

# Sierra Club Green Alpha

December 31, 2020



## Green Alpha®

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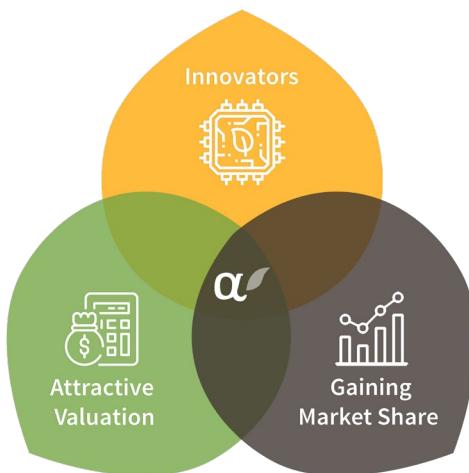
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### Investment Philosophy

We understand that high-functioning, innovative companies creating and accelerating solutions to system-level risks like the climate crisis, resource degradation, worsening inequality, and the human disease burden are the greatest growth drivers of the twenty-first century.

Green Alpha's investment philosophy is straightforward: don't invest in companies that cause global systemic risks; instead, invest in the smartest, most rapidly evolving, economically competitive solutions.

We expect such companies to gain market share, which makes investing in them our best chance at preserving and growing our clients' purchasing power.



### Why Invest in Sierra Club Green Alpha?

- Active research, stock selection, and portfolio management
- Blend of Green Alpha's forward-looking Next Economy research processes, and the Sierra Club's® proprietary social and environmental criteria applied to each company's operating history
- 30-50 global, market-leading companies developing solutions to core economic and environmental risks
- Fossil fuel free since inception

**Inception Date:** December 27, 2010

**Style:** All-Cap Global Equities

**Vehicle:** Separately Managed Accounts

### Portfolio Construction

Green Alpha is proud to be the only financial services firm licensed to utilize the Sierra Club's rigorous investment guidelines. These provide criterion that are applied to our Next Economy investing philosophy and research, creating what very well may be the most progressive, sustainability-focused portfolio available. We seek investments:

- with products and/or services lowering the economy's risk profile by creating solutions to our most pressing economic and environmental risks
- committing more capital to R&D and owning more intellectual property than their peers
- run by effective, diverse executive teams and boards of directors with consistent track records of increasing revenue and expanding margins, leading to earnings growth and potential dividend increases
- that trade at compelling valuations for proven and expected growth, within acceptable levels of risk

Every portfolio holding is a forward-looking solutions provider contributing to the transition to a sustainable economy, with a Sierra Club-compliant operating history.

# Sierra Club Green Alpha

How the portfolio compares to the MSCI All Country World Investible Market Index (MSCI ACWI IMI) and other Green Alpha portfolios

## Characteristics

- **Sierra Club® criteria** – the only portfolio available in the market that utilizes the Sierra Club's proprietary, rigorous social and environmental screening criteria
- **Fundamentals-driven** – the underlying quality of companies and the price paid for their shares are key drivers of LT returns
  - ✓ **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 or internal combustion engine manufacturers
- **Diversified – we look for solutions wherever we can find them** – across the globe, companies of all sizes, in every industry
- **Public equities, long-only** – largest asset class, largest opportunity for impact

Characteristics	Sierra Club Green Alpha	Benchmark: MSCI ACWI IMI (SPGM)	Green Alpha Next Economy Index	Green Alpha Next Economy Social Index	Green Alpha Next Economy Select	Green Alpha Growth & Income
# of Securities	42	1,522	120	93	54	35
Sales Growth, Trailing 1-Yr	26.88%	8.94%	35.59%	44.31%	42.02%	12.60%
P/E, Current	41.22	23.76	33.60	37.85	28.30	24.91
P/E, 1-Year Forward <sup>†</sup>	29.36	28.60	28.33	28.51	25.54	19.42
Price/Sales	2.73	1.93	2.66	1.64	2.95	2.41
Price/Book	5.80	2.68	5.23	6.06	5.05	2.71
LT Debt/Equity	0.98	0.96	0.88	1.29	1.07	1.12
Current Ratio	2.75	2.01	2.67	2.73	2.89	2.38
Dividend Yield	1.59%	2.36%	1.86%	2.23%	2.15%	3.15%
Market Capitalization, Weighted Avg (US\$B)	\$138.58	\$293.59	\$148.17	\$150.40	\$125.81	\$63.54
Market Capitalization, Median (US\$B)	\$19.16	Not Available	\$14.84	\$16.70	\$14.75	\$29.89
Turnover, Trailing 2-Yr Avg Annual	9%	-	10%	13%	12%	26%
Beta, Trailing 2-Yrs	1.19	1.00	1.10	1.06	1.08	1.11
Active Share	96%	-	93%	93%	95%	97%

