

# Green Alpha ✓

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### 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.



### 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

### 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 (fundamentalsbased 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.

 $Please see the {\it final page} of {\it this} document {\it for important} {\it disclosures} {\it about portfolio}, {\it benchmark} {\it and characteristic information}.$ 



## Portfolio Overview: Growth & Income

Portfolio characteristics and how they compare to the S&P 500 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	Green Alpha Next Economy Index	Sierra Club Green Alpha	Green Alpha Next Economy Select
# of Securities	30	500	95	39	52
Sales Growth, 1-Year Trailing	9.51%	10.98%	16.83%	16.08%	16.05%
P/E, Current	42.21	36.56	37.31	35.29	31.25
P/E, 1-Year Forward <sup>†</sup>	17.64	16.39	20.32	18.95	16.57
Price/Sales	1.91	2.15	1.69	1.37	0.99
Price/Book	2.03	3.23	2.95	2.48	2.10
LT Debt/Equity	0.95	0.86	0.58	0.70	0.66
Current Ratio	2.95	2.02	2.80	3.30	2.89
Dividend Yield	5.09%	1.95%	1.68%	2.09%	2.16%
US Domicile Non-US Domicile Cash	72.18% 25.29% 2.54%	100% - -	75.94% 23.07% 1.00%	72.09% 26.63% 2.22%	66.42% 28.77% 4.81%
Market Capitalization Weighted Avg (US\$B)	20.32	198.76	60.89	49.82	34.47
Turnover, 1-Year Trailing	16%	-	18%	24%	15%
Beta, 1-Year Trailing	0.92	1.00	1.06	1.03	0.99

<sup>†</sup>Bloomberg consensus estimates

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<sup>††</sup> Bloomberg Investment Classification System



## Top Five Positions

And how they're driving progress toward the Next Economy

## **Liberty Property Trust** (Financials, Real Estate Investment Trust)

- Owns over 99 million square feet of industrial & office space throughout the U.S. & UK.
- Focus on sustainable design & operation throughout its portfolio; high performance buildings resulting in high performance businesses.
- Leader in sustainable property standards (e.g., all new office buildings will achieve LEED standard, all new construction industrial buildings will achieve LEED standard when feasible or otherwise use maximum

'sustainable features' possible, all cleaning products must be Green Seal, only use low/no VOC paint, etc.)

Company Name	Ticker	Weight
Liberty Property Trust	LPT	6.51%
Hannon Armstrong	HASI	6.40%
8point3 Energy Partners	CAFD	6.26%
Pattern Energy Group	PEGI	6.24%
Garmin Ltd.	GRMN	5.59%
% of Portfolio		31.00%

• Gender diversity leader among REITs, with four women in Senior Management, including SVP of Real Estate Operations. Three women (30%) on the Board of Directors, including the Chair of Corporate Governance & Nominating Committee.

#### 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%).

#### **8point3 Energy Partners** (Utilities, Power Generation)

- Company has recently been sold to a private equity company; will no longer remain a portfolio constituent as a result.
- Exceptionally well-run business, safe business model, & long growth runway based on solar-generating assets.
- Founded & sponsored by two leading solar manufacturers.
- Women make up 33% of Senior Management, including the VP of Operations, a position of high influence.

#### 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.

#### Garmin Ltd. (Technology, Hardware)

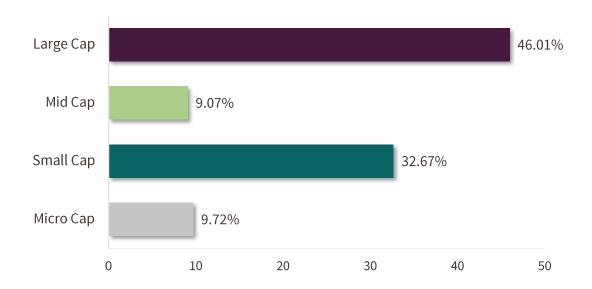
- Products enable improvements to health, efficiencies, navigation, safety, output, & enjoyment.
- World-class navigation enable telematics to create efficient delivery fleets.
- Leading consumer example in larger trend of connectivity, big data & the IoT.



