

Commentary: Climate Change

Climate Investing

- The imperative for an effective response to climate change only grows following the hottest year on record. Climate investing faces risks in 2017, particularly from the incoming US administration, but nuanced opportunities exist for positive environmental and social impact coupled with attractive potential returns.
- Growth in clean power may face new obstacles arising from federal fossil fuel policies, but is supported by programs at the state and municipal levels. The opportunities are even greater abroad due to falling generation costs.
- The Trump administration's stated intention to focus on infrastructure could result in much-needed investments in water infrastructure and improving resource efficiency.
- Across major asset classes, we believe:
 - Low-carbon and more general sustainability strategies executed by active managers enable investors to shift between sectors, geographies and companies as needed to generate return and impact. Active managers in this space tend to outperform the common thematic benchmarks such as the Wilderhill Clean Energy Index and the S&P Global Clean Energy Index.
 - Green bonds are being included in core fixed income strategies, offering an avenue for investors looking to increase the impact of their fixed-income investments.
 - Sustainable/low-carbon private equity investments have respectable track records in terms of both longevity and performance.
- Cornerstone Capital, as an investment advisor, helps its clients navigate these tumultuous times while supporting their goals of transitioning to a clean energy economy and adapting to the impacts of climate change. We believe in the opportunity for impact and risk-adjusted returns as the role of private investment becomes ever more critical in responding to climate change.



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The Outlook for Low-Carbon Investing

As we head into 2017, the future of low-carbon investing is uncertain and the achievements to date risk being hampered by political developments. The results of the US elections, and their implications for both climate policy and global trade, have shaken the optimism surrounding the 2015 Paris Agreement, the historic global accord promising cooperation toward climate change mitigation and adaptation goals. Following a year in which average global temperatures were likely the highest on record, we face a scenario in which the incoming US administration denies the science of climate change and may ignore the need to curb fossil fuel use.

For investors, however, the picture is more nuanced. Those considering environmentally related investments should tread carefully, but we believe that several key areas offer positive social and environmental impact and attractive return potential to investors, including renewable energy, environmental public equities, green bonds, and private investment in alternative energy.

Clean Power

We believe natural gas and renewables will continue to pressure coal-fired plants

While discarding the CPP may have long-term implications for power sector emissions, utilities retired 5% of the nation's coal-fired generating capacity in 2015 alone, a significant number for a single year¹. In addition, state and local renewable energy development is growing, and the Brookings Institute has identified 30 states in the US where emissions and GDP growth have decoupled². We believe natural gas and renewables will continue to pressure coal-fired plants, but retirements may slow given the intent of the incoming administration.

Consistent with his position on global trade, President-Elect Trump has adopted a tough stance on imports of Chinese solar PV panels, which may temporarily benefit the US solar sector. But, in making solar components more expensive, anti-trade provisions may reduce the attractiveness of solar projects. Installers and associated services would be impacted by increased prices, slowing the transition towards renewable energy infrastructure. On the other hand, solar power and renewables more broadly may offer a source of employment that appeals to the incoming US administration, as it has in China. These potentially conflicting effects make it difficult to be certain about Trump administration policy going forward.

Several trends should support the continued development of renewables and other low-carbon technologies

Our view is that regardless of US policy at the federal level, several trends should support the continued development of renewables and other low-carbon

¹ <https://www.eia.gov/electricity/data/eia860m/>

² <https://www.brookings.edu/research/growth-carbon-and-trump-state-progress-and-drift-on-economic-growth-and-emissions-decoupling/>

technologies: US states and municipalities will continue to support greenhouse gas reductions, technology improvements will continue to reduce costs, and deployment of renewables will continue to increase outside of the United States.

Infrastructure Spending and Environmental Investing

Trump's pro-infrastructure rhetoric has arguably been more core to his message than his anti-climate rhetoric. He favors spending a trillion dollars on US infrastructure and has emphasized giving states flexibility on spending. He has highlighted transportation, clean water, and a modern and reliable electricity grid,¹ among other sectors.