<sup>†</sup> Bloomberg consensus estimates. Please see the final page of this document for important disclosures about portfolio, benchmark and characteristic information

# Largest Positions

How the Sierra Club Green Alpha portfolio is driving progress toward the Next Economy

## Tesla (Sector: Consumer Discretionary)

- Tesla is a leader in design and manufacture of EVs, software delivery, and energy storage systems for homes, commercial properties, and utility-scale power. All divisions within the company are technology and innovation leaders, and gaining market share.
- A manufacturing leader, they are employing world-leading technologies and processes to speed up production and lower costs.
- Tesla's innovations, represented by an impressive patent portfolio and world-leading products, have given them first-mover advantage in EVs and a tech advantage in stationary storage.
- Collaboration with SpaceX gives Tesla unique access to leading science and engineering, such as the Cybertruck exoskeleton.
- Tesla's board is chaired by Ms. Robyn M. Denholm, who additionally chairs the Audit and Disclosure Controls Committees. The board also features a female as an Independent Director. Together, the two ladies represent 22.2% of board seats.

Company Name	Ticker	Weight
Tesla	TSLA	10.12%
TPI Composites	TPIC	6.06%
SolarEdge Technologies	SEDG	5.95%
Vestas Wind Systems	VWDRY	5.95%
JinkoSolar Holding	JKS	5.68%
<b>% of Portfolio</b>		<b>33.76%</b>

## TPI Composites (Sector: Energy)

- A leading manufacturer of advanced composites with superior strength and light weight characteristics, often used in wind blades, aviation, and EVs. The company's materials were in ~18% of all onshore wind blades sold globally in 2019.
- They have advanced manufacturing facilities around the world, often near or co-located with major clients, like Vestas Wind Systems, to facilitate production and bespoke innovation. TPI Composites is an innovation and R&D leader, whose model is to integrate R&D into clients' manufacturing operations to solve exacting and specific problems. This has resulted in an IP library that provides an interesting moat as the industries TPIC serves continue to grow rapidly.

## SolarEdge Technologies (Sector: Energy)

- Makes and distributes advanced solar inverters, smart optimizers, and energy monitoring products installed in 130 countries across five continents. Gives investors direct exposure to fast-growing solar PV industry without selecting any one panel maker. Solaredge's panel optimizers are applicable anywhere solar energy is generated, from residential rooftops to large utility-scale solar farms, and they also enable integration of battery storage to any system. They enjoy a position in what is effectively a triopoly serving the rapidly-growing global smart inverter market, and their large IP portfolio gives them a defensible moat.
- Three women in key executive roles: General Counsel/Corp. Secretary, GM of the Commercial Business Unit, and VP of Global HR.

## Vestas Wind Systems (Sector: Energy)

- The world's most advanced wind turbine manufacturer, and the clear leader in both onshore and grid-connected installations. Vestas is also a leading turbine service contract provider, a role that provides meaningful higher-margin recurring revenue.
- For 2020, Vestas achieved another record year of turbine order intake, at greater than 15 gigawatts of capacity booked, as well as continued growth in their service business, despite the ongoing coronavirus pandemic. These orders have pushed Vestas' delivery dates well into 2023, giving transparency into revenue growth for the foreseeable future. Also during 2020, Vestas strengthened its partnership with Mitsubishi Heavy Industries in the offshore wind market, accelerating the company's role in the clean energy transition.
- They're targeting carbon neutral operations by 2030 (without using carbon offset credits!), and zero-waste production by 2040. The executive team consists of 22% women, including the CFO, CHRO, and also features a female Senior Director and Head of Sustainability at Vestas; there are four women (25%) on the board of directors.

