

Growth & Income

Portfolio Review • September 30, 2018



Green Alpha[®]

Review Contents

The Portfolio	1 - 4
Characteristics	2
Top Five Positions	3
Market Cap & Sector Allocation	4
Performance	5 - 8
Performance History & Sector Attribution	5
Top Five Contributors & Detractors	6
Manager Commentary	7 - 8
Disclosures	9

Why Invest in Growth & Income?

- Active, long-only equity strategy combining current income with potential for capital growth
- Comprised of income producing, global Next Economy[™] companies
- Invests in 25-35 companies developing innovative solutions to core economic and environmental risks
- Fossil fuel free since inception

Inception Date: October 8, 2012

Style: All-Cap Global Growth Equity

Available Vehicle: Separately Managed Account

Next Economy Investment Philosophy

Green Alpha's investment philosophy is straight forward: don't invest in companies that cause global systemic risks; instead, invest in the solutions.

We believe companies that create or enable innovative solutions to climate change, resource scarcity and widening inequality are the greatest growth drivers of the twenty-first century. That's the Next Economy.



Portfolio Construction: Growth & Income

The Growth & Income portfolio is designed for investors who desire the powerful combination of growth and income within one portfolio. The strategy seeks to provide long-term capital appreciation without excess volatility, while delivering dividend income at higher rates than the broad equity market. As with all active Green Alpha portfolios, Growth & Income constituents are taken from Green Alpha's Next Economy universe of stocks, meaning they meet both top-down (evaluating contribution to a sustainable economy) and bottom-up (fundamentals-based analysis) criteria. Growth & Income stocks are then selected for current or potential dividend yield coupled with strong current and expected growth at a reasonable price. Under normal market conditions, the portfolio is generally composed of at least 80% global equities and at most 20% cash and cash equivalents. Like all Green Alpha portfolios, the Growth & Income portfolio is a fossil fuel free, all-cap, cross-sector, global equity strategy.

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

Portfolio Overview: Growth & Income

Portfolio characteristics and how they compare to the S&P 500 (SPY) and other Green Alpha portfolios

Growth & Income Characteristics

- **High Income** – a compelling combination of strong growth and higher dividend income than the broad equity market
- **Fundamentals-driven** – because the quality of the companies you invest in and the price you pay for them matter
 - ✓ **High growth** – indicated by Sales Growth, drop from current P/E to Forward P/E as revenue and earnings grow
 - ✓ **Compelling valuation** – demonstrated by Price/Sales, Price/Book metrics
 - ✓ **Strong balance sheet, solid management execution** – expressed by LT Debt/Equity, Current Ratio
- **Fossil fuel free since inception** – we have never invested in companies that prospect, extract, refine, or transport fossil fuels, nor fossil-fired utilities
- **Diversified** – we look for solutions wherever we can find them – across the globe, in firms of all sizes, and in every industry
- **Public equities, long-only** – largest asset class, largest opportunity for impact

Characteristics	Green Alpha Growth & Income	Benchmark: S&P 500 (SPY)	Green Alpha Next Economy Index	Green Alpha Next Economy Social Index	Green Alpha Next Economy Select	Sierra Club Green Alpha
# of Securities	33	500	94	73	53	39
Sales Growth, TTM	12.38%	13.00%	17.93%	17.96%	20.68%	18.22%
P/E, Current	32.73	35.01	37.05	37.69	24.82	31.21
P/E, 1-Year Forward [†]	18.28	16.81	21.18	21.02	17.74	18.17
Price/Sales	2.14	2.25	1.75	1.76	0.98	1.36
Price/Book	2.13	3.52	3.08	3.41	1.89	2.15
LT Debt/Equity	1.19	0.85	0.58	0.65	0.66	0.66
Current Ratio	2.39	1.92	2.86	2.83	2.62	2.73
Dividend Yield, TTM	6.04%	1.80%	1.63%	1.50%	2.26%	2.13%
Dividend Yield, Current	5.08%	-	-	-	-	-
US Domicile	76.85%	100%	77.68%	83.89%	71.40%	70.68%
Non-US Domicile	21.05%	-	20.26%	13.62%	26.64%	25.30%
Cash	2.11%	-	2.06%	2.49%	1.96%	4.03%
Market Capitalization Weighted Avg (US\$B)	21.86	247.17	74.47	79.79	45.54	68.04
Turnover, TTM	29%	-	17%	35%	8%	23%
Beta, TTM	0.87	1.00	1.05	1.05	1.00	0.97