Infrastructure spending by the incoming administration is likely to benefit the fossil fuel industry (e.g., large pipeline projects and improved roads). However, it is also likely spur investment in more sustainable and efficient forms of transportation, energy and water projects, and other technologies. If states control these projects, they will comply with the many state and local standards for energy and water efficiency, environmental impact and renewable energy.

Resource efficiency investments, particularly in water, remain important given the forecasted scarcity. The investment universe for water is currently small but we anticipate that the sector will grow, particularly if infrastructure spending increases. The incoming administration's focus on fossil fuels may spur greater opportunities in energy efficiency. Higher emissions from power generation can be offset by energy-saving technologies, and companies and investors can benefit by facilitating development and deployment of these technologies.

The Investor's Perspective

Considerable uncertainty accompanies the new administration's policy priorities and its ability and will to carry them out. Still more complexity arises from external factors that may mitigate, enhance or prevent the impacts of certain policies when and if implemented.

On the other hand, investors who wait risk missing an opportunity. Several trends leading into 2017, both macro and micro, show a positive environment for low-carbon investing. The incoming administration may slow the pace of change by favoring fossil fuels, but we believe the following trends will continue their trajectory globally, even if sustainable investing growth slows in the US:

- 1) More renewables deployment (globally and at US state/municipal level);

¹ <https://www.donaldjtrump.com/policies/an-americas-infrastructure-first-plan>

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- 2) More energy and water efficiency investment (led by corporates and perhaps supported by a US infrastructure push); and
 - 3) More employment in green sectors (globally and in US, which should help maintain interest in the growth of these sectors).

The following sections provide our outlook for low-carbon investing across major asset classes. The narrative highlights the dynamic nature of this field as well as the macro investment environment, and the need for careful navigation of opportunities and clarity on the purpose and objectives of each investment.

Listed Equities

There are many ways for investors to pursue low-carbon investments in the listed equity markets. There are a number of low-carbon indices and active strategies that seek to mimic core equity exposure while underweighting or excluding companies with a higher carbon footprint. Moreover, investors in listed equities can use their leverage as investors to encourage companies to incorporate climate change into business strategy, through proxy voting and direct engagement with management or through the investment manager.

While these are relevant options, because of their core nature, we will instead focus on more active and thematic strategies.

There are low-carbon or more general sustainability strategies that focus on a few sectors or impacts like renewable energy and low carbon, and others that are broader including materials, IT and consumer goods. Increasingly there are strategies focused on water, energy efficiency, agriculture and other themes.

Though there are new managers and strategies with short track records, there are others with more experience and expertise and substantial track records in the space. Different managers will have different approaches to determine which companies are eligible for their portfolios. Some require a certain level of revenue from particular sectors, some are more flexible. Each approach will have its own biases in portfolio construction and tendencies towards sector weights and beta exposure.

While these strategies have some unique holdings and characteristics, thematic investing is not new. With an understanding of each manager's approach, expectations can be set, and often met, in terms of how a particular strategy will perform over time and during particular market conditions.

Cornerstone favors an active-management approach to such strategies

Cornerstone favors an active-management approach to such strategies. While limited passive options exist, we believe that the ability of active managers to shift among companies, geographies and sectors in these dynamic and emerging businesses is useful. Indeed, active managers in this space tend to outperform the

common thematic benchmarks such as the Wilderhill Clean Energy Index and the S&P Global Clean Energy Index.

When compared to mainstream benchmarks such as the MSCI World or the MSCI ACWI, performance of these active strategies (including those approved by Cornerstone) has been competitive. Over shorter periods these strategies, which tend to be biased towards smaller-cap and growth companies, may under- or outperform, but over the recent 1-, 3-, and 5-year periods they have performed similarly to the benchmark. It is still early to be receiving year-end numbers and attribution from managers. However, what we have seen so far supports historical trends. We have not seen evidence of a steep decline in the performance of environmentally focused thematic strategies following the election.

Bonds

Green bonds continue to grow and improve in transparency and accountability

Green bonds, fixed-income instruments used to fund projects with environmental benefits, continue to grow and improve in transparency and accountability. Issuances topped \$78 billion in 2015, with municipalities, companies, nations and multilateral organizations issuing bonds for a range of climate and environmentally related investments. We see the development of the green bond market as a positive area of returns in climate investing, though we continue to monitor impact.