## JinkoSolar Holding (Sector: Energy)

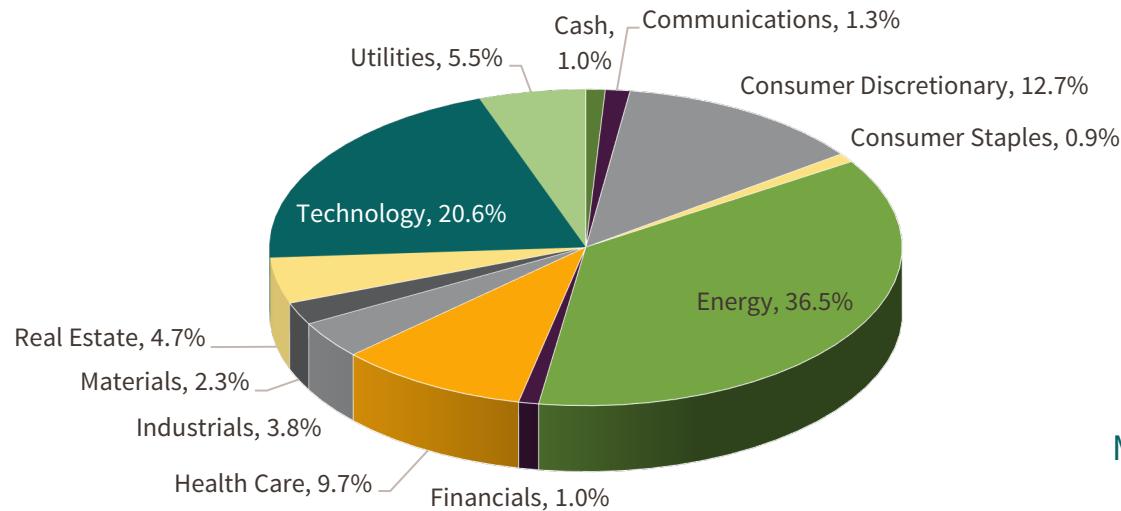
- JinkoSolar (JKS) is the world's largest solar panel manufacturer, and is highly vertically integrated, making ingots, cells, panels, and modules. JKS shipped 18-20 GW of modules in 2020, up from 14.2 GW in 2019. This focus on capacity expansion into a rapidly growing addressable market is valuable, as they maintain a leadership position in a competitive market. JKS distributes and earns revenues globally (70+ countries are active markets), thus mitigating political and trade-dispute-related growth obstacles.
- The company is also a technology leader, providing panels that are globally competitive on a cost-per-watt basis.
- JinkoSolar is the top-ranked firm worldwide on the Silicon Valley Toxics Coalition's Solar Scorecard, receiving 100 out of 100 available points for sustainability of global operations.

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

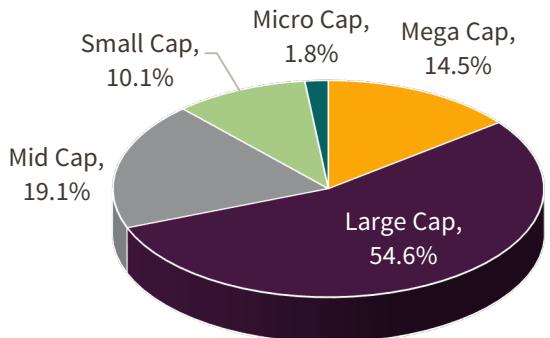
# Portfolio Allocations

Our search for Next Economy companies is unconstrained. For the Sierra Club Green Alpha portfolio, we seek solutions to systemic risks wherever they exist – across sectors, market caps, and geographies.