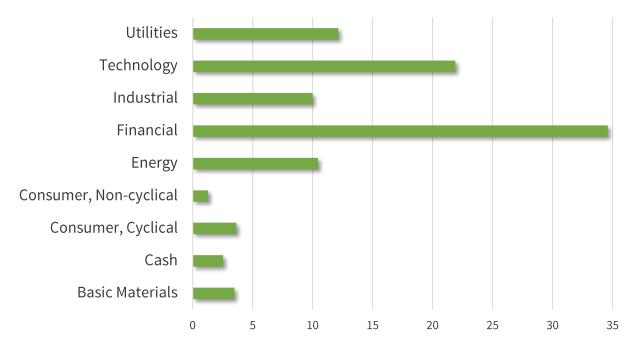
# Allocation by Market Cap & Sector

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<sup>††</sup> Sector Allocation (% of Portfolio)



<sup>†</sup>Bloomberg consensus estimates ††Bloomberg Investment Classification System
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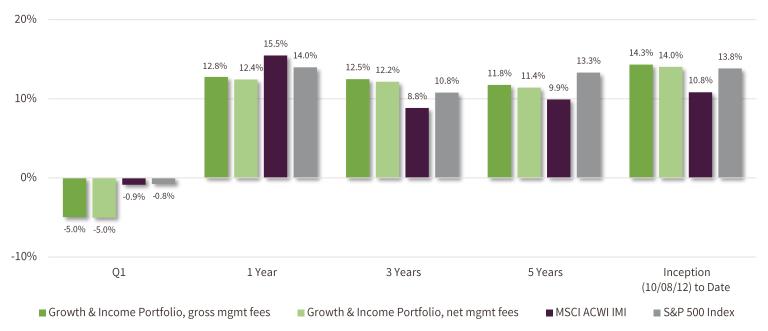
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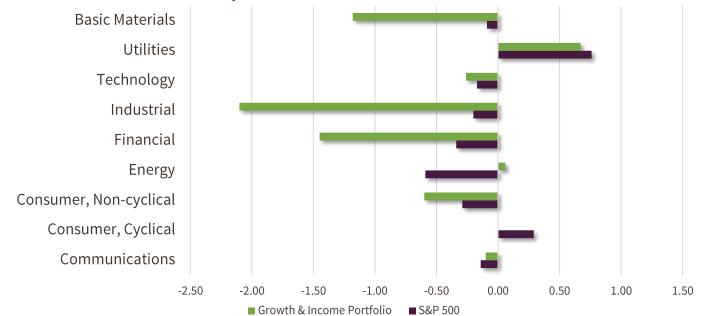
## Performance History & Sector Attribution

For commentary, see pages 7 - 8.

### Performance History



### Year to Date 2018 Sector Attribution by BICS<sup>††</sup>



<sup>†</sup>Bloomberg consensus estimates

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.

<sup>††</sup> Bloomberg Investment Classification System



## 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 – 1st Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
Consolidated Water	CWCO	3.82%	16.93%	0.61%
Seagate Technology	STX	1.42%	41.31%	0.45%
Munich Re	MURGY	5.10%	7.61%	0.35%
Brooks Automation, Inc.	BRKS	2.57%	13.97%	0.30%
Applied Materials, Inc.	AMAT	2.01%	8.98%	0.17%

### Five Largest Detracting Stocks – 1st Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
8point3 Energy Partners	CAFD	6.61%	-20.12%	-1.49%
Hannon Armstrong	HASI	6.49%	-18.95%	-1.38%
Pattern Energy Group, Inc.	PEGI	6.76%	-17.60%	-1.30%
Qualcomm, Inc.	QCOM	4.25%	-12.71%	-0.53%
Liberty Property Trust	LPT	6.39%	-6.70%	-0.42%

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 <a href="mailto:info@greenalphaadvisors.com">info@greenalphaadvisors.com</a>. 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.

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# Manager Commentary

Q1 2018 in Review



The first quarter of 2018 was one of the more volatile quarters in recent performance history for Green Alpha strategies, as well as for global and U.S. equities in general. Let's review the "whens" and "whats" of this shift, and how this relates to the ongoing tech revolution.

The beginning of the quarter saw a continuation of 2017's bull run for stocks as investors were persuaded that the passage of the Republican tax plan, in lowering taxes for U.S. corporations, would make business more profitable and earnings increases would follow. However, sentiment shifted abruptly following the January employment figures, as investors were spooked by rising wages, in turn raising inflation and thus interest rate fears, meaning corporate earnings could be projected to decrease as they would have to pay more interest on their debt. But then, by the end of March, inflation fears were allayed somewhat as Chicago Purchasing Manager Index (PMI) fell in March to a reading of 57.4, which was a one-year low, from 61.9 in February. So perhaps inflation won't be too severe, and interest rates may not need to rise as much after all.

Cue late March stock rally. All this keeps the Fed in its difficult position; it must normalize rates without hindering economic growth, while trying to predict overall price inflation in the face of sometimes conflicting data.

