

Growth & Income

Portfolio Review • June 30, 2018



Green Alpha[®]

Review Contents

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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 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	Green Alpha Next Economy Social Index	Green Alpha Next Economy Select	Sierra Club Green Alpha
# of Securities	33	500	94	73	54	38
Sales Growth, TTM	9.20%	11.70%	17.48%	18.34%	16.56%	18.14%
P/E, Current	32.26	35.65	34.06	34.41	22.63	27.38
P/E, 1-Year Forward [†]	17.98	16.21	20.33	20.36	16.77	18.59
Price/Sales	2.04	2.16	1.66	1.67	0.90	1.28
Price/Book	1.99	3.28	2.84	3.16	1.74	2.10
LT Debt/Equity	1.05	0.85	0.54	0.61	0.57	0.55
Current Ratio	2.75	2.01	2.96	2.91	2.87	3.13
Dividend Yield, TTM	6.02%	1.93%	1.61%	1.49%	2.21%	1.84%
Dividend Yield, Current	4.88%	-	-	-	-	-
US Domicile	76.66%	100%	76.77%	82.81%	68.28%	69.62%
Non-US Domicile	21.14%	-	21.23%	14.53%	27.33%	23.51%
Cash	2.21%	-	2.00%	2.66%	4.39%	6.87%
Market Capitalization Weighted Avg (US\$B)	19.73	217.20	65.90	70.14	43.11	59.46
Turnover, TTM	34%	-	18%	37%	15%	18%
Beta, TTM	0.88	1.00	1.04	1.03	0.95	0.95

TTM = Trailing Twelve Months

[†] Bloomberg consensus estimates

^{††} Bloomberg Investment Classification System

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Top Five Positions

And how they're driving progress toward the Next Economy

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.

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%).

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.

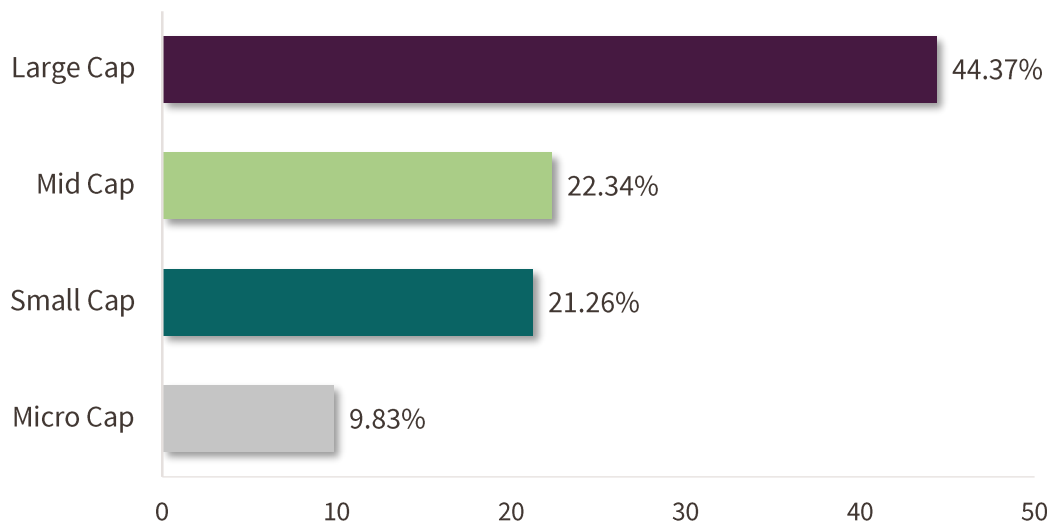
Company Name	Ticker	Weight
Pattern Energy Group, Inc.	PEGI	7.54%
Hannon Armstrong	HASI	7.50%
Terraform Power, Inc.	TERP	7.48%
Horizon Technology Finance	HRZN	6.01%
Qualcomm, Inc.	QCOM	3.85%
% of Portfolio		32.39%