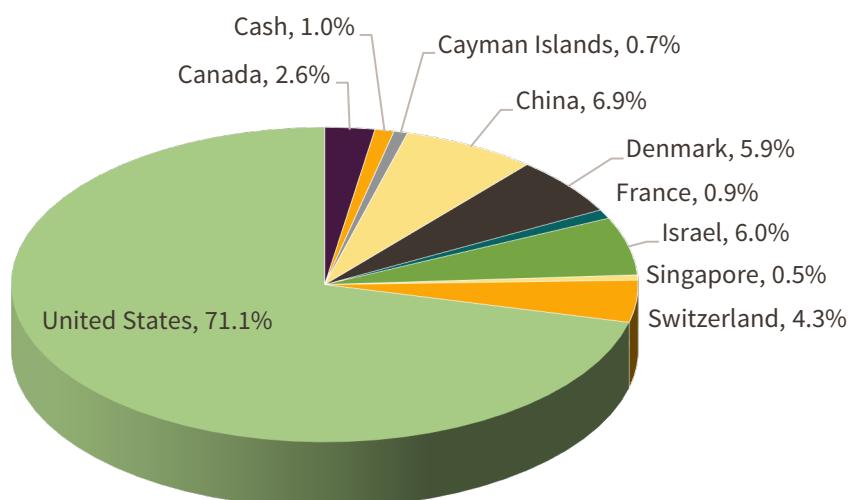
## Economic Sectors ††



## Market Capitalizations

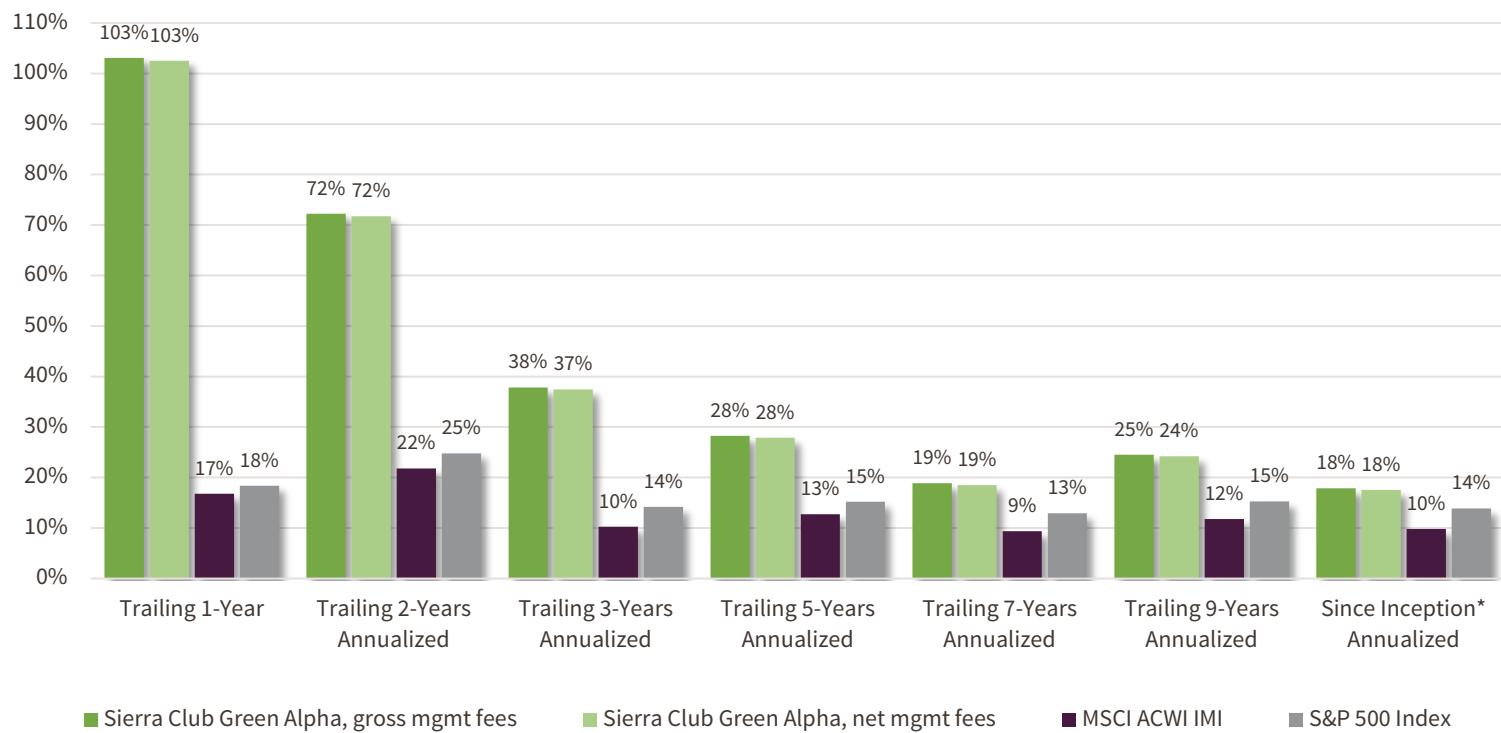


## Companies' Main Headquarters



†† Bloomberg Industry Classification Standard. Please see the final page of this document for important disclosures about portfolio, benchmark and characteristic information.

