</b>

# Macroeconomic Commentary



Though not inevitable, the probability of a U.S. recession grew in Q2, and again in early Q3, with the Fed significantly increasing interest rates to tame rising inflation. Although inflation hurts the economy, so does fighting it, and a slowdown in some sectors is already visible. At the end of Q2, the Commerce Department confirmed that the U.S. economy shrank 1.6% in the first quarter, downgrading their previous prediction. Commerce's report also showed that consumer spending rose at a much reduced 0.3% (revised) rate from April to May, and May to June it shrank in inflation-adjusted terms, seemingly in response to inflation, but likely also in response to the nonstop news narrative of an impending recession. Reductions in spending have led to retailer reports of inventory buildups, resulting in some merchants planning price reductions (Walmart, e.g., has guided Q3 and Q4 earnings expectations downward on high inventories and anticipated price cuts). At the end of July, gas prices in the US, though still high, have been on a steady four-week decline. In these data, we see the first inklings of inflation moderation in some areas.

On the growth side, rebounding sectors like hospitality and travel have struggled to hire employees quickly enough as people return to restaurants, airports, and hotels. Evidently, spending increases in May went toward experiences rather than material goods, and amid the May-to-June spending slowdown, travel and leisure continued to grow, with prices in the sector remaining high in response to demand. Unemployment is still at record lows and wage growth has doubled from 2019, which one would expect with two job openings currently available for every unemployed person. In addition, the end of Q2 saw data indicating that manufacturing supply chains are getting back on track in key industries like semiconductor manufacturing—another potential deflationary influence. The economic picture is far more complex than a 'looming recession,' and the next 12 months could turn out to be very surprising in any number of ways, no doubt both boosting and detracting from stock market valuations.

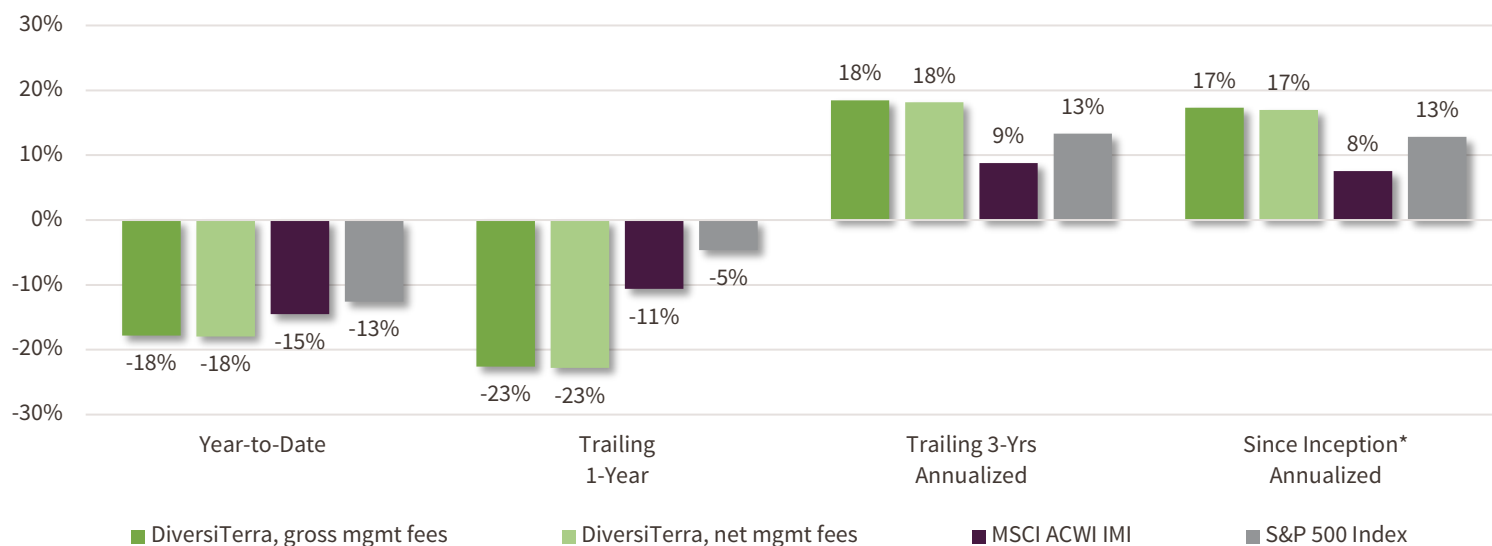
In energy, the recent increase in oil and other fossil fuels prices has pushed a more rapid increase in renewable and clean energy development. Data shows that investment in global energy—mostly in clean energy—is projected to increase by 8%, reaching \$2.4 trillion in 2022 alone. Although these trends are encouraging, they are nevertheless insufficient to fix either the current energy crisis in Europe (and elsewhere) or the climate crisis. The IPCC report released on April 4th made special effort to warn the world that the transition to renewables has been underfunded—to the extent that the COP26 agreements will be difficult to meet. The gap between written pledges and financial investments to meet those pledges is significant and ultimately must be addressed. As awareness of this disconnect advances, we expect the emergence of further catalysts in the energy sector. For example, the surprise July 27<sup>th</sup> announcement of The Inflation Reduction Act of 2022 may indicate more US spending on renewables in coming years.

