

Next Economy Social Index

Portfolio Review • September 30, 2018

Green Alpha[®]

Review Contents

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Why Invest in the Social Index?

- Applies unique gender and social inclusion criteria to Green Alpha's largest basket of innovators
- Passively managed, long-only equity strategy seeking long-term capital growth
- Invests in global, market-leading companies driving the transition to the Next Economy™
- Fossil fuel free since inception

Inception Date: December 31, 2015

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 degradation and scarcity, and widening inequality are the greatest growth drivers and sources of wealth creation of the twenty-first century. That's the Next Economy.



Portfolio Construction: the Social Index

The Next Economy™ Social Index is an actively researched, passively managed portfolio designed to harness the powerful long-term performance potential of Next Economy companies run by diverse leadership teams and boards of directors. To manage the Social Index, we start with our list of [Next Economy Index](#) constituents, then remove any that lack strong female representation in leadership or on the board. We first select weights based on market cap, with additional portfolio weight given to companies where women hold positions of significant authority, women have especially strong representation in leadership, and/or corporate policies are socially inclusive. Stocks are actively selected using Green Alpha's top-down (evaluating contribution to a sustainable economy) and bottom-up (fundamentals-based analysis) investment criteria. Like all Green Alpha portfolios, the Next Economy Social 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 Social Index

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

Next Economy Social Index Characteristics

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

TTM = Trailing Twelve Months

[†] Bloomberg consensus estimates

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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.

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.

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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.
- There is one woman in Senior Management (13%) and two women on the Board (17%), which includes a female Chair of the Compensation Committee.

IBM (Technology, Services)

- Has been very adroitly managing transition from legacy IT & consulting services to innovation powerhouse.
- Highlights: top patent holder across domains; enabling distributed ledger; pioneering AI; leaders in quantum computing; developing security methods atop lattice cryptography; advancing nanotechnology; developing & applying Watson (AI) across industries, including medicine, water, food safety.
- Female CEO is building a diverse team to maximize the company's ability to innovate, with six women (29%) in Senior Management & three women on the Board of Directors (23%), including several key Committee Chairs.

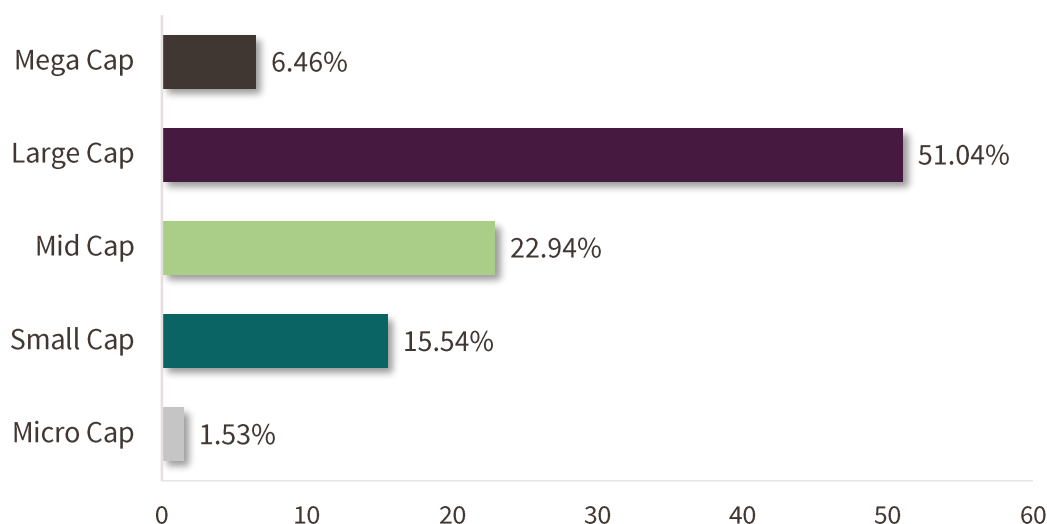
| Company Name | Ticker | Weight |
|-------------------------|--------|--------|
| Square, Inc. | SQ | 3.36% |
| NVIDIA | NVDA | 2.69% |
| Apple, Inc. | AAPL | 2.66% |
| Qualcomm, Inc. | QCOM | 2.40% |
| Int'l Business Machines | IBM | 2.20% |
| Exact Sciences | EXAS | 2.15% |
| Universal Display | OLED | 2.12% |
| Alphabet, Inc. | GOOG | 2.12% |
| Fortinet, Inc. | FTNT | 2.10% |
| Seattle Genetics, Inc. | SGEN | 2.10% |
| % of Portfolio | | 23.91% |