# Performance & Commentary



For 2020, the Sierra Club Green Alpha strategy returned 102.53% (net of management fees) while the portfolio's benchmark, the MSCI All Country World Investable Market Index (MSCI ACWI IMI) returned 16.78%.

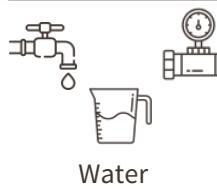
The Sierra Club Green Alpha portfolio's two largest contributing sectors to performance were Energy and Consumer Discretionary.

- Within the Energy sector, renewable energy equipment makers led returns, with solar PV module makers (both cSi and thin-film), and solar energy equipment manufacturers, including inverters, leading the charge. Also providing significant contributions were two leaders in wind energy: a top turbine maker, and a developer of advanced materials for high-strength, low-weight blades. In addition, a developer of residential and commercial solar projects, including virtual power plants, had a standout year.
- Within Consumer Discretionary, returns were dominated by two electric vehicle (EV) and EV-parts manufacturers, as demand for zero-emissions transportation grew rapidly. Gains in EVs were partially offset within the sector by losses from sustainable home and office furnishings and products manufacturers.

The sectors that contributed the least to the Sierra Club Green Alpha portfolio's returns were Financials and Consumer Staples.

- The Consumer Staples sector detracted slightly from portfolio performance as natural and organic food, and beverage makers saw declines.
- Financial services provided a slight boost to performance with an originator of debt to early-stage venture companies providing a meaningful dividend stream.

\*Portfolio Inception: December 27, 2010. 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. Please see the final page of this document for important disclosures about portfolio, benchmark and characteristic information.

Next Economics™ Theme	Demand Outlook	Tailwinds	Headwinds
		<ul style="list-style-type: none"> <li>Rapidly falling prices, particularly batteries</li> <li>Competitive total cost of vehicle ownership</li> <li>Global gov't policies to limit or end ICE sales</li> <li>Deadliness of ICE emissions becoming increasingly well known</li> <li>Unbeatable user experience</li> </ul>	<ul style="list-style-type: none"> <li>Incumbent industry resistant to change</li> <li>Support infrastructure limited, including charging</li> <li>Non-universality of charging solutions</li> <li>Need charging time reductions</li> <li>Limited makes/models available</li> </ul>
		<ul style="list-style-type: none"> <li>Disruptive &amp; transformative in medicine – limitless addressable market</li> <li>One-and-done therapies less expensive than continuous legacy-economy treatments</li> <li>Removing disease burden will greatly increase the efficiency of the global economy</li> <li>It is also transforming materials &amp; agriculture</li> </ul>	<ul style="list-style-type: none"> <li>It's still early</li> <li>Extensive R&amp;D required</li> <li>Resistance from incumbent treatment providers</li> <li>Gov't regulations slow to adapt</li> <li>Nonlinear progress will occur, and setbacks are inevitable</li> </ul>
		<ul style="list-style-type: none"> <li>Is a minority of global energy mix &amp; growing rapidly, large addressable market</li> <li>Cheapest sources of energy</li> <li>Net contributor to solving one of the largest causes of the climate crisis</li> </ul>	<ul style="list-style-type: none"> <li>Resistance from incumbent industry interests, including via gov't policies like no net metering, subsidies to fossil fuels companies, and red tape around renewable energy deployment</li> </ul>
		<ul style="list-style-type: none"> <li>Wired, broadband, satellite &amp; IoT efficiency</li> <li>Quantity of data flow increasing exponentially             <ul style="list-style-type: none"> <li>all needing to be transmitted, assimilated, interpreted, and made actionable</li> <li>requires speed, accuracy &amp; security</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Threats from bad actors</li> <li>Stock-specific valuations are relatively high, as the productivity gain benefits and need for the most innovative solutions is relatively obvious</li> </ul>
		<ul style="list-style-type: none"> <li>AI advancements make every segment of the economy more productive, from advanced materials to medicine</li> <li>Confluence between AI &amp; ML is synergistic &amp; transformative, enabling upstream advances</li> </ul>	<ul style="list-style-type: none"> <li>Some industries have slower adoption</li> <li>Adoption potentially slowed by workforce composition misperceptions</li> <li>Could pose security threats if improperly deployed</li> </ul>
		<ul style="list-style-type: none"> <li>Huge addressable market of underserved population; AI-enabled fintech makes serving them both possible and profitable</li> <li>Best-in-class green REITs are preferred homes to leading biotechs &amp; other innovators</li> <li>Renewable energy-powered data centers</li> <li>Renewable energy financing for utilities, etc</li> </ul>	<ul style="list-style-type: none"> <li>Lack of inclusive banking options</li> <li>Lack of inclusive insurance options</li> <li>Largest banks and investment institutions still not doing enough to stop climate crisis</li> <li>Greenwashing is pervasive in financial services; difficult for clients to disambiguate</li> </ul>
		<ul style="list-style-type: none"> <li>Biotech and AI are making possible the end of pesticides, herbicides &amp; chemical fertilizers</li> <li>Consumer shifting to natural &amp; organics</li> <li>Transparent chain of custody for food safety &amp; ethical labeling</li> </ul>	<ul style="list-style-type: none"> <li>Ample supplies of clean water under threat</li> <li>Distribution infrastructure often inadequate</li> <li>Enormous levels of food waste exists</li> </ul>
		<ul style="list-style-type: none"> <li>Elemental requirement for life</li> <li>Opportunities to create more freshwater, track &amp; measure where it is, &amp; where it needs to be</li> <li>Tech to address need to find leaks and quickly address them</li> </ul>	<ul style="list-style-type: none"> <li>Not enough investment in aging infrastructure</li> <li>Insufficient regulations to protect supplies</li> <li>Inequitable access to clean, safe supplies</li> <li>Degradation by harmful industries</li> </ul>

