



Responsible Asset Allocator Initiative (RAAI) at the Fletcher School, 7th RAAI Roundtable

KEY TAKEAWAYS

Overcoming short-termism and systemic risks in portfolios

Research by the Responsible Financial Benchmarking Lab (RFBL)*



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Dec 6, 2024, 2:00 – 5:00 pm
The Four Seasons, Singapore

The RFBL was renamed the Responsible Climate Asset Allocators Lab (RCAL) in Feb 2026

Key Takeaways from the Roundtable

Singapore, Dec 6, 2024

Conclusions from the Presentation

1. Climate change means the future will not look like the past. However, because traditional benchmarks and capital market assumptions tend to be backwards looking, investment teams will neither be prepared nor incentivized to properly manage forward-looking risk and value creation.
2. In the long term, risks are likely to be higher and returns lower for beta than they have been in the past, as represented by traditional financial benchmarks.
3. Portfolios built on legacy benchmarks bring over exposure to risk and damage and underexposure to opportunities from a world that must decarbonize.
4. Investors can align portfolios with the future we are heading toward by adjusting benchmarking practices to reflect climate risks and allocating capital accordingly.

Key Points from the Roundtable Discussion

1. **More effective models for pricing climate risks in long-term investor portfolios and incentivizing corresponding changes in investment decision making are needed.** There are sophisticated science-based models that show the impacts of climate change on our planet, and we do have academic research that shows the impact of climate change on the global economy. However, we lack models that show the impacts of climate change on risk and return expectations for long-term savings portfolios.

Institutional investment capital is driven by benchmarking practices that do not currently price climate change and other system wide risks. We need better models so that we can revise benchmarking practices and make sure that capital is invested with realistic risk and return considerations. As an investor, there is little incentive to act on climate risk if it is not priced into the benchmark.

Without revising benchmarking practices, asset allocators are more likely to build portfolios that will be overexposed to damage, risk and legacy industries, and under-exposed to the future we are headed toward, a de-carbonizing world.

Some of the larger and most sophisticated asset allocators are experimenting with Total Portfolio Approach (TPA), a benchmark-agnostic form of asset allocation based on the risk and return features of particular investment strategies. While TPA could be a promising pathway for asset allocators, it doesn't necessarily include climate change-related risks, and the governance requirements for implementing TPA are beyond most institutions at this stage.

The primary focus of the RFBL is supporting institutional asset owners and allocators in advancing practices that integrate climate risk into capital markets assumptions and incentive structures such as benchmarking practices.

2. **We need to use the language of investors to convince them to price climate change impacts in their investments.** If we want asset allocators to prepare for future climate impacts, we need to focus on attractive investment opportunities. Investors want to know where they can find the most impactful investable solutions that will deliver the biggest bang for the buck. Once that kind of mindset is established, asset allocators may be more inclined to take action today, especially as they gain visibility on how current investments will enable better risk-adjusted returns in the future. We also can point out the risks of not doing anything about climate change risks today - eventually investors could be forced to shed legacy assets at discounted prices as climate change-related outflows and liabilities become more consequential in the future.

The RFBL believes investors can prepare for future climate contingencies by setting aside incremental dollars today to account for climate risk impacts down the road in strategies that generate market returns, for example in growing renewable energy solutions, carbon capture, hydrogen and sustainable fuels, or electric vehicles. Annual capital spending on climate related physical assets and infrastructure is projected to grow significantly.

3. **Asset allocators need to overcome a bias toward short-term performance that encourages pro-cyclical behavior rather than strategic long-term investing.** Investors are often reluctant to take action today to account for risks they will face tomorrow, especially if it leads to short-term under-performance of benchmarks against which they are held accountable. They are well aware that they must invest for the long term, as they manage intergenerational capital to meet the retirement

liabilities, health care needs, or savings endowments of the people of their states, but they are concerned about short-term underperformance.

Recognizing and understanding the economic impacts of climate change that are manifesting every day can help to support a more strategic approach to pricing risks into investment decision making for the longer term. Fires in California and Canada, floods in Florida and Spain, heat waves in Germany and Italy, droughts in sub-Saharan Africa, cyclones in South-East Asia, should not be ignored by investors, nor the fact that the intensity and frequency of climate change related weather events are growing, leading to increased damage and cost. Investors need to take these impacts into account to protect portfolios and to incentivize change.