TTM = Trailing Twelve Months

[†] Bloomberg consensus estimates

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

Top Five Positions

And how they're driving progress toward the Next Economy

Hannon Armstrong Sustainable Infrastructure

(Financial, Real Estate)

- Portfolio spans wind, solar, sustainable infrastructure (water delivery system, storm water remediation, seismic retrofits), efficiency. Possess aggregate assets in multiple categories, all related to renewable energy & efficiency.
- Functions like a diversified financial/bank; investments are generally senior to those of the project sponsor, meaning very high quality.
- Senior Management includes two women (20% of the team), as does its Board of Directors (29%).

Pattern Energy Group, Inc. (Utilities, Power Generation)

- Portfolio of 20 wind power facilities with a geographical footprint that includes the US, Canada, Chile, Mexico.
- Also includes projects around solar, transmission & storage.
- High quality, investment grade, & long-term power purchase agreements (PPAs) translate to steady revenue stream.

Terraform Power, Inc. (Utilities, Renewable Energy Generation)

- Owner of wind and solar power generations assets that serve utility, commercial and residential customers.
- Expanding global portfolio, with facilities located in the U.S., Canada, the UK, Spain, Portugal, Chile and Uruguay.
- Brookfield Renewable Partnership's sponsorship provides backing & credit security needed to continue TerraForm's expansion of its energy portfolio, while maintaining a high dividend payout proportion & overall yield.

Horizon Technology Finance (Financials, Asset Management)

- Provides structured debt products (i.e., loans) to innovative companies.
- Has invested in more than \$1.2 billion in venture loans to 200+ growing businesses.
- Portfolio includes tech, cleantech, life sciences and healthcare companies.
- Offers public equity investors opportunity to invest in a loan venture fund (a basket of private, Next Economy companies) via a single stock.

Qualcomm, Inc. (Technology, Hardware)

- Multinational company that designs and markets wireless telecommunications products and services.
- Connectivity—swift data exchange and use between devices—is key to an efficient/sustainable economy, & Qualcomm enables this across applications: auto, health care and tech (IoT, mobile computing, networking).
- Major R&D expenditure, signaling that they are doing everything they can to stay ahead of tech curve.

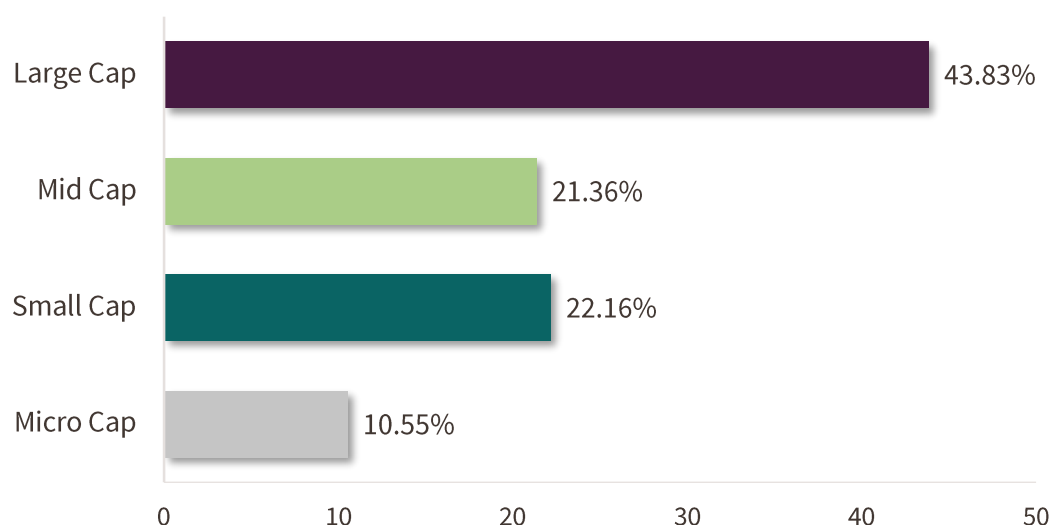
Company Name	Ticker	Weight
Hannon Armstrong	HASI	7.88%
Pattern Energy Group, Inc.	PEGI	7.72%
Terraform Power, Inc.	TERP	7.13%
Horizon Technology Finance	HRZN	6.63%
Qualcomm, Inc.	QCOM	4.74%
% of Portfolio		34.10%