# Macroeconomic Outlook



Many things changed in 2020. The pandemic accelerated the transition to the Next Economy™ and the interconnections between seemingly disparate issues like the climate crisis and social justice became clearer.

We saw major financial institutions finally realize (in rhetoric, if not yet actions) that fossil fuels make terrible long-term investments. Banks have been led to this conclusion by major indicators, such as IEA predicting that renewables would make up at least 80% of all new energy to come online from now on. Even in the sometimes renewables-hostile U.S., solar energy's economic competitiveness was strong enough to overcome tariffs, a pandemic, and local red tape. ~13 GW of new solar was added domestically in 2020, helping bear out at least the beginnings of IEA's prediction.

The market sent clear signals to legacy economic actors that solutions to the climate crisis have value, whereas causes of the climate crisis do not. The amazing increase in the market cap of the world's leading electric vehicle (EV) maker, for example, finally motivated some traditional internal combustion engine (ICE) manufacturers to make meaningful commitments to electrified transportation. Other signals of the transition came from government policy, such as the United Kingdom banning the sale of ICE vehicles beginning in 2030.

What about outside of energy and transportation; what about solution sets to other critical risks to our economy?

Here again, we've seen significant transformations already, and a broad understanding that disruptive innovations are where we will find solutions. Green Alpha's portfolio strategies earned significant gains this year from the biotechnology sector, as leading owners of intellectual property (IP) in the field of transcriptomics proved their worth in rapid vaccine development; similarly, leading companies in genomics showed that they have working therapies for genetic disorders, such as sickle cell anemia and some types of congenital blindness. When it comes to genomic medicine, we are only still at the very early stages of what will be accomplished, and the addressable market for these therapeutics and vaccines is everyone, everywhere, multiple times throughout their lives.

It's also been a transformative year in terms of the diversity and inclusion of leadership teams of publicly-traded stocks. California Gov. Gavin Newsom signed a bill requiring companies headquartered in the state to have at least one minority member on their Board of Directors. And in December NASDAQ filed a proposal with the U.S. SEC to adopt new listing rules related to board diversity and disclosure – requiring at least one woman, and at least one minority or LGBTQ+ person to be sitting on each of the 3,000+ NASDAQ-listed companies. And yet, the fact that each of these rules and proposals requires companies to put in place just one member is preposterous. We should be further along than that.

