

# Next Economy Index

Portfolio Review • September 30, 2018



## Green Alpha<sup>®</sup>

### Review Contents

The Portfolio .....	1 - 4
Characteristics .....	2
Top Ten 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 the Next Economy Index?

- Passive, diversified exposure to many sectors and industries
- Global companies driving the transition to the Next Economy™
- Invests in innovative solutions to core economic and environmental risks
- Fossil fuel free since inception

**Inception Date:** December 30, 2008

**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: Next Economy Index

The Green Alpha Next Economy Index is a passively managed index designed to reflect and benchmark the Next Economy™ – the unfolding, solutions-oriented, innovation-driven, highly efficient economy. It exists to: (1) define all aspects of the Next Economy, (2) demonstrate the diversity, growth, breadth and depth of the Next Economy, and (3) serve as a performance benchmark for sustainable active, public equity investment strategies. The Index seeks long-term capital appreciation and serves as a basis for all of Green Alpha Advisors' actively managed portfolios. The portfolio uses a modified market-cap weighting and is rebalanced annually. While the managers may choose to add or remove companies from the Index on an inter-rebalance basis, it is anticipated that these changes will not have a large effect on portfolio turnover. Like all Green Alpha portfolios, the Next Economy Index 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: Next Economy Index

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

## Next Economy Index Characteristics

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

TTM = Trailing Twelve Months

<sup>†</sup> Bloomberg consensus estimates

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

# Top Ten Positions

And how the top five positions are driving progress toward the Next Economy

## Square, Inc. (Financials, Financial Transactions)

- Mobile transaction service provider, primarily enabling merchants to accept payments anywhere.
- Provides efficient, easy to use, & affordable software hardware for merchants, making commerce more accessible.
- Women make up 27% of Senior Management & 22% of the Board, including two Committee Chairs.

## Alphabet, Inc. (Communications, Media)

- Provider of unlimited access to global information. Anyone with access to Google has better access to information than the richest person on earth had 20 years ago.
- Innovation-driven venture capital fund with dozens of fascinating “moonshots” (e.g., “Project Loon – the balloon-powered internet for everyone”). All extremely well capitalized by the best ad-serving machine in history.
- Global operations use 100% renewable energies.
- Sole woman in Senior Management is an award- winning CFO. Board of Directors has three women (23%), including the Audit Committee Chair.

## NVIDIA Corp. (Technology, Semiconductors)

- GeForce chip architecture sets the standard for high-speed processing applications such as: graphics processing, AI & deep learning, autonomous machines (including self-driving vehicles), crypto currency mining, data centers, cloud computing, design & production visualization.
- Machines empowering algorithms & AI are essential to increasing economic efficiency & sustainability of global economy.
- Strong 33% women in Senior Management Team, including two critically influential positions: EVP/CFO & EVP/Operations. Board of Directors includes three women (25%); replaced one male Director with a woman since 2016.

## Fortinet (Technology, Software)

- Cybersecurity company that offers software, appliances, and services, including firewalls, anti-virus, intrusion prevention, & endpoint security.
- An increasingly connected economy requires excellent security protocols.
- Solid R&D expenditure and strong info sharing partnerships with IBM, INTERPOL.
- Women make up 18% of Management & 13% of the Board. A woman chairs the HR Committee.

## Apple, Inc. (Consumer Discretionary, eCommerce)

- Significant contributor to IT, connectivity, & AI that enable & drive efficiency—a pillar of the sustainable economy.
- Strong commitment to operational sustainability; reached goal of using 100% renewable energy at corporate level; working with suppliers to commit to renewable energy; aim to make every product from recycled or reclaimed material.
- Women in Senior Management (18%) have critical roles; Board includes two women (25%), including a Committee Chair.