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

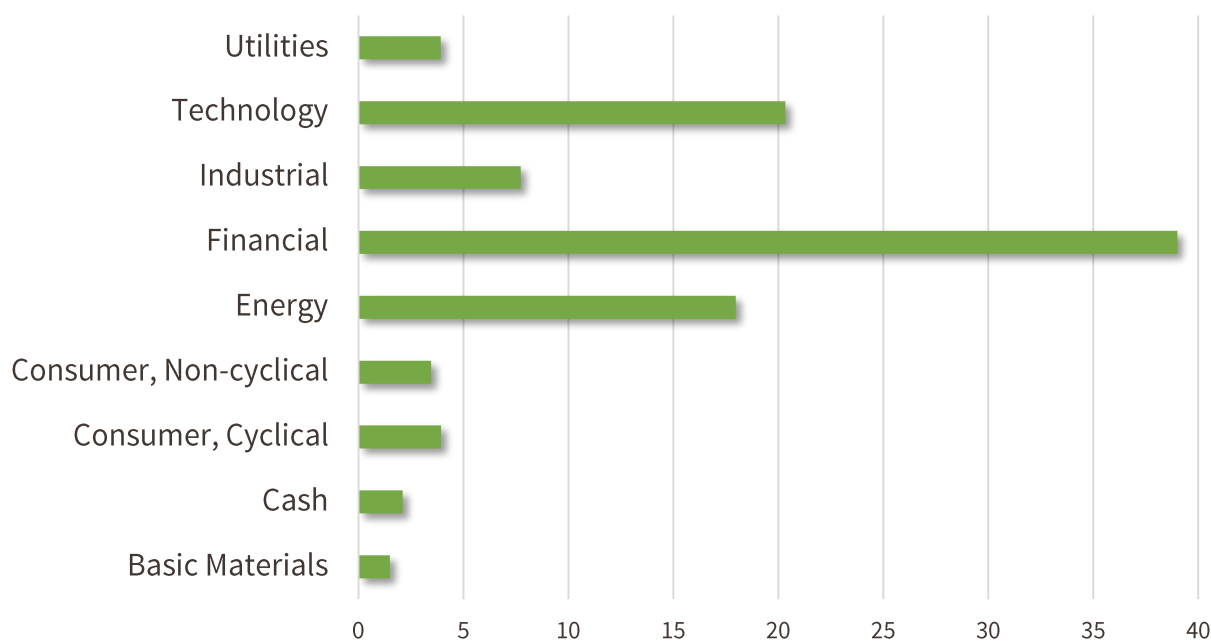
Allocation by Market Cap & Sector

Our search for Next Economy companies is unconstrained. We seek solutions to systemic risks wherever they exist – across sectors, market caps, and geographies. The following divisions are the result of our Next Economy process, rather than the starting point.