For example, the National Oceanic Atmospheric Administration (NOAA) has determined that the number of weather-related disasters in the US that exceeded one billion dollars in damage increased to 27 last year, leading to \$180 billion of repairs. The costs and number of events have been rising every year, reaching \$800 billion in damage¹ over the last five years. Stern and Stiglitz note that climate change related damage in recent years has amounted to 1.5% -- 2.0% of gross domestic product (GDP) in the US². World GDP would have been 37% higher today if no global warming had occurred since 1960,³ and the impacts have been rising exponentially. For long-term investors it is worth noting that the rising costs of weather-related disasters and ensuing political fall-out have led to narrowing stock markets and rising volatility⁴.

- 4. Academic evidence overwhelmingly indicates that macroeconomic impacts from climate change and implications for investors will be significant.** Keeping global warming within a 1.5-degree Celsius temperature increase above baseline by 2050, the target set for the Paris Climate Accord, is no longer possible. We are already at 1.47 degrees above baseline, according to NASA⁵. EDHEC analysis indicates that there is a zero probability of global temperature rises remaining below 2.0 degrees, a 65% probability that temperatures will rise by 2.0-3.0 degrees

¹ National Centers for Environmental Information. Billion Dollar Weather and Climate Disasters. February 6, 2025. <https://www.ncei.noaa.gov/access/billions/>

² Stern, Nicholas, Stiglitz, Joseph; "Climate Change and Growth; Industrial and Corporate Change". Oxford Press, 2023, 32, pgs 277–303

³ Bilal, Adrien; Kanzig, Diego; "The Macroeconomic Impact of Climate Change: Global vs Local Temperature"; National Bureau of Economic Research, May 2024

⁴ Hunstadt, Michael; "How to Navigate Index Evolution and ESG Challenges". Northern Trust 2024.

⁵ National Aeronautics and Space Administration. Global Land-Ocean Temperature Index. February 6, 2025. <https://climate.nasa.gov/vital-signs/global-temperature/?intent=121>

above baseline, and a 35% chance they will rise by more than 3.0 degrees by 2050⁶. The impact on global GDP could be dramatic. According to a paper published by the National Bureau of Economic Research, every 1% rise in global temperatures above baseline could mean a 12% decline in GDP; a 2-3 degree increase in global temperatures could mean a 24%-36% reduction in global GDP (*Bilal et. al.*).

Data shows that the longer we wait to take action to mitigate climate risks, the greater the costs and the greater the risk of portfolio shocks. For example, one scenario analysis conducted by a major sovereign pension fund based on little progress in climate change abatement policies for five years, followed by a flurry of panic actions due to increased frequency climate-related weather disasters, showed a reduction in portfolio returns of 300 bps per annum without any recovery.

- 5. Capital market assumptions, used by asset allocators for their strategic asset allocation models, do not reflect the impacts of climate change.** Capital market assumption (CMA) models used by asset allocators to construct long-term portfolios do not account for the macroeconomic impacts of climate change on future risk and return projections. One thing we do know is that because of climate change, the future will look dramatically different than the past. Yet, risk and return forecasts in forward looking ten and twenty-year CMA models look much the same as they have been in past years⁷. This is because CMA models are constructed based mostly on backward looking data. Investors should question how climate change is being integrated into capital market assumptions. The RFBL is working on incorporating the scenarios into capital markets assumptions and dealing with the uncertainty of forecasts.
- 6. It is difficult to explain performance gaps to the Board unless they fully support incorporating climate change risks into asset allocation decisions.** Asset allocators know that they should benchmark to a realistic future, rather than backwards looking ideals. However, they worry that if climate risks are not priced into financial markets in the near term, they could underperform and be held accountable by their Boards. The paths of returns in the portfolio do matter. Investors worry about investing in climate solutions that may not bear fruit in the short term, especially while financial markets are showing very strong performance.