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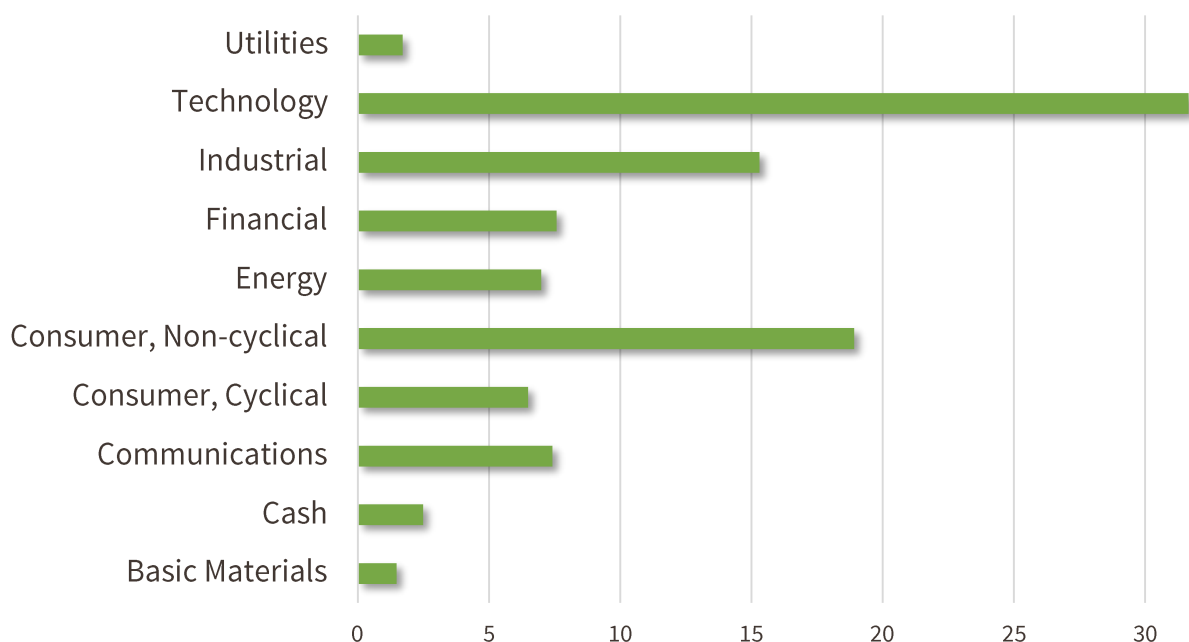
Allocation by Market Cap & Sector

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)