We've also seen a lot of volatility align with signals of on-again, off-again trade war threats. Experience (some very recent) shows that while tariffs are meant to shore up U.S. industry, retaliatory tariffs from countries importing U.S. exports make those exports less competitive. This leads to a counter effect, wherein domestic consumers see higher prices for products they buy, less demand for the products they make, lower pay, and higher unemployment. Here, as with climate science, we see the U.S. increasingly outside of the global mainstream. Formerly the champions and great beneficiaries of trade and globalization, the U.S. is now seen by many as running the other way, raising general economic uncertainty and raising market volatility.

We'll keep watching. Short-term developments, while not particularly meaningful in terms of portfolio returns for the long-term investor, do add up over time into the long-term picture. Events at the beginning of a major transition can have large effects on how the economy evolves. For example, tariffs that aim to thwart the growth of renewable energies in the U.S. mean that the U.S. is willingly giving up its historical lead in the solar industry, particularly in solar PV. We are encouraged that the best efforts of incumbent fossil fuel interests in the U.S. have not managed to stop growth in renewables –a sign that renewables' advantageous economics are hard to repudiate – but we can simultaneously lament that the momentum and growth in these key technologies is now being ceded to markets more enthusiastic about developing them (read: China).

As always, our response to all this is to keep our focus on the long-term, remaining invested in multi-year growth trends that will ultimately be affected less by shorter term policy machinations and more by innovative pursuit. This also underscores the importance of looking for Next Economy opportunities across the globe. If combative, protectionist economics hampers the U.S.'s efficiency-led growth, other nations will continue to pick up the slack, and we as investors will seek those global opportunities accordingly.

When thinking about the larger story of the Next Economy, we know that there will always be inevitable moments of setback and slowdown amidst prevailing long-term growth and evolution. And Q1 did indeed see much more important, long-term indications of development across several areas of the Next Economy. (continued on page 8)

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



# Manager Commentary (cont.)

Q1 2018 in Review

Even in the presence of political noise, the energy space has been successfully pulling away from the inefficient legacy economy. Wind power firms announced development of turbines over 250 meters in length generating 12 megawatts, capable of powering 16,000 households at a time, making it likely that the price of wind generated electricity will continue to fall.

And we've already seen some significant price declines. Bloomberg reported that "The economic case for building new coal and gas capacity is crumbling, as batteries start to encroach on the flexibility and peaking revenues enjoyed by fossil fuel plants." The three key technologies driving this shift experienced impressive price declines between 2010-2017; total costs fell by 77% for solar PV, 38% for onshore wind, and 79% for lithium-ion battery storage. When we see such phenomenal price declines over the course of seven short years, achieving economic sustainability looks like more than a dream.

Solar may particularly benefit from significantly larger scale, and Q1 saw no shortage of evidence that global installations continue to boom. We learned that global solar capacity grew faster than fossil fuels in 2017, and China installed an unprecedented 97 gigawatts (GW) of solar capacity in the year. We also heard that Soft Bank and Saudi Arabia will be collaborating on the world's largest solar power generation project, expected to ultimately have the capacity to produce up to 200GW.

Meanwhile, in the automotive sector, U.S. EV sales in March 2018 grew 42% versus March 2017. This is a lot considering that the U.S. is a laggard in global terms; at least a dozen nations, including the world's largest auto market, China, have indicated an intention to ban internal combustion engine vehicles altogether in the coming couple of decades. What about EVs deployed for businesses? Consider this headline: "'It's the beginning of the end' for internal combustion engines, says UPS as it updates its fleet to electric."

The electric transportation revolution is now visible even in aviation. In Q1, we saw electric aircraft start to take shape in reality as multiple designers showed off practical designs and prototypes, and Norway announced it will make all short-haul flights electric by 2040.

The strands are coming together, almost faster than we can keep up with them, to form a clear story of global economic evolution that is significant, enduring, and likely to be profitable for early adopters. The short-term Q1 ephemera will be only memories before long, while the tsunami of the global transition to the Next Economy will continue to prove unstoppable. Here's to an exciting Q2.

**Growth & Income Portfolio** – Please refer to page 4 for Sector Allocation chart & page 5 for Sector Attribution chart

Despite being a relatively low volatility portfolio among Green Alpha strategies and its history as one our strongest performers, the Growth & Income Portfolio was our worst performing strategy for Q1, with an overall contribution of -4.96%. Technology and consumer non-cyclicals each provided modest positive returns, but these were not enough to overcome losses in REITS and other financials, which together with energy and utilities, were responsible for nearly half the overall loss in Q1. Another contributing factor may have been a rotation away from dividend-paying stocks in Q1, as interest rates rose modestly economy-wide. This provides investors with other opportunities to earn investment income apart from stock dividends, which for at least the past three years had been nearly the only place to seek yield. Dividend-yield is, of course, a key theme of the Growth & Income Portfolio, making such repositioning disadvantageous for the portfolio.

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- 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.
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