⁶ Rebonato, Ricardo; “How Can Strategic Investors Deal with Climate Uncertainty?” EDHEC Research Insights, Spring 2024, Pages 2-7

⁷ Horizon Actuarial. Survey of Capital Market Assumptions, August 2024.

https://www.horizonactuarial.com/_files/ugd/f76a4b_8b296a430c3f45c78b031cb16191c6a9.pdf?index=true

There is concern that acting prematurely could lead to higher opportunity costs that are not adequately compensated. Boards may also be concerned about climate change-related investing strategies that may contravene political policies.

While it is true that climate change-related investments may not pay off in the short-run, investing today to protect against future climate risks is prudent risk management. Investments in climate solutions will gain in value as global energy sources, consumption patterns, and global industry practices shift to account for global warming. Discounting long-term climate risks and implementing incremental changes to portfolios today to manage future risks makes sense. Chuck Prince, former CEO of Citibank famously said in 2010 that “as long as the music is playing, you have got to get up and dance,” but such short-term thinking is never well received. It is a poor way to manage risk, and it does a disservice to Boards and stakeholders who expect their long-term savings to be managed prudently. Chuck Prince was fired several months after making this comment.

- 7. Yes, strong government policies are important to encourage collective action on climate change, but they are not enough on their own.** Government action is critical to address collective action problems on climate change. For example, subsidies and tax breaks can encourage positive action, and tax penalties and regulations can discourage free riding. Good government policy can help to mobilize capital, but without a thoughtful and co-created approach amongst diverse stakeholders, policies can have the opposite effect, leading to political backlash, as we currently see happening in the US. Regulators tend to lead from behind, taking action as issues gain momentum across constituencies.

Asset allocators respond to regulators, but they also respond to directives from executives within their organizations, to their Boards, and to stakeholder pressure. Asset allocators cannot afford to wait for regulators to come around and can take action today to mitigate risk and enhance returns in their portfolios down the road. RFBL believes that by proactively addressing climate risks, asset allocators can generate returns, reduce risks, and send important signals to policy makers.

- 8. Climate change has become a “black elephant” for institutional investors, a predictable disaster waiting to happen that no-one wants to talk about.** A “black elephant” is a term that refers to a combination of the elephant in the room that no-one wants to talk about and a black swan event that is unpredictable with catastrophic consequences. Climate change is a black elephant because it is a foreseeable disaster, with predictable, severe impacts on the planet and on the global economy that is being ignored by society. At the same time, when climate

disasters do occur, attempts are made to pass them off as unforeseeable black swan events. We already have sufficient information on the risks we are facing in portfolios for asset allocators to take action on climate change, yet in many cases climate change impacts on long-term portfolios are being ignored.

Part of the problem has to do with cognitive biases and natural tendencies toward short-termism at investor organizations. “We are creatures of the present. We try to maintain the status quo while downplaying the importance of the future, which undermines our motivation and courage to act now to prevent some distant disaster. We’d rather avoid a little pain today even if it means taking a lot of pain tomorrow.”⁸ Long-term investors must take steps to counter these impulses, just as they take steps to avoid being pro-cyclical in their investment decision making.

- 9. Alternative investments seem to be most promising for mitigating climate change risk and finding attractive investment opportunities.** Many of the attractive investment opportunities for climate change solutions are in alternative investment strategies including infrastructure and private equity, which have long-term investment horizons. For example, capacity for renewable energy including wind, solar, hydro and hydrogen is expected to grow 4-5-fold over the next ten years, and most of the investment to fund this growth will come through infrastructure and private equity investing. Private credit required for funding climate change infrastructure projects will offer attractive opportunities.

In the publicly traded financial markets, the steps asset allocators can take on climate change are limited to active voting, engagement, thematic investing and divestment. Many institutional investors attempt to decarbonize their public equity and fixed income portfolios through divestment, a strategy that has limited real-world impact on climate change and does not help to mobilize capital toward solutions. The same can be said for the popular use of customized ESG benchmarks, which tend to be based on “what not to own.”

- 10. Using scenario analysis tools developed by central banks may be helpful for asset allocators in understanding long-term climate change impacts on portfolios.** Climate change could be analyzed similarly to the way central banks have addressed systemic risks in the banking system from the use of leverage.

⁸ Watkins, Michael, Bazerman, Max; “Predictable Surprises: The Disasters You Should Have Seen Coming;” HBR Magazine, April 2003.