Equity Allocation by Market Cap



BICS^{††} Sector Allocation (% of Portfolio)



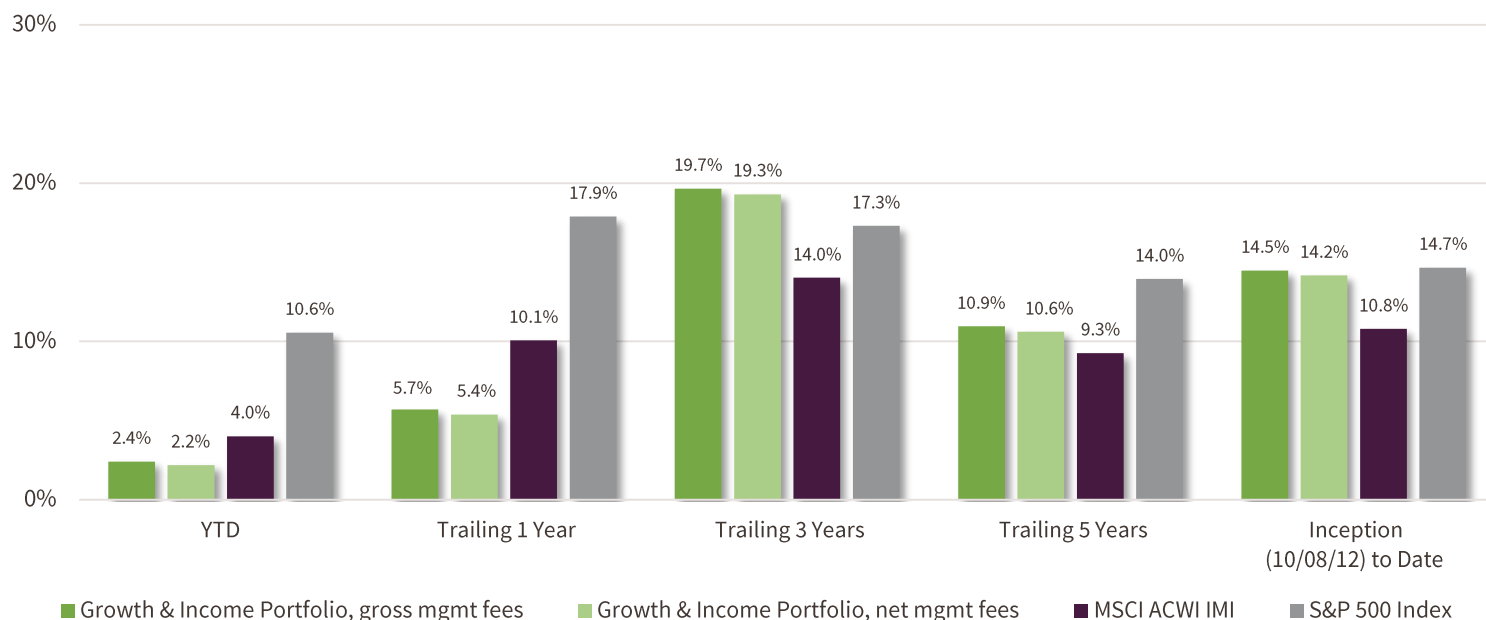
^{††} Bloomberg Investment Classification System