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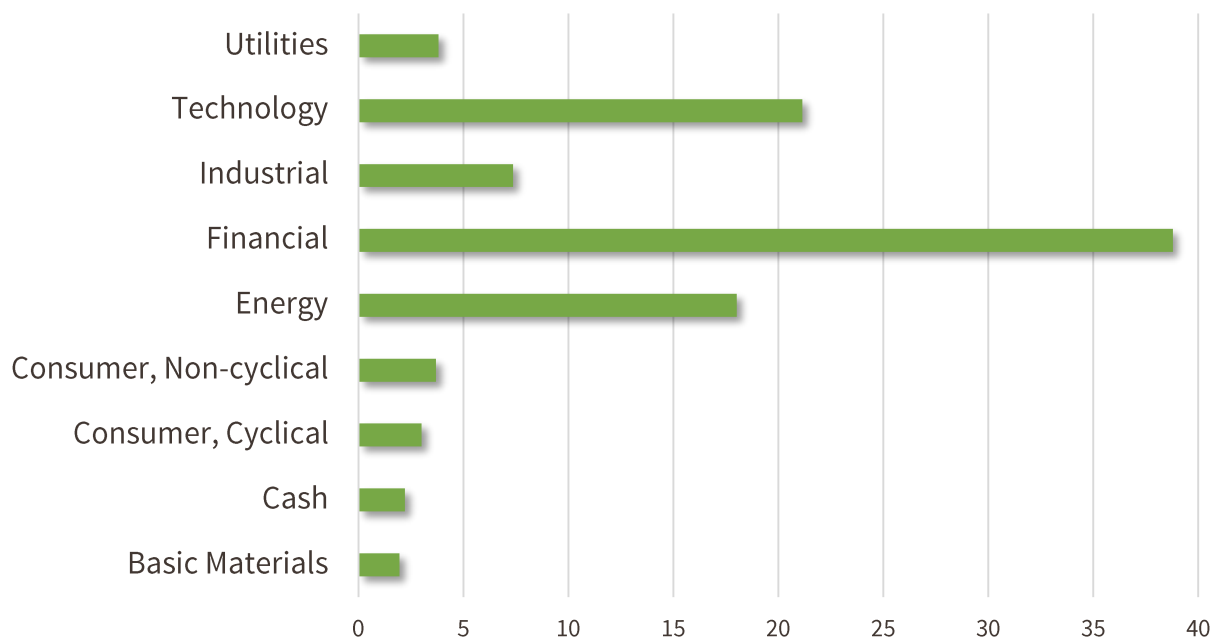
Allocation by Market Cap & Sector

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 consensus estimates

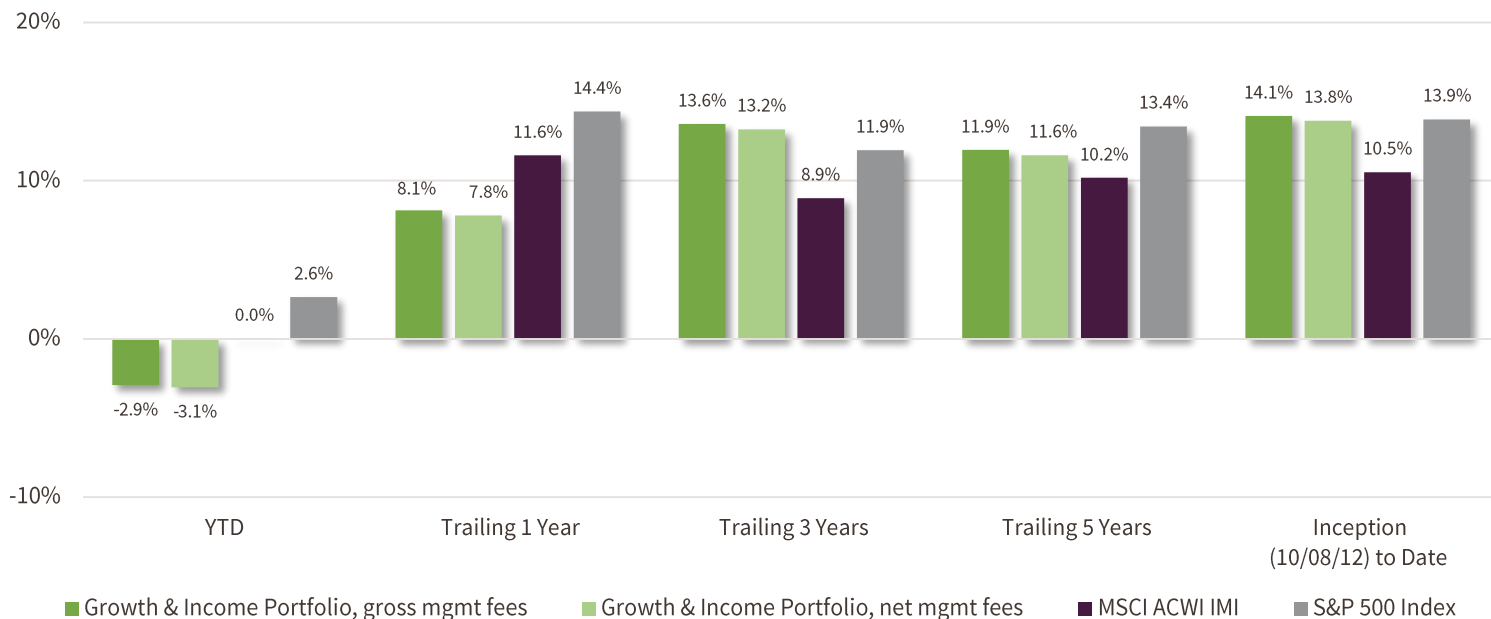
^{††} Bloomberg Investment Classification System