The fact that homogeneous executive teams and boards of directors are still the rule, and not the exception, in the corporate world shows just how far we have yet to go. Because of this, Green Alpha includes counts of women, and other demographics, in decision-making positions as part of our fundamental stock research – we look forward to the time when we can dispense with those analyses as it will be safe to assume that a truly heterogeneous leadership team exists across most organizations. Until then, we'll leverage the asymmetry between more and less diverse leadership teams to seek additional alpha for our clients.

As a result of these and other variables, Green Alpha's investment strategies earned outsized returns in 2020. And, we want to be clear: the transition to economic and environmental sustainability is just getting started. In 2019, for example, solar accounted for about 2% of the global electricity mix; by 2050, IEA reckons it will account for half. So, the total addressable market for solar PV is expected grow 25-fold in the next couple of decades. Similarly, EVs

# Macroeconomic Outlook *(continued)*

accounted for 1% of global car sales last year, and yet by 2030, depending on whose estimates you read, they will be between 20% and 80% of all new vehicles sold. So, the addressable market will grow between 18 and 80 times in just the next decade. This not only gives room for existing EV makers to grow appreciably, but also makes plenty of room for new entrants and for legacy automakers to pivot and become competitive once again.

Risks remain and continue to accelerate. In recent days, we have learned that there is a newly mutated variant of the coronavirus in the wild. It isn't that surprising; the flu virus changes every year as well. The good news is that we know that leading mRNA companies developed formulas for SARS-CoV-2 vaccines in as little as 48 hours after receiving digital copies of the genomic sequence. That means that mRNA companies will be able to respond rapidly to new strains of the coronavirus as they emerge, and we may well end up in a world where we need our annual booster, just like we do with the flu shot today. But, we will need rapid production and distribution facilities to make those rapid formulations effective in a way that sustains our lifestyles and the global economy. That will require innovation, and people willing to look forward and invest in that innovation.

Fortunately, there are a lot of people doing just that. 2020 saw the first demonstration of computational quantum supremacy, the first room temperature superconductivity of electricity, advances in space travel, and the promise of step-change innovations that will result.

Risks remain, innovation is rising to meet them, and this is truly just the beginning. It is clear that the climate crisis will get worse before it gets better. Like the pandemic, the climate crisis is ultimately impervious to populist denials, and so will be addressed. Unlike the pandemic, there is no simple immunization for it – it will be larger, longer, more dangerous, and require more and better solutions, and unprecedented levels of coordination. Here again, we see heretofore unimagined ways to invest in the responses to these challenges.

So, where are the forward opportunities? Where they've always been: in the most innovative and disruptive solutions to our systemic, existential threats. Here's what we said previously:

“Earth’s economies may stagnate or grow; either way, we believe things like renewable energy, clean transportation, sustainable infrastructure, and water resources must grow in value. Over time, the value of stocks in our models will not be dependent on Wall Street gamesmanship, but on simple necessity.

As awareness of the magnitude of our growing resource-climate-security problems advances, so will the valuations of our portfolio companies.” (*2012 shareholder letter*)

Immanuel Kant defined the Enlightenment as civilization’s assumption of self-responsibility. Inherent in that definition is humanity’s wherewithal to confront its existential risks and proactively address them. Where money flows is where the economy and civilization are defined and built. Where we invest; therefore, is a direct manifestation of our desire to take responsibility for ourselves, and to self-insure our wellbeing, if not our existence. That means sustainability. It also means that the brightest solutions will continue to gain market share until they, effectively, represent the entire global economy. That’s why this is where we invest the assets with which our clients, their wealth advisors, and institutional consultants entrust us.

# Important Disclosures

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- MSCI ACWI IMI: The MSCI All Country World Investable Market Index (ACWI IMI) captures large, mid and small cap representation across 23 developed markets and 27 emerging markets countries. With over 8,982 constituents, the index is comprehensive, covering approximately 99% of the global equity investment opportunity set. Investors cannot invest directly in this index.
- The SPDR MSCI Global Stock Market ETF (ticker: SPGM) seeks to provide investment results that, before expenses, correspond generally to the price and yield performance of the MSCI ACWI IMI. Investors can invest directly in SPGM.
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