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

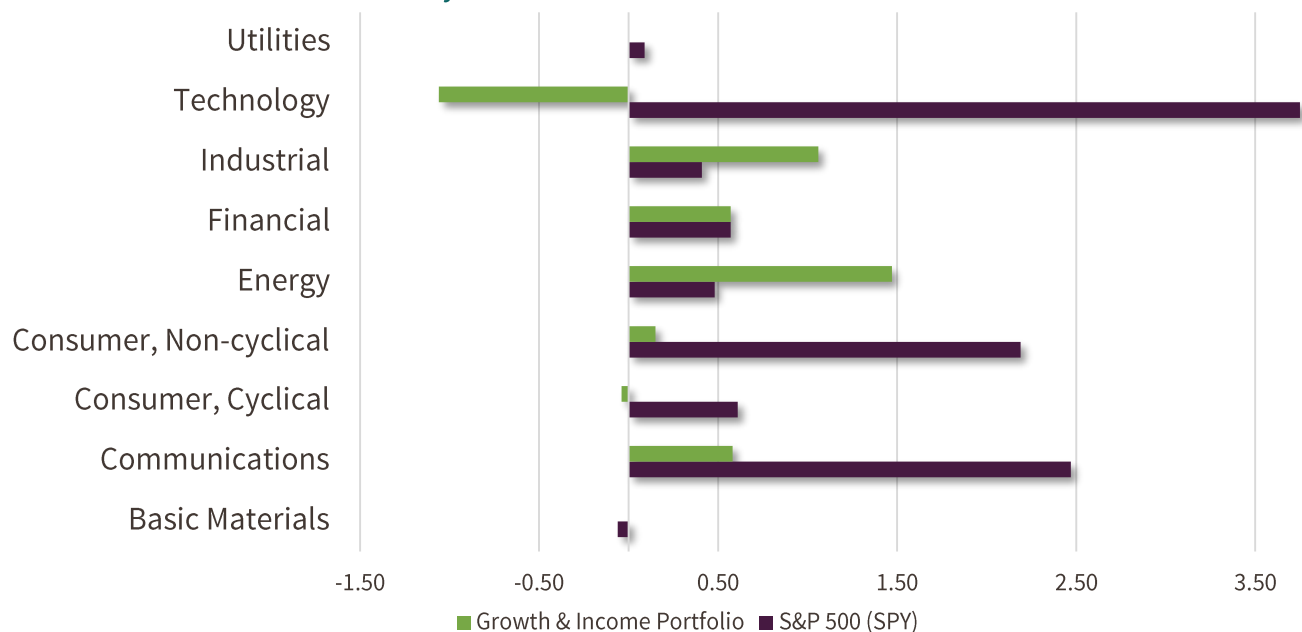
Performance History & Sector Attribution

For commentary, see pages 7 - 8.

Performance History



Year to Date 2018 Sector Attribution by BICS^{††}



^{††} Bloomberg Investment Classification System

All returns presented above that are greater than 1 year in length have been annualized. Performance data quoted represent past performance. Past performance does not guarantee future results and current performance may be lower or higher than the data quoted. Growth & Income performance results reflect performance of a model portfolio. The Growth & Income model performance does not reflect any transaction costs. Growth & Income performance results do reflect the reinvestment of dividends and interest. The Growth & Income model 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. Model performance has inherent limitations. The returns shown 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. Please see important disclosures on the final page of this document.

Attribution: Top Five Contributors & Detractors

Next Economy innovation doesn't unfold overnight—or even a quarter. Think of this as one way of looking at the previous quarter's performance, not necessarily the long-term picture.

Five Largest Contributing Stocks – 3rd Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
Qualcomm, Inc.	QCOM	4.35%	29.49%	1.14%
Steelcase, Inc.	SCS	3.16%	38.04%	1.12%
Horizon Technology Finance	HRZN	6.43%	16.31%	0.98%
Hannon Armstrong	HASI	7.66%	10.55%	0.78%
Pattern Energy Group, Inc.	PEGI	7.60%	8.25%	0.64%

Five Largest Detracting Stocks – 3rd Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
Schnitzer Steel	SCHN	1.70%	-19.23%	-0.38%
STMicroelectronics	STM	1.80%	-16.81%	-0.33%
Applied Materials, Inc.	AMAT	1.85%	-15.93%	-0.31%
Microchip Technology, Inc.	MCHP	1.91%	-12.86%	-0.26%
Crispr Therapeutics	CRSP	0.87%	-24.52%	-0.25%

Past performance is not a guarantee of future results. To obtain information about the calculation methodology used to select the representative account's largest contributors and detractors from performance or to obtain a list showing every holding's contribution to the account's performance during the measurement period, contact us at info@greenalphaadvisors.com. Given differences in account sizes, custodial fee arrangements and other client-specific factors, not all accounts invested in the Growth & Income strategy experienced the exact portfolio contributions shown above. The holdings identified throughout this document do not represent all of the securities purchased, sold, held or otherwise recommended for advisory clients. Nothing in this document should be considered recommendation to purchase or sell any particular security.