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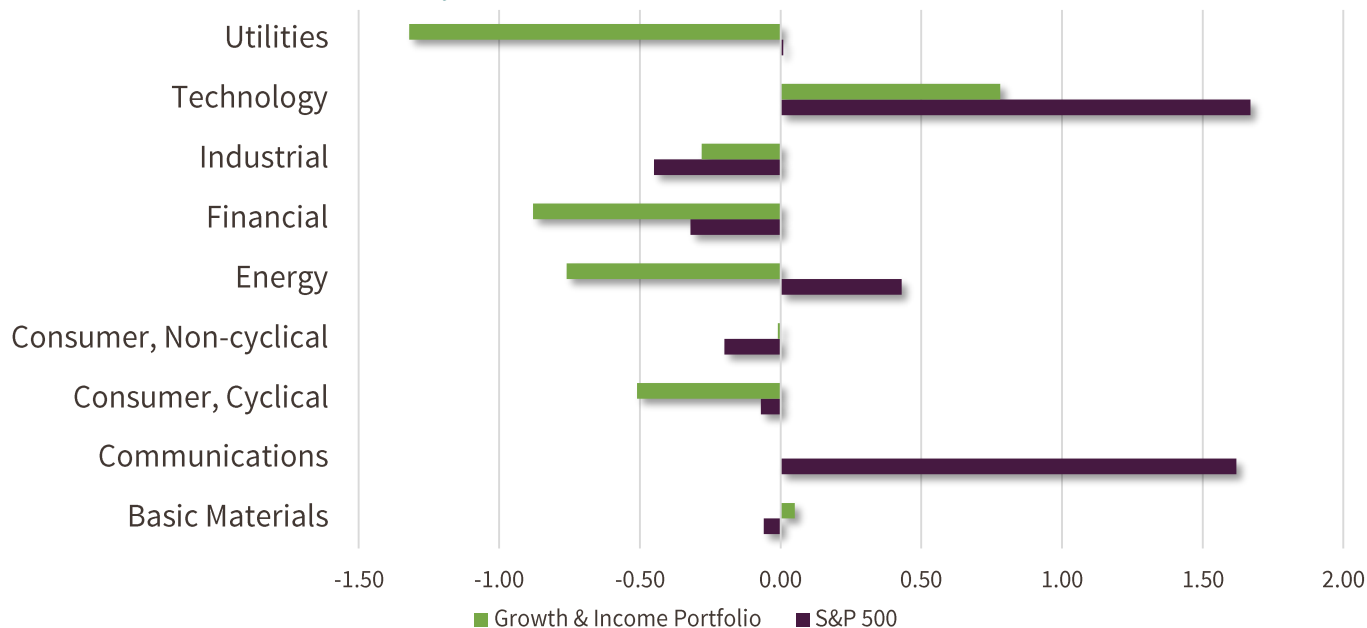
Performance History & Sector Attribution

For commentary, see pages 7 - 9.

Performance History



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



[†] Bloomberg consensus estimates

^{††} 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 – 2nd Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
Liberty Property Trust	LPT	6.92%	12.58%	0.84%
Pattern Energy Group, Inc.	PEGI	6.58%	10.91%	0.67%
Brooks Automation, Inc.	BRKS	2.90%	20.83%	0.56%
8point3 Energy Partners	CAFD	5.56%	4.63%	0.29%
Uniti Group, Inc.	UNIT	1.26%	26.98%	0.29%

Five Largest Detracting Stocks – 2nd Quarter

Company Name	Ticker	Average Weight	Stock Price Return	Contribution to Portfolio Return
Consolidated Water	CWCO	4.01%	-10.76%	-0.49%
Applied Materials, Inc.	AMAT	1.93%	-16.61%	-0.34%
Munich Re	MURGY	5.22%	-6.09%	-0.32%
International Business Machines	IBM	2.60%	-7.95%	-0.22%
Vestas Wind Systems	VWDRY	1.62%	-12.31%	-0.21%

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

Q2 2018 in Review



Q2 2018 saw more than the usual amount of market reverberations emerge from macro policy. First and last on that list: tariffs and the fear of full-blown trade wars.