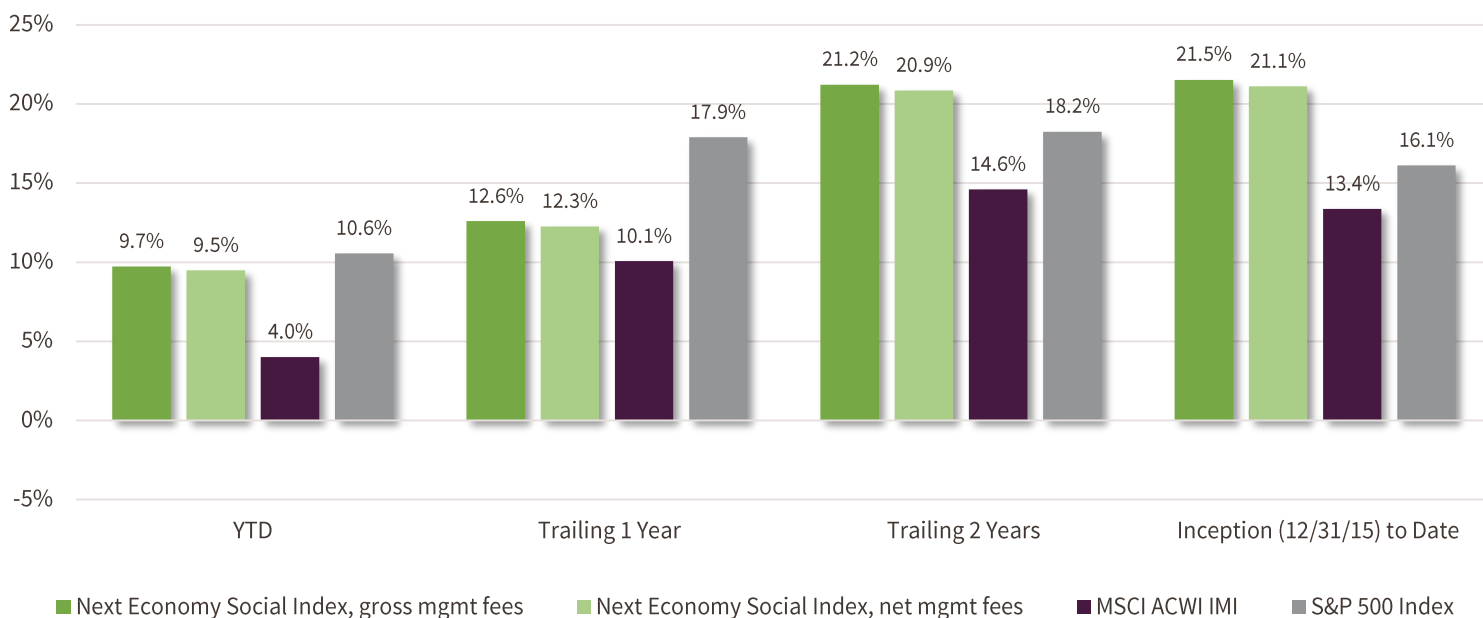
^{††} Bloomberg Investment Classification System

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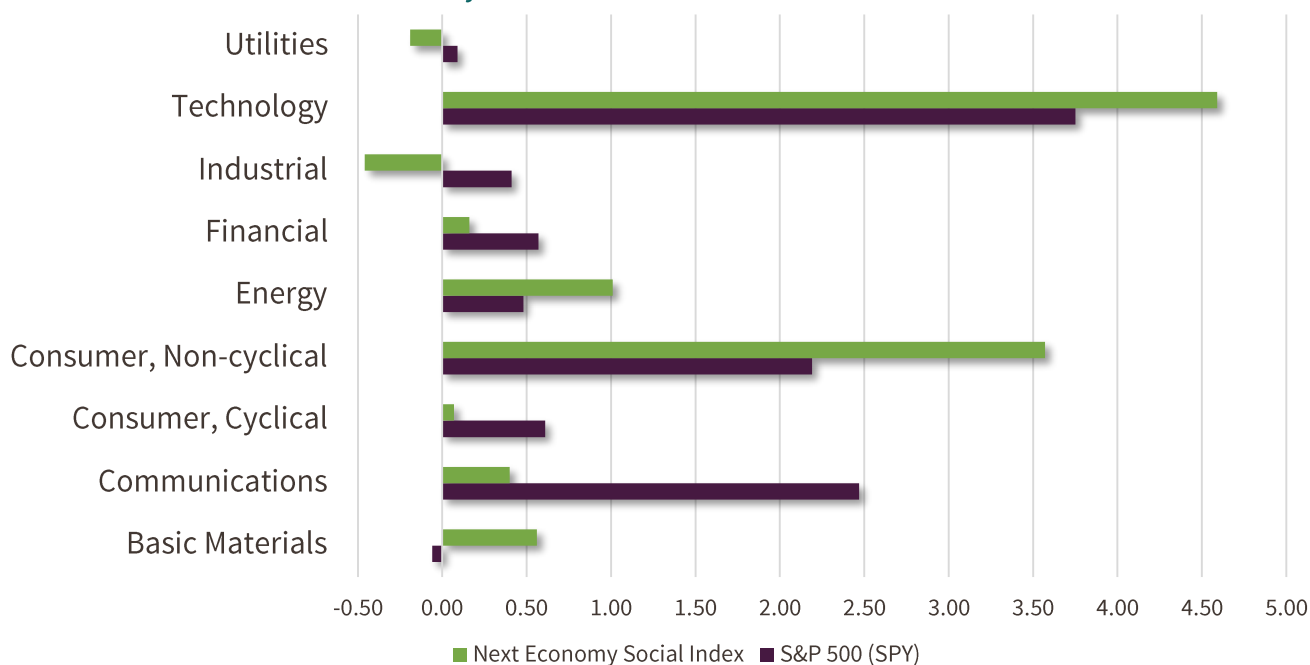
Performance History & Sector Attribution