Strategies incorporating green bonds tend to perform in line with mainstream benchmarks

Strategies composed exclusively of green bonds are still rare. More common are core bond strategies that maintain an allocation to green bonds, dependent on issuance volume and credit quality. The remaining portion of such portfolios would include a combination of government bonds and corporate credit that are screened for green or ESG (environmental, social and governance) characteristics. Given their composition, green bond strategies or strategies incorporating green bonds tend to perform in line with mainstream benchmarks.

Although interest rates have spiked recently, we do not see this negatively impacting low-carbon fixed-income investments relative to other fixed-income investments. While we expect corporate and municipal green bond issuance to increase for the reasons mentioned above, green bond strategies still primarily behave like and share many characteristics with core strategies.

Alternatives

There are a range of alternative strategies focused on low-carbon or other environmental solutions. Investors who have been following cleantech for a while may have bitter memories about the previous decade, when a renewable energy and cleantech bubble burst. Following the recession of 2008 we have witnessed a shift from investing in renewables and other clean technologies to more of a real assets approach, which involves financing renewable energy

There are multiple investment opportunities that resemble private debt or real asset strategies

projects or project developers (solar and wind farms). At the same time, among private equity funds that have maintained a focus on cleantech we have seen a broadening of approach from strategies primarily focused on solar panel and wind turbine technologies to inclusion of a wider range of sectors to include transportation, measurement and metering, and alternative fuels and materials.

Several managers in the sustainable/low-carbon private equity space have respectable track records in terms of both longevity and performance. Many of these funds in the US are early-stage or venture funds that invest in new companies, products and services and that emphasize financial return but also seek to maximize impact and report on it as well.

There are multiple investment opportunities that resemble private debt or real asset strategies. By financing developers or projects more broadly, investors can take advantage of long-term agreements with power purchasers (generally utilities), which generate a reliable income, usually quoted at about 8-12% net to investors. The sale of projects or portfolios of projects to YieldCos or institutional investors can generate additional upside. Funds vary in how much development risk they take on, how they hedge that risk, and when and how principal is returned to investors. Strategies also vary by geography, size of projects targeted, and types of projects. While several funds focus on renewable energy projects, others have a broader approach that includes wastewater recycling and energy efficiency.

Fund structures with this approach are relatively new, but so far return and risk levels seem to be as expected. We have not observed any lessening in opportunities for projects. Multiple sectors are engaged in deployment, either through power purchasing or making land (or rooftops) available for installation.

Federal and state incentives make these investments more attractive, but there is reason to be bullish on the opportunity even if one believes that some of these incentives will disappear: Most states still have renewable portfolio standards to meet, landowners and tenants (grocery stores, malls) can gain extra income by turning roofs into energy generating real estate, and companies see brand and economic value in shifting to renewable energy.

While there are some hedge funds with low-carbon or sustainable strategies, they are a small and diverse group. Hedge funds in this space may be long and short renewable energy, taking advantage of inefficiencies in the sector. There are also funds that specialize in weather-related derivatives and carbon trading. In addition, there are a couple of hedge fund of funds that operate in this space. These fund of funds use a combination of approaches such as long/short, commodities and structured finance, and may also exclude companies with large fossil fuel reserve exposure.

Asset Allocation

In the alternatives space, we believe it is increasingly possible for investors to have diversified alternatives exposure (private equity, real assets) to low-carbon and sustainability-themed strategies. We also believe that long-term investments such as these can hedge some of the shorter-term volatility that may occur in these markets given the political environment.

Thematic listed-equity strategies as we've described them tend to be more sector concentrated than a broad benchmark. They also tend to be global in scope and with a small-cap and growth bias. As such, they are not a substitute, in our view, for a core investment strategy. We feel that a smaller "satellite" allocation is more appropriate for these strategies.

Low-carbon fixed-income strategies are still relatively new, but strategies that incorporate green bonds as well as other securities and measure themselves against a core benchmark have performed as expected so far.

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