It has been a year since the Trump administration withdrew the United States from the Trans-Pacific Partnership (TPP), a free trade agreement for nations around the ring of fire. This has had its effects on corporate America, such as Harley-Davidson CEO Matt Levatic [said](#) “We were very optimistic about what the TPP would enable for Harley-Davidson. It took seven years for it to come to fruition. We could see the writing [of the US withdrawal] on the wall, and we got busy with Plan B.” Plan B was to build a plant in Thailand and close its plant in Missouri. Markets largely shrugged all that off in 2017, but in Q2 2018, things got a lot worse for global trade, and markets noticed.

In Q2, the administration threatened to impose tariffs on up to \$450 billion of Chinese imports and began imposing some of them, including large tariffs on steel and aluminum that affect America’s closest allies in Europe and Canada.

Of course, these threats and actual trade taxes did not go unanswered. In June, Europe imposed higher taxes on consumer goods made in the U.S., including products from jeans to motorcycles, in response to White House tariffs on European products. Worse yet, the US’s new trade policies seemed to galvanize the world into a stance of unified retaliation. “European and Chinese officials have formed an unlikely team at the World Trade Organization,” is how *Business Insider* [put it](#), and many nations and companies are now suing the U.S. in courts and at the WTO. Reuters [reports](#) that “Trump’s trade policy, labeled ‘medieval’ by former WTO head Pascal Lamy, has inflamed international opinion this year.”

As the Tax Foundation, an independent tax policy nonprofit, recently [wrote](#), “Trade barriers such as tariffs raise prices and reduce available quantities of goods and services for U.S. businesses and consumers, which results in lower income, reduced employment, and lower economic output.” That’s exactly what markets fear.

What have the market effects been so far? Mostly, increased volatility. Days with news of increased trade tensions see markets consolidate; days with more hopeful news, or at least no trade news, have been pretty good.

Another effect has been a flight to US small and mid caps on the theory that smaller firms are not as exposed to global trade, and therefore not as vulnerable in a trade war. US small cap indexes have roughly doubled the returns of large caps during the quarter as a result. Green Alpha views this trading thesis as spurious, as markets will quickly realize that small and midcap firms depend on global commerce and global supply chains as much as large and mega cap firms.

Today, the news is full of stories about smaller firms suffering under newly-imposed tariffs, such as [layoffs at a nail-finishing company](#) in Missouri that imports steel from Mexico, but now must pay the 25% tax for their basic material. Harley-Davidson, a solid mid-cap at ~\$7.1 billion, is [moving some production overseas](#) to avoid retaliatory tariffs from the EU, costing American jobs. Smaller firms may in fact be more vulnerable as they have less capacity to weather periods of higher input costs, likely less access to capital, and higher costs of capital to bridge the gap during periods of lower revenues.

As risky as these developments are, they are small blips in the context of Green Alpha’s investment thesis. Our thesis—that innovations driving productivity gains and tackling economic risks are the best sources of wealth generation—is perennial.

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Manager Commentary (cont.)

Q2 2018 in Review

As [we've said before](#), trade sparring may influence which nation takes the lead and benefits most from technological progress, but it will not shift the trajectory of innovation itself. As a result, we hew closely to our thesis under all market conditions.

Some key developments within the Next Economy:

Infrastructure inflection point: Traditional infrastructure—like bridges, roads, water mains, and water treatment—desperately need upgrades. Companies that supply and utilize waste-to-value materials, like recycled steel, are meeting critical infrastructure and sustainability needs. Infrastructure construction saw an uptick in Q2 and is [forecast to be up overall in 2018](#) versus 2017.

In less-traditional infrastructure, Q2 saw the [increasing development of infrastructure as a service \(IaaS\)](#) from major tech firms. Data ownership and management are key to today's global economy. As such, the tech-driven economy also requires infrastructure to support the twenty first century's most precious commodity: data. Global fiber networks, wireless networks (including 5G), cloud services, and satellite communications (including internet) will continue to be key areas to watch.