During the first half of 2022, most major global indexes, including the MSCI ACWI IMI and the S&P 500 Index, benefitted from exposure to fossil fuels suppliers and producers, which rallied for most of the period. Green Alpha believes fossil fuels are in the throes of a long-term pattern of demand (therefore price) destruction, and that the current rebound is a temporary condition that will be repeated less often as the economic transition to sustainable energies and transportation is further established.

What all this signifies is that we can and should continue to expect the unexpected. For Green Alpha, it means remaining fully invested in our long-term thesis of transition from existing economics to Next Economics™. In the face of all the complexity occurring amid and contributing to the current bear market in equities, Green Alpha strategies as a group held up relatively well during Q2.

*continued on the next page...*

# Portfolio Performance & Commentary



Likely due in part to the interest rate pressure here in the States, U.S. companies generally underperformed foreign-domiciled companies year-to-date. All Green Alpha portfolios have greater exposure to U.S. companies compared to the MSCI ACWI IMI. Furthermore, our exposure tends to consist of companies exhibiting high growth characteristics; meaning that year-to-date, most of our portfolios experienced the dual negative impact of exposure to more U.S. companies, as well as ones that are growthy and thus out of favor in the market.

For the first seven months of 2022, the DiversiTerra portfolio returned -17.96% net of management fees vs its benchmark, the MSCI All Country World Investible Market Index (MSCI ACWI IMI), which returned -14.51%.

The sectors that detracted the most from the investment strategy's returns were Technology and Health Care.

- The Technology sector was down across industries with losses led by companies in the semiconductor manufacturing value chain, including the world's most productive and advanced foundries, chip designers and manufacturers, microcontrollers, and analog chips. Software, infrastructure software, financial transaction processors, and enterprise software industries contributed to declines, along with a modest detraction from technology hardware.
- Within Health Care, losses were primarily from exposure to the biotech and pharma industry, followed by the medical equipment and devices, and health care facilities and services industries. Here again, broad rotation away from growth names played a key role in pullbacks. In companies working on therapeutics, we continue to see positive trial results and pipeline news, and the case for long-term intrinsic value growth remains intact.

Top-performing sectors in the DiversiTerra portfolio were Energy and Communications.

- In the Energy sector, gains came from the renewable energy equipment manufacturing industry and were provided by two makers of advanced solar inverters, and two global makers and distributors of finished solar PV panels and modules. Additional gains were provided by a leading maker of solar PV tracking technology.
- Within Communications, the portfolio benefitted from both a leading green data center builder and manager, and a wireless telecommunications services infrastructure provider.

DiversiTerra returned 97.32% since inception through July 31st, net of management fees, vs the MSCI ACWI IMI at 37.06%. The top three performing sectors were Energy (including renewables-based utilities), Technology, and Health Care, in aggregate contributing 89% of the portfolio's returns. Within those sectors, gains came from an extremely diversified set of industry leaders up and down value chains.