Manager Commentary

Q3 2018 in Review



In Q3 2018, we saw that the economy is functioning at a high level. It was a quarter of unusually rapid economic growth in the U.S., enough that the Fed took the word “accommodative” out of their [September FOMC Statement](#), meaning they estimate that the economy is healthy enough to no longer require unusually cheap capital to continue growing.

But uncertainties in the political world—led by the specter of trade wars—loom large along with interest rate rises and the winding down of QE. In September, Fed Chairman Powell went out of his way to remind everyone that, while the economy is growing sufficiently to merit a 0.25% raise to the Fed Funds rate, the Fed is not responsible for trade policy. He [stated](#) that “many of our country’s economic challenges are beyond the scope of the Fed, but we are doing all we can to keep the economy strong and moving forward.” Separately, and specifically on trade, Powell [recently said](#), “The truth is this: Since War II we’ve had this trading system develop, and consistently tariffs have come down and trade has grown. And I think that’s served the global economy, and particularly the United States economy, very well... Part of the independence that we have is to stick to our lane, stick to our knitting, so really wouldn’t want to comment on fiscal policy really, or trade policy.”

Ford Motor Company, by contrast, did recently comment on current trade policy: “The metals tariffs took about a billion dollars of profit from us,” [said CEO Jim Hackett](#) at a Bloomberg event in September. Q3 also saw ongoing efforts to renegotiate several trade deals, most importantly NAFTA, China, and Japan. As of the end of the quarter, nothing has been signed, and China is threatening to cancel the next meeting with US delegates. **The scene right now can be summed up as: growth with uncertainty.** (Note: as of 10/1, a provisional tri-lateral [update to NAFTA](#)—now the USMCA—has been agreed to by the U.S., Canada, and Mexico. Uncertainty is diminished a little—in this hemisphere, at least.)

On the interest rate hike, Chairman Powell [noted](#) that the Fed doesn’t see in their data any reason to fear a recession in the next year or two and therefore multiple raises may be in order for 2019. More raises in the short-term rate could have the effect of inverting the yield curve, but the Fed doesn’t necessarily see that as a harbinger of recession (although history does [show a correlation](#) there).

Yet a correction is certainly plausible. In general, the very low interest rate environment we’ve been in for years now has encouraged even conservative investors to leave bonds and money markets for investments that have higher yield or return potential but are farther out on the risk curve. Often, this means stocks. The often-discussed scenario—a stock market correction resulting from some combination of rising rates (which attract risk averse money back out of stocks and into cash and debt instruments), QE winding down, and trade uncertainty—seems plausible at some point in the next few years. So, how do we proceed?

Start by focusing on what’s emerging, growing and gaining market share from incumbent economy predecessors and counterparts. **Even in bear markets, there will always be parts of the economy that are developing faster than others.**

Then, focus on intrinsic value—the ‘true value’ based on a company’s tangible and intangible assets. **If you can buy a company because you can get it for close to what it’s worth**—as opposed to buying it regardless of its intrinsic value because it’s in an index—you have a better chance of avoiding overpriced stocks. **Therefore, you are more likely to withstand a downturn and better positioned** to recover early and with some velocity. Stocks do tend to return to their intrinsic value more quickly than they will return to being overvalued. *(continued on page 8)*

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

Manager Commentary (cont.)

Q3 2018 in Review

On that point, it's worth revisiting the portfolio characteristics as of the end of Q3, 2018 on page 2 of this document.

Owning growth in the form of innovative, sustainability-driving companies without paying too much (at the aggregate portfolio level) above intrinsic value is what we strive to do.

Markets are always going to be changing on us. There will always be new events and innovations, including things far outside our control. **What we can do is be adaptable. We can consider the most likely scenarios and prepare for them. At Green Alpha, we look to scientific consensus**, since science aims to show us what's real; it is the closest we can come to truly *knowing* what those future scenarios hold and how to address them.