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. Next Economy Social Index performance results reflect performance of a model portfolio. The model performance does not reflect any transaction costs. The Next Economy Social Index performance results do 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. 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 additional important disclosures on page 9 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 |
|--------------------------|--------|----------------|--------------------|----------------------------------|
| Square, Inc. | SQ | 2.64% | 60.63% | 1.32% |
| Fortinet, Inc. | FTNT | 1.76% | 47.80% | 0.71% |
| Steelcase, Inc. | SCS | 1.15% | 38.04% | 0.42% |
| Universal Display | OLED | 2.00% | 37.16% | 0.61% |
| Omnicell, Inc. | OMCL | 1.17% | 37.08% | 0.38% |

Five Largest Detracting Stocks – 3rd Quarter

| Company Name | Ticker | Average Weight | Stock Price Return | Contribution to Portfolio Return |
|---|--------|----------------|--------------------|----------------------------------|
| United Natural Foods, Inc. | UNFI | 0.88% | -29.79% | -0.32% |
| Ultra Clean Holdings, Inc. | UCTT | 1.03% | -24.40% | -0.30% |
| Tesla, Inc. | TSLA | 1.87% | -22.80% | -0.48% |
| Solaredge Technologies, Inc. | SEDG | 0.79% | -21.32% | -0.16% |
| Schnitzer Steel Industries, Inc. | SCHN | 0.92% | -19.23% | -0.20% |

Past performance is not a guarantee of future results. To obtain information about the calculation methodology used to select the largest contributors and detractors from performance or to obtain a list showing every holding's contribution to the model'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 Next Economy Social 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 Social Index - Portfolio Commentary

- The Green Alpha Next Economy Social Index portfolio was up 7.04% for Q3 2018. Technology was the top contributing sector, adding 2.62% during the quarter.
 - Within Technology, a wide array of industries and sub-industries contributed to the quarter's performance. Digital security (0.96%), computers and devices (0.72%), and design and engineering software (0.55%) led the sector.
- Consumer Non-cyclical added 2.31% to the Social Index during the quarter.
 - Consumer Non-cyclicals were boosted mainly by Commercial Services, which added 1.32% 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.
- Of the nine sectors held in the Social Index, only two sectors were negative during Q3. Energy was the primary detractor at -0.13%.
 - Within Energy, detractors were in Renewables, and specifically solar, which overall netted -0.13% from the Social Index in Q3, despite some positive contributions from wind energy. Solar has been damaged by the perceived effects of tariffs in the U.S. 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.

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- 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.
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- 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).
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