Is genomics investment-worthy? Genomics technology continues to achieve significant medical and scientific breakthroughs. For investors, new opportunities and risks are unfolding in diagnostics, treatment and direct IP resulting from the development of gene-editing techniques. Although potentially transformative for medicine and human as well as biosphere well-being, the industry faces some political headwinds and both questions and backing from sustainable and impact investors. Q2 saw some [major advancements](#) that lead Green Alpha to believe in the long-term ability of a selected basket of related stocks to drive long-term performance with periods of significant volatility along the way.

U.S. China solar flare-up: China's recently announced changes to national solar policies have rocked the global PV market. With the resulting oversupply of panels, prices may fall 35% or further—more than nixing the impact of U.S. trade tariffs. Stock prices of panel manufacturers are following suit, offering some fantastic buying opportunities for investors.

Adding to the momentum, the US Internal Revenue Service handed down new [guidance](#) in Q2 allowing solar developers to claim a 30% investment tax credit on any project they begin by the end of 2019 and complete by 2023. Since the US administration's section 201 tariff on panels sunsets in February 2022, this means developers can both enjoy their ITC tax credit and avoid nearly all tariffs on imported panels.

Such positive developments for solar have thus far gone under-appreciated in the markets, making them perfect examples of how [information asymmetry](#) provides juicy opportunities for the vigilant investor. Long-term, solar's prospects shine bright.

Battery tech fully charged: With their ability to power electric vehicles and offer dependable electricity storage, batteries are exponentially growing. Storage can provide a critical service during sudden electricity demand peaks and offers stability in the presence of intermittent renewable energy.

(continued on page 9)

Manager Commentary (cont.)

Q2 2018 in Review

Due to improvements in technology and increases in scale of battery production at an increasing number of companies around the world, the price of lithium-ion battery storage has fallen from US\$1,000 per kilowatt hour of storage (kWh) in 2010 to US\$209 per kWh in 2017, [according to](#) Bloomberg New Energy Finance. That price is [projected](#) to fall to less than US\$100 per kWh by 2025, making both grid storage and EVs much less expensive, potentially catalyzing explosive demand.

In Q2, China made announcements about their [commitment to growth in energy storage](#) technologies, which may overtop the rest of the [world's combined production capacity](#) (this may or may not be possible as plans for large-scale battery production continue to grow worldwide).

Gender and diversity investing elevated: Gender and diversity investing is one of the fast-growing categories of sustainable and impact investing, with public equity assets in these strategies [growing](#) from \$100 million in 2014 to more than \$900 million in 2017. Investors have been encouraged by diversity-focused research, which demonstrates that diverse management teams outperform homogeneous groups in material ways, from creative problem solving to executing on short- and long-term goals.

While increases in the percentage of women in top management positions and on corporate boards [has stalled](#), female inclusion and influence continues to materially increase across Green Alpha's Next Economy universe.

While some investment vehicles overtly focus on gender, all portfolio managers should be evaluating the quality of a company's leadership, including their diversity and social inclusion efforts. Just as analyzing a company's material sustainability efforts shouldn't be relegated to a 'niche market,' examining the quality of a company's leadership should be taken seriously. Leadership impacts every company and the likelihood of an investment's success – no matter the sector, market-cap or domicile.

Growth & Income - Portfolio Commentary

- The Green Alpha Growth and Income Portfolio was up 2.14% in Q2 2018. These gains largely came from Financials, which added 1.27%.
 - Contributions from the financial sector came from data center and connectivity-related REITs, which in aggregate added 1.41%, as growing and anticipated future demand for cloud services, fiber connectivity and wireless data transmission capabilities continued to drive performance.
- Energy was the second highest contributor, adding 0.73% to portfolio return.
 - The energy sector added 0.73% to the portfolio's Q2 return, with renewable energy-based utilities, or YieldCos, responsible for 0.94% of portfolio returns for the quarter. YieldCos sport attractive dividends, with very credit worthy customers buying their electricity. After a negative quarter for the shares in Q1, positive sentiment returned for this business model.
- Sectors detracting from the portfolio's Q2 return were fortunately few and their negative returns relatively minimal.
 - The water utilities industry of the Utilities sector detracted 0.41% as water consumption during Q1 decreased in some regions due to fears of drought.
- Consumer Non-cyclicals reduced returns for GAGIP by 0.07% as the portfolio's sole biotech was down.

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 (6.02%) was materially higher than the current dividend yield (4.88%) 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 June 30, 2018.
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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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