*\*Portfolio Inception: March 31, 2018. 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 important disclosures about portfolio, benchmark, and characteristic information.*

# DiversiTerra

How the portfolio compares to the MSCI All Country World Investible Market Index (MSCI ACWI IMI) and other Green Alpha portfolios

## Characteristics

- **Gender-lens criteria:** diverse teams demonstrably outperform homogenous teams—increased innovation levels, reduced governance controversies, greater customer orientation, and lower employee turnover to name a few
- **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, and Current Ratio
- **Fossil fuel free since inception:** we have never invested in companies that prospect, extract, refine, or transport fossil fuels, nor in fossil-fired utilities or internal combustion engine manufacturers
- **Public equities, long-only:** most investors' largest asset class; largest opportunity for impact

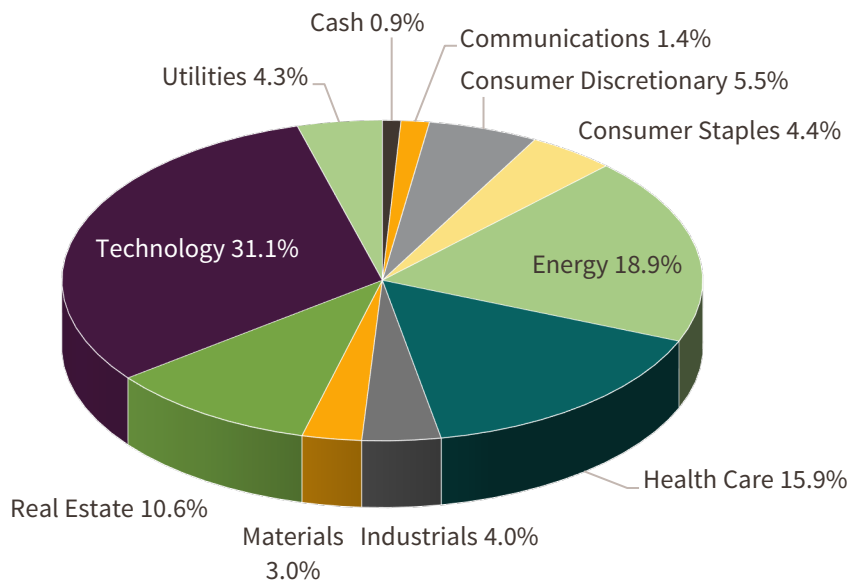
Characteristics	DiversiTerra	Benchmark: MSCI ACWI IMI (SPGM)	Next Economy Index	Social Index	Next Economy Select	Growth & Income	Sierra Club Green Alpha
# of Securities	57	2,412	146	101	59	35	47
Active Share	96%	-	93%	95%	96%	97%	96%
Sales Growth, Trailing 1-Yr	4,818%	45%	4,182%	7,503%	3,553%	1,621%	2,143%
P/E, Current	18.06	15.27	18.29	18.92	17.62	14.75	21.27
P/E, 1-Year Forward <sup>†</sup>	21.46	14.22	18.43	18.77	19.17	16.52	22.59
Price/Sales	2.05	1.64	2.34	2.15	1.62	1.56	1.49
Price/Book	3.05	2.46	2.88	2.54	2.70	2.13	3.16
LT Debt/Equity	0.78	0.85	0.70	0.67	0.87	1.27	0.87
Current Ratio	3.34	1.79	3.42	3.42	3.23	1.87	2.58
Dividend Yield	2.49%	2.82%	2.44%	2.39%	2.72%	4.10%	2.19%
Market Capitalization, Weighted Avg (US\$B)	\$97.65	\$344.79	\$77.53	\$70.69	\$119.69	\$62.30	\$110.36
Market Capitalization, Median (US\$B)	\$7.30	Not Available	\$9.43	\$8.39	\$6.87	\$31.07	\$18.83
Turnover, Trailing 2-Yr Avg Annual	30%	-	31%	39%	5%	23%	18%
Beta, Trailing 2-Yrs	1.14	1.00	1.17	1.19	1.17	0.93	1.18
U.S.-domiciled companies	83%	62%	76%	86%	65%	76%	68%

<sup>†</sup> Bloomberg consensus estimates. Please see the final page of this document for important disclosures about portfolio, benchmark, and characteristic information.

