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# Investment Publications Highlights

## Hedging Climate Risk

Mats Andersson, Patrick Bolton, and Frédéric Samama,  
*Financial Analysts Journal*, CFA Institute, vol 73, no 2  
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**One of the main challenges for long-term passive investors is the uncertainty regarding the timing of climate change mitigation policies. The authors illustrate how investors can hedge climate risks through a simple dynamic strategy. They find their approach has a low tracking error, particularly relative to an existing strategy, and has the potential to outperform a standard benchmark.**

In the same way asset managers cannot accurately predict the timing of an asset bubble bust, they cannot accurately predict the timing of climate change and climate change mitigation policies. The authors believe these risks can be effectively hedged through a decarbonized index, which removes or underweights companies with high carbon footprints.

Investing in a pure-play green index that focuses on renewable energy, clean technology, and/or environmental services is more of a bet on clean energy than a hedge against climate change. An investment in a decarbonized index does run the risk of underperforming the benchmark, particularly in the event that climate change mitigation policies are delayed. Thus, the composition of a decarbonized index should be optimized, with the help of a multifactor model, to keep a similar aggregate risk exposure and to minimize tracking error. The authors suggest this approach has a “free option on carbon” because it can obtain

similar returns as the benchmark up until markets start pricing in the impact of mitigation policies. Once the impact is priced in, the decarbonized index should outperform the benchmark.

To explain the importance of low tracking error to the decarbonized index’s performance, the authors highlight an example. When carbon exposure is removed completely from the MSCI Europe Index through simple divestment, the tracking error is 3.5%, high enough to pose financial risk. But using their optimized approach, the authors lower the tracking error to just 1.2% and generate returns at least as high as those of the benchmark, even in a worst-case scenario.

The authors argue a sector-by-sector filtering approach could effectively be used to build a decarbonized index while still maintaining a sector composition roughly similar to that of the benchmark. This approach would help avoid creating a sector bias. Companies could be evaluated by a simple metric of dividing each company’s carbon footprint by sales. Such a basic normalization approach could minimize tracking error by avoiding a bias against the largest companies.

## Resolving the Climate Paradox

Speech given by Mark Carney, Arthur Burns Memorial Lecture, Berlin, September 22, 2016

**Mark Carney, governor of the Bank of England, sees climate change as a threat to financial stability, but he believes steps can be taken now to turn climate change risks into opportunities.**

Considering climate change as it relates to financial stability creates two main paradoxes: first, current economic and political actors have little incentive to address financial stability risks posed by climate change because future generations will feel the majority of costs; second, too rapid a transition to a low-carbon economy could materially damage financial stability.

Carney emphasizes that although actors need to understand how climate change affects financial stability, they must also understand the transition period may have risks.

Transition risks are changes in policy, technology, and physical risks that could prompt an unanticipated re-pricing of vulnerable assets, leading to a disruption in financial stability. The Paris Agreement, which committed world leaders to curb carbon emissions, brought the costs of climate change forward, but in doing so, it increased the transition risks. The ability of private markets to smoothly adjust in this environment is integral to achieving a successful transition.

Mr. Carney believes consistent, comparable, and robust company disclosures on climate risks are one of the first steps needed. In 2015, an industry-led task force concluded that information disclosure was incomplete and fragmented. To help improve disclosures, and ultimately the market's ability to adjust to transition risks, Mr. Carney suggests companies focus on providing scenario analysis that takes into account

different transition risks. Also, companies should balance the granularity of disclosures with the risks faced.

A successful transition to a low-carbon economy will not only reduce climate-related risks to financial stability, but also promote global growth. Since the financial crisis, growth has been tepid. A consensus is forming that policies encouraging private investment, including green technology investments, are essential to escaping the low-growth environment. While green bonds have gained momentum in attracting capital, they still account for less than 1% of global institutional investors' holdings. If market participants and policymakers collaborate to put in place the right supporting infrastructure for sustainable markets, green investments have the opportunity to promote financial stability by directing capital flows to countries with carbon intensive industries, enhance macroeconomic stability by absorbing excess global savings, and increase the prospects for an environmentally sustainable recovery.

## Adapting Portfolios to Climate Change: Implications and Strategies for All Investors

Phillip Hildebrand and Deborah Winshel, BlackRock Investment Institute, *Global Insights*, September 2016

**The authors explore the risks and opportunities associated with climate change, concluding that all investors should consider it in their respective investment processes.**

Climate change presents risks and opportunities not only to the natural world, but also to investors. According to the landmark Stern Review, the effects from climate change could shave 5%–20% annually off global GDP in the long term. Some changes are already affecting global markets. The authors believe asset holders would be well served to understand these risks.

The authors divide climate risks into four categories: physical (changes in weather, sea levels, etc.), technological (changes in renewable energies, battery storage, etc.), regulatory (changes in subsidies, standards, etc.) and social (changes in consumer awareness, desires, etc.). Long-term investors will likely be most affected by physical risks, but technological advancements also present opportunities. The authors note it is especially important for pension funds to “climate-proof” their portfolios at a time when low future returns are expected across asset classes, as even small tweaks to a portfolio can have a big impact.

One example of climate proofing is investing more in climate-friendly companies. BlackRock’s Scientific Active Equity team (SAE) uses a system of 17 measures in three main categories—resource efficiency, exposure to climate risks, and potential to profit from climate risks—to determine the most climate-friendly companies in the US stock market. A simulated portfolio that overweighted the most climate-friendly companies outperformed the Russell 3000® Index by 7 percentage points from 2012 to 2015. The team’s research suggests there is little downside to incorporating climate factors into the investment decision-making process.

The authors argue that factoring climate change into investment strategy now—while climate change factors are underappreciated and underpriced—provides a strategic advantage for investors, particularly those with long-term investment horizons. Investor appetites may vary, but the authors suggest all investors should at least consider climate change when making investment decisions. ■

In 2015, Cambridge Associates published *Risks and Opportunities From the Changing Climate: Playbook for the Truly Long-Term Investor*, a report highlighting strategies to manage risks and capitalize on opportunities associated with climate change in the investment portfolio.

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