Central banks and regulators built macroprudential policy tools for this task that potentially could be applied to climate change risks.

On the other hand, central banks are often concerned that a key driver of financial instability is abnormal credit creation, and their models could point to increasing the cost of credit, along with taking macroprudential policy interventions. This could be counterproductive in leading to an increase in holdings of treasuries and/or gold while discouraging mobilization of capital for sustainable solutions. When central banks become serious about macroeconomic problems, they often elect to slow down economic growth to make sure the economy is on the right path.

11. Asset allocators could be disincentivized from investing in emerging markets due to their heavy exposure to climate change risks and political instability.

Many developing countries are exposed to heat waves, storms, and flooding, and combined with limited resources for investing in resilience, they have become increasingly vulnerable to climate change risks. While our success in meeting the global warming challenge will depend in no small part on mobilizing capital to invest in solutions in highly populated developing countries, investors need to be convinced they can make returns and that such investments are not concessionary. Avoiding investments in these countries is not an option, but how do we convince asset allocators to invest in solar farms in Nigeria or mangrove forests in Indonesia?

Blended finance structures, fixed income and credit offerings supported by first loss capital from multilateral development banks could be one approach. Another option may be to systemically risk-adjust returns of overall portfolios to consider the system-level risks of not investing in these regions. For example, there is research that discusses the impacts of global weather-related disasters on all economies, showing that developed countries cannot escape losses emanating from less developed economies (*Bilal et. al.*). One interesting idea is to use debt for nature swaps - ascribing higher values to emerging markets for their breadth of conserved resources and natural endowments that help to sustain humanity.

Asset allocators could consider investing in other unconventional assets to offset climate risks in emerging markets while benefiting from their position as long-term universal owners of market risk. A novel idea that was discussed was a fund heavily weighted in catastrophe bonds (higher returns than corporate fixed income) with the rest of the fund invested in climate-change-related bonds and stocks. It was noted that if just 10 sovereign wealth funds (SWFs) invested in such a fund, and an organization like the World Bank managed it to ensure that the proceeds would be used to offset climate risk in developing countries, the result could be a scalable fund with attractive uncorrelated returns.



Pictured from left: Jasmine Fei Qu, *Head of Global Investment Services, E Fund Management*; Mr. Ahmad Bastaki, *Former Executive Director, Kuwait Investment Authority*; Mr. Marco Spaltro, *Head of Economics and Fixed Income, Abu Dhabi Investment Council*; Ms. Sue Brake, *Former CIO, Future Fund*; Scott Kalb, *Director, RAAI, former CIO, KIC*; Samuel Ashok, *Angsana Fund Management, former Head of Private Equity Risk, GIC*; Mr. Kristian Flyvholm, *CEO, Sovereign Investors, Former CIO, Central Bank of the UAE*; Tasleem Jamal, *EVP, Spruce Grove Asset Management*; Ms. Delilah Rothenberg, *Founder and Director, Predistribution Initiative*; Mr. Everaldo Franca, *Chairman of the Board, Sao Paolo Retirement System*; Ms. Cynthia Morel, *Responsible Energy Initiative, Southeast Asia, Forum for the Future*.

Not in picture: Ms. Madeleine Evans, *Director, Generation Investment Management*; Mr. John Tang, *Managing Director, GIC*; Mr. Kevin Chang, *Head, Performance Analytics, Temasek*; Chancharya Sousourn, *Deputy Head, Compliance Division, Trust Regulator of Cambodia*; Ms. Fiona Stewart, *Lead Financial Sector Specialist, Finance, Competitiveness & Innovation, World Bank Group*; Paul O'Brien, *Former Deputy CIO, ADIA, Board Member, Wyoming Retirement System*; Mr. Nando van Kleef, *Senior Program Manager, Finance and Capital Markets, Laudes Foundation*; Ms. Nithya Iyer, *Senior Specialist, Sustainable Financial System, PRI*.

SEVENTH RAAI-PDI ROUNDTABLE
The Sustainable Financial
Benchmarking Lab (SFBL)

6 December 2024 | 2:00-5:00 pm
The Four Seasons, Singapore
Windows West, 20th Fl

ATTENDEE LIST

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