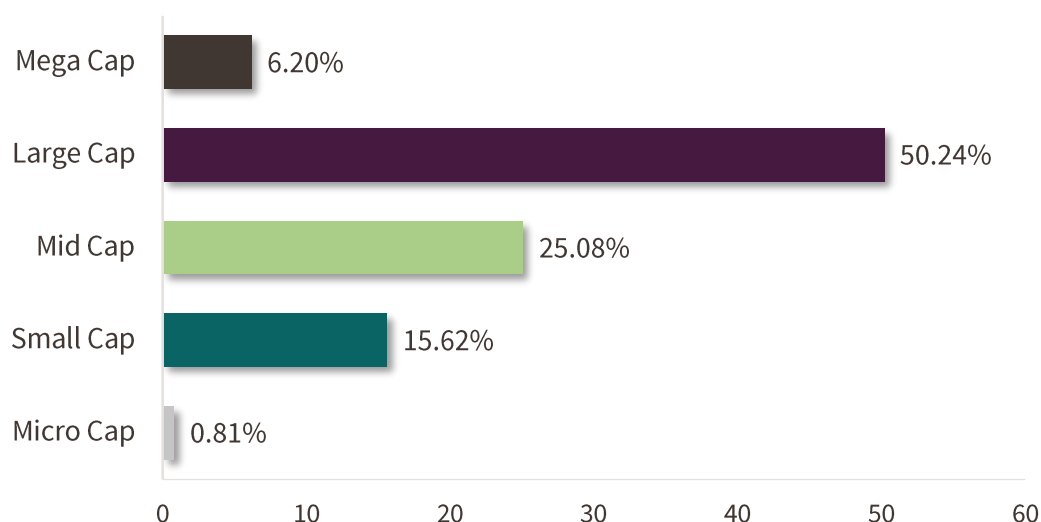
Company Name	Ticker	Weight
Square, Inc.	SQ	3.12%
Alphabet, Inc.	GOOG	2.69%
NVIDIA Corp.	NVDA	2.53%
Fortinet, Inc.	FTNT	2.28%
Apple, Inc.	AAPL	2.03%
Dassault Systemes SA	DASTY	2.01%
Exact Sciences	EXAS	1.78%
Autodesk, Inc.	ADSK	1.76%
Seattle Genetics, Inc.	SGEN	1.74%
Int'l Business Machines	IBM	1.70%
% of Portfolio		21.63%