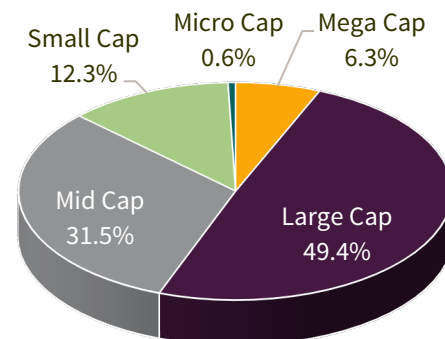
# Portfolio Allocations

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

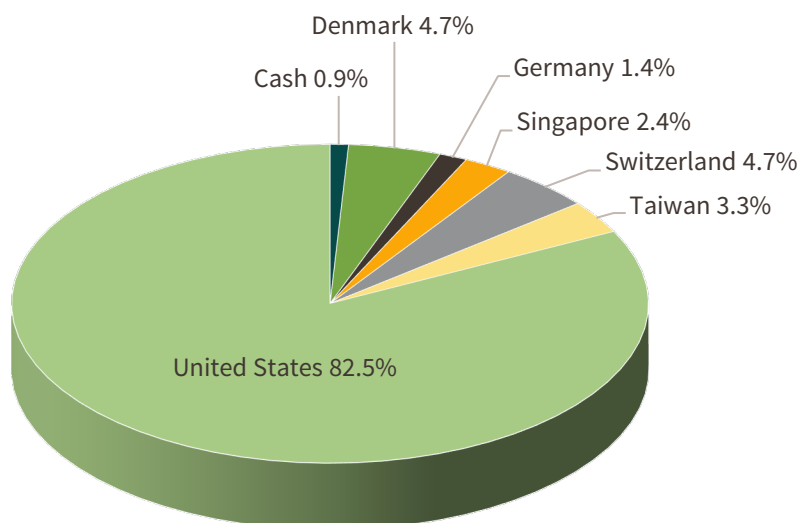
## Economic Sectors ††



## Market Capitalizations



## Companies' Main Headquarters



†† Bloomberg Industry Classification Standard. Please see the final page of this document for important disclosures about portfolio, benchmark, and characteristic information.

# 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.
- Green Alpha Investments is a trade name of Green Alpha Advisors, LLC. Green Alpha is a registered trademark of Green Alpha Advisors, LLC. Green Alpha Advisors also owns the trademarks to “Next Economy,” “Next Economics,” “Next Economy Portfolio Theory,” “Investing in the Next Economy,” and “Investing for the Next Economy.”
- 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 June 30, 2022, the DiversiTerra 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. The DiversiTerra composite performance results reflect actual performance for a composite of discretionary client accounts, net of actual management fees and transaction costs. Some assets managed in the DiversiTerra 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. DiversiTerra 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 June 30, 2022, DiversiTerra performance results reflect performance of a model portfolio. The model performance does not reflect any transaction costs. DiversiTerra model results do reflect the reinvestment of dividends and interest. Model performance has inherent limitations. The returns shown during that time period are model results only, and do not represent the results of actual trading of client assets. The model performance shown does not reflect the impact that material economic and market factors had, or might have had, on decision making if the account held actual client capital. Actual client accounts in this strategy are managed by Green Alpha based on the model portfolio, but the actual composition and performance of these accounts may differ from those of the model portfolio due to differences in the timing and prices of trades, and the identity and weightings of securities holdings.
- The DiversiTerra strategy contains equity stocks that are managed with a view towards capital appreciation and current income. 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.
- Regardless of time frame, all characteristics data are sourced from Bloomberg Finance L.P. based on a model DiversiTerra portfolio that may or may not be exactly what is delivered on each custodial or wrap account platform.
- 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.
- The holdings identified throughout this document do not represent all the securities purchased, sold, or recommended for advisory clients. You may request a list of all recommendations made by Green Alpha in the past year by emailing a request to [info@greenalphaadvisors.com](mailto:info@greenalphaadvisors.com). It should not be assumed that the recommendations made in the past or future were or will be profitable or will equal the performance of the securities cited as examples in this document.
- 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.
- This presentation is for informational purposes only, and should not be construed as legal, tax, investment, or other advice. This presentation does not constitute an offer to sell, or the solicitation of any offer to buy, any security. Any mention of an individual security is for illustrative purposes only and should not be considered a recommendation to buy or sell any security. The presentation does not purport to contain all of the information that may be required to evaluate Green Alpha Investments and its investment strategies.