While some progress is slowly being made, the financial industry has by and large failed to integrate such scientifically-based risk calculus into its methods. Many investors continue to buy fossil fuel-based stocks as though there is no risk to the underlying assets and there are no *financially viable* alternatives. This tells us they are not being skeptical. This won't last. What will cause the fossil fuels bubble to burst is the accelerating development of renewable energies ([e.g., China's clean energy push](#)) and energy efficiency technologies, followed by plunging prices.

The overall picture at the end of Q3 2018 is one of growth with uncertainties, both geopolitical and economic, with a plausible case for market correction or even recession over the next few years, along with areas of rapid growth and productivity improvements occurring within that context.

As always, we remain [true to thesis](#), never engage in style drift, are fossil fuels free, and focused on what's next.

In Q3 2018, our portfolios saw generally favorable results, but with some dispersion between strategies. Returns are summarized on pages 5 and 6. As a supplement, here is a look into Q3's performance attribution by strategy.

Growth & Income - Portfolio Commentary

- The Green Alpha Growth and Income Portfolio was up 5.50% for Q3 2018. Financials were responsible for the lion's share of this return, adding 2.41% during the quarter.
 - In Financials, venture debt investing added 0.98% to GAGIP in Q3, and financing services for renewable energy and energy efficiency projects contributed 0.78%, as funding providers for both new innovation and infrastructure upgrades continue to see strong demand.
- Consumer Cyclical added 1.12% to portfolio performance during the quarter.
 - In Consumer Cyclical, the office furnishings industry was responsible for the sector's entire 1.12% contribution. Higher-end, sustainably-made office furnishings continue to see robust demand as corporate capex remains steady.
- Basic Materials was one of the two detracting sectors within the portfolio this quarter, taking away 0.38%.
 - In Basic Materials, the specialty sub-industry of recycled steel was responsible for the Sector's entire 0.38% loss. Steel is always a volatile commodity. Although sourcing it from 100% reused sources is important to the realization of a sustainable economy, recycled steel is no exception. The portfolio's exposure to recycled steel is U.S.-based, so it is conceivable that recently enacted steel tariffs for imported product may prove advantageous for the position.
- Negative contributions secondarily came from Consumer Non-cyclicals, detracting 0.04%.
 - In Consumer Non-cyclicals, Biotechnology was the detractor at -0.25%. Biotechs can be speculative, and although they hold tremendous long-term potential, they can be and are volatile over short-to-medium-term timeframes.

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

Important Information & Disclosure

- Dividend information for the Growth & Income Portfolio: The dividend yield for the trailing twelve months (TTM) for the Growth & Income Portfolio included a significant one-time special dividend distribution by TerraForm Power, Inc. The TTM dividend yield for the portfolio (6.04%) was materially higher than the current dividend yield (5.08%) as a result of the special dividend. The current dividend yield is shown in addition to the TTM dividend yield as a more appropriate reflection of the portfolio's current dividend yield as of September 30, 2018.
- Performance data quoted 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.
- All performance and characteristics data are sourced from Bloomberg Finance L.P. 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 of 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. 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 S&P 500 Index is an unmanaged index of 500 common stocks chosen for market size, liquidity and industry group representation. It is a market-value weighted index. The S&P 500 Index figures do not reflect any fees expenses or taxes. Investors cannot invest directly in this index.
- The SPDR S&P 500 ETF (SPY) seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the S&P 500 Index. Investors can invest directly in SPY.
- MSCI ACWI IMI: The MSCI ACWI Investable Market Index (IMI) captures large, mid and small cap representation across 23 developed markets and 23 emerging markets countries. With over 8,600 constituents, the index is comprehensive, covering approximately 99% of the global equity investment opportunity set. Investors cannot invest directly in this index.
- At the time this commentary was written and published, Green Alpha portfolios did not have any positions, long or short, in Ford Motor Company (ticker F).
- 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 Advisors and its investment strategies.
- 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 is a registered trademark of Green Alpha Advisors, LLC. Green Alpha Advisors also owns the trademarks to "Next Economy" and "Investing in the Next Economy."
- For additional legal information and Form ADV Part 2, please see <http://greenalphaadvisors.com/about-us/legal-disclaimers/>.