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

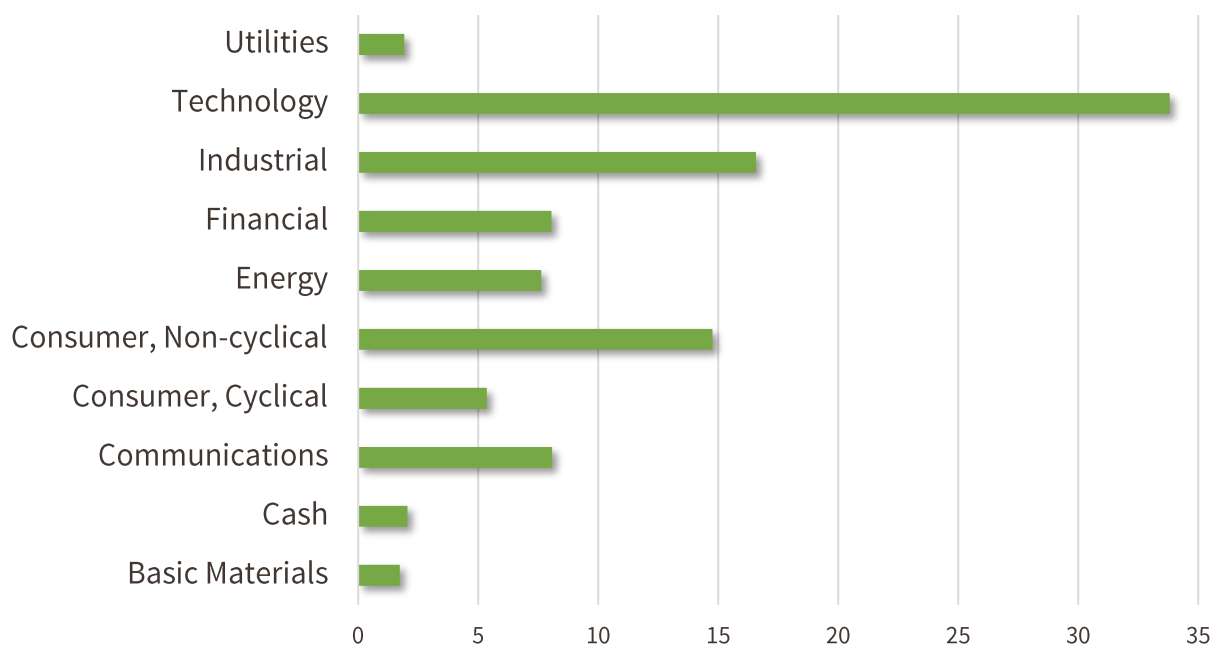
# Allocation by Market Cap & Sector

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



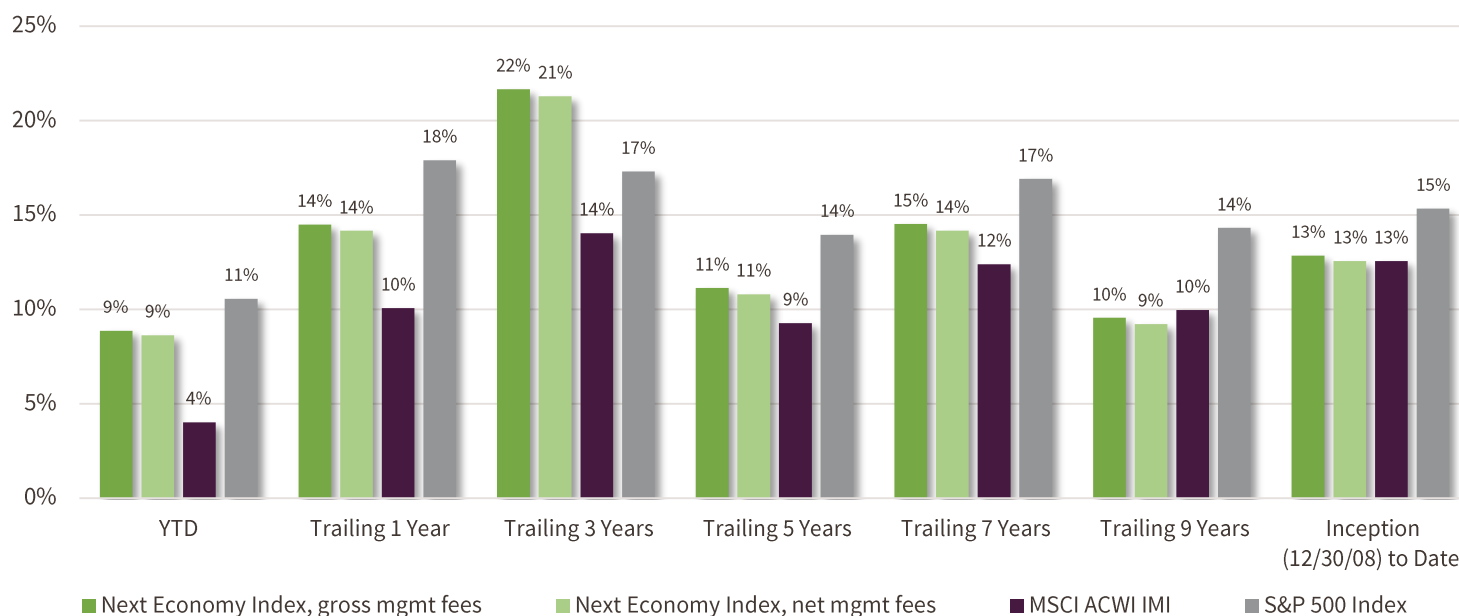
<sup>††</sup> Bloomberg Investment Classification System

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

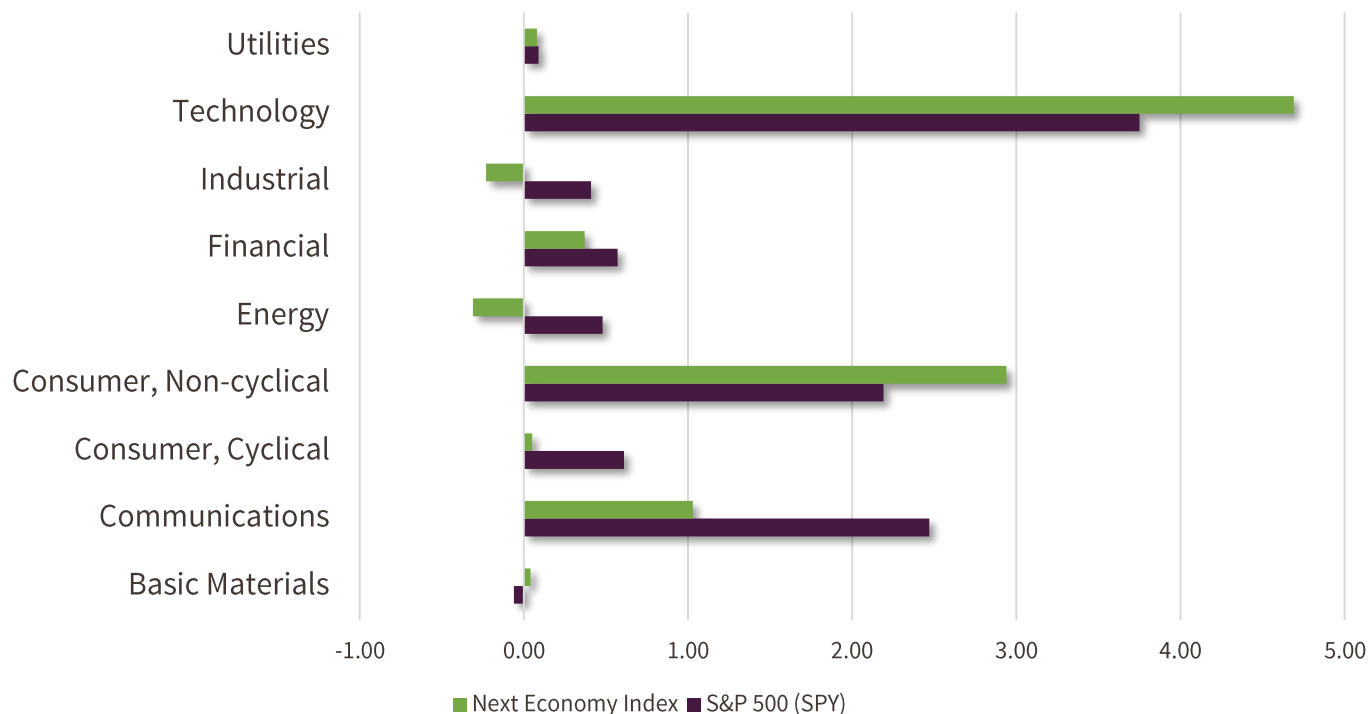
# Performance History & Sector Attribution

For commentary, see pages 7 - 8.

## Performance History



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



<sup>††</sup> 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. Next Economy Index performance results reflect actual performance for a representative account, net of actual management fees and transaction costs. Assets managed in the Next Economy Index strategy representative account receive a reduced fee from the standard fee schedule. Next Economy Index 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. Please see more important disclosures on the final page of this document.

# 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 – 3<sup>rd</sup> Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
<b>Square, Inc.</b>	SQ	2.44%	60.63%	1.22%
<b>Fortinet, Inc.</b>	FTNT	1.90%	47.80%	0.77%
<b>Exact Sciences</b>	EXAS	1.48%	32.00%	0.44%
<b>NVIDIA Corp.</b>	NVDA	2.36%	18.69%	0.41%
<b>Apple, Inc.</b>	AAPL	1.89%	22.38%	0.39%

## Five Largest Detracting Stocks – 3<sup>rd</sup> Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
<b>Tesla, Inc.</b>	TSLA	1.43%	-22.80%	-0.37%
<b>United Natural Foods, Inc.</b>	UNFI	0.67%%	-29.79%	-0.24%
<b>Tokyo Electron</b>	TOELY	1.12%	-20.04%	-0.24%
<b>STMicroelectronics</b>	STM	1.23%	-16.81%	-0.23%
<b>Seagate Technology</b>	STX	1.47%	-15.05%	-0.23%

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](mailto:info@greenalphaadvisors.com). Given differences in account sizes, custodial fee arrangements and other client-specific factors, not all accounts invested in the Next Economy Index 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. 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. *(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

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.

## Next Economy Index - Portfolio Commentary

- The Green Alpha Next Economy portfolio returned 6.07% for Q3 2018, aided primarily by the Consumer Non-cyclical, Technology and Industrial sectors, which contributed 1.85%, 1.84% and 1.80%, respectively, to portfolio return.
  - Consumer Non-cyclicals were boosted mainly by Commercial Services, which added 1.22% to the sector's return for the quarter. The return leader of the sector was the leader in e-commerce, which offers distributed, more democratized access to merchant services, which in turn enables entrepreneurship and lowers barriers to entry for retail startups.
  - In Technology, digital security was the main driver, responsible for 1.01% of Tech's 1.84% quarter. Given the rise in cybercrime and hacking attempts, perhaps it should come as no surprise that four of the seven top contributors from the Tech sector in Q3 are either entirely or partially engaged in providing security for digital/internet transactions and data movement.
  - Within Industrials, returns were diversified, with Electronics, Electrical Components & Equipment, Building Materials, and Machinery combining to contribute the 1.80% for Q3. IoT-enabled smart meters and personal wearables were standouts in Q3.
- Two sectors had negative contributions in Q3; Energy detracted 0.12%, and Basic Materials detracted 0.09%.
  - Within Energy, detractors were primarily in Renewables—specifically solar—which netted -0.11% from the Next Economy Index in Q3. Solar has been damaged by the perceived effects of tariffs in the US and by Chinese policy that modified how support for new solar projects will be administered.
  - In Basic Materials, the specialty sub-industry of recycled steel was responsible for the Sector's entire 0.09% 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.

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



# Important Information & Disclosure

- 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.
- 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.
- 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](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 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/>.