

ESG

matters

Environmental, Social and Governance
thought piece

Issue 11



Climate Special Issue: Sink or Swim

FEATURES:

08 Guest article by Christiana Figueres,
Executive Secretary of the UN Framework
Convention on Climate Change

12 Interview with Andreas Utermann, Global
CIO AllianzGI, and Jay Ralph, Chairman of
Allianz Asset Management

Allianz 
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Understand. Act.

Integration of climate risks into portfolio strategy

DR. STEFFEN HÖRTER provides a step by step guide on one way in which investors can integrate the risk of climate change into the Strategic Asset Allocations of their portfolios.



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Relevance of climate risks for asset owners – the next black swan?

Most institutional asset owners focus their portfolio risk management on market risk factors such as, for example, interest rate, inflation, equity and credit risks. Some early adopters, mainly large public pension funds in Europe and the US as well as insurance companies, have started to add Environmental Social and Governance risk factors. The objective is to use ESG as a lens to get a more holistic picture on the 'true' long-term risk exposure.

In particular climate change is considered a key long-term ESG risk:

- It is systemic and global
- It has the potential to significantly impact the performance of assets
- It does not appear to be priced in yet by capital markets.

A key assumption for climate risk is that it results from global warming which is man-made and caused by industrial greenhouse gas emissions including carbon. From a climate balance sheet

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perspective there appear to be far more carbon reserves available than can ever be burned, if the aspiration is to keep global warming in check – the famous two degree target. In fact, the International Energy Agency estimates that approximately two thirds of the known fossil energy reserves cannot be burned. In this context, a broad scale carbon emission cap and trade regulation seem inevitable.

This leads to the fear of ‘stranded’, depreciated assets and broader financial markets risks in the worst case. In April 2015, the G20 powers asked the Financial Stability Board in Basel to investigate the possible fall-out faced by the financial sector as climate rules become much stricter. In a recent speech, the Governor of the Bank of England, Mark Carney, concluded that investors need to wake up to the potential for high losses from a sudden shift in regulations aimed to curb global warming and the use of fossil energy.

Integration of climate risks into the investment and risk strategy – show me how!

While for many asset owners, there is less need to discuss the potential financial materiality of climate change risk, it is more important for them to understand what should be done from a practical investment and risk management perspective. For this purpose, asset owners could perform a four-step plan to integrate climate risks into their portfolio strategy (see figure 1 overleaf).

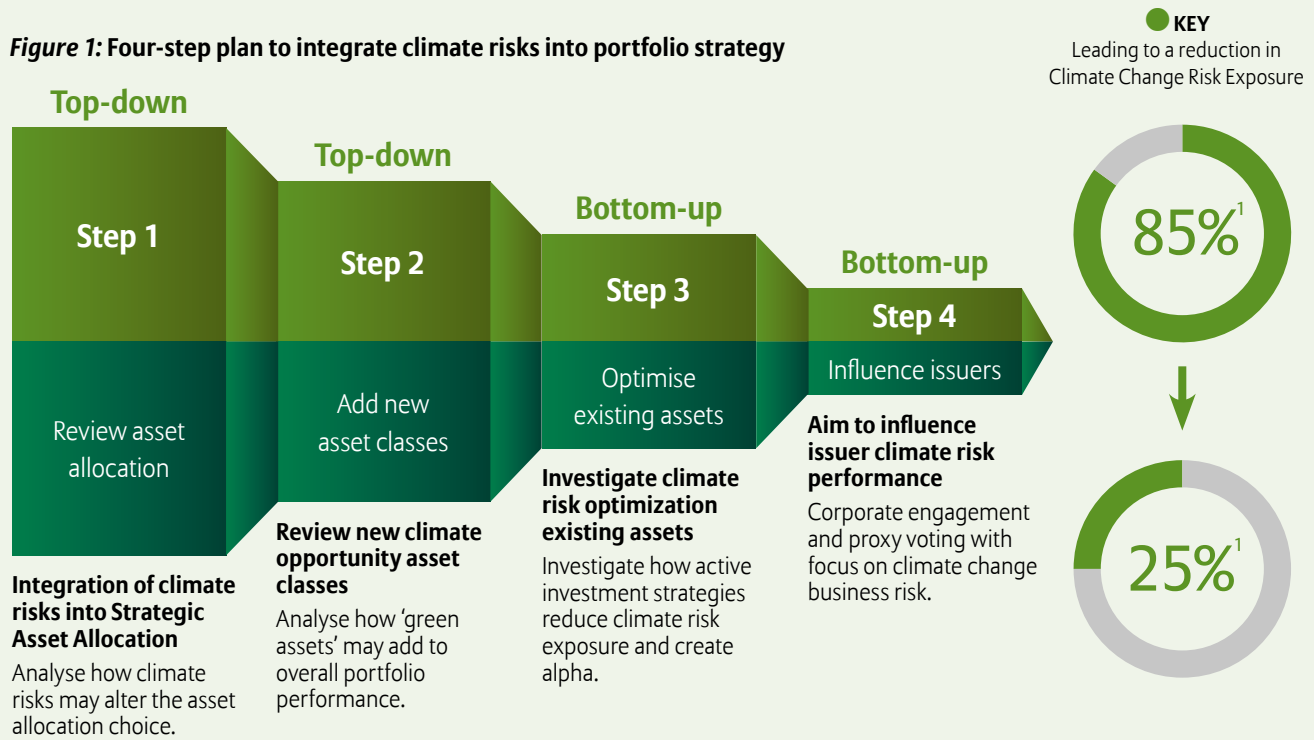
Step 1 (Top-down): Integration of climate risks into Strategic Asset Allocation (SAA)

Objectives: analyze how climate risks may alter the asset allocation choice with respect to a reference portfolio. The key input is an analysis of what defines climate risk and how it may translate into future performance of asset classes. Climate risks may be linked to physical climate change, regulation aimed to mitigate and cap global warming as well as technological progress such as price and capacity development of carbon capture and storage facilities.

Step 2 (Top-down): Review new climate opportunity asset classes

Objectives: analyze how green bonds, private debt/equity green-tech, renewable energy infrastructure etc. may improve overall ▶

Figure 1: Four-step plan to integrate climate risks into portfolio strategy



Source: risklab GmbH.

¹For illustrative purposes only. This does not reflect actual data or show actual performance and is not indicative of future results.

portfolio performance. A sustainable, transformational trend towards a low-carbon society will require massive efforts and financing needs on a global scale and may create attractive investment opportunities.

Step 3 (Bottom-up): Investigate climate risk optimization of existing asset classes

Objectives: Investigate how active investment strategies within existing asset classes can be optimized with respect to climate risk exposure or opportunities. For example, equities could be changed to a low-carbon best-effort footprint investment approach. Additionally, a best-in-class active investment strategy approach may be chosen for equities which selects expected corporate 'climate change winners'.

Step 4 (Bottom-up): Aim to influence issuer performance with respect to climate risk

Objectives: review how an active asset manager may improve the performance of

selected corporates whose business success appears exposed to climate change risks through corporate engagement and proxy voting strategies.

While not all of the four steps may result in immediate portfolio changes they build the foundation of a structured and powerful review for an asset owner who aims to be prepared and react prudently to increasing climate change related investment risks on the horizon.

Climate risk integration into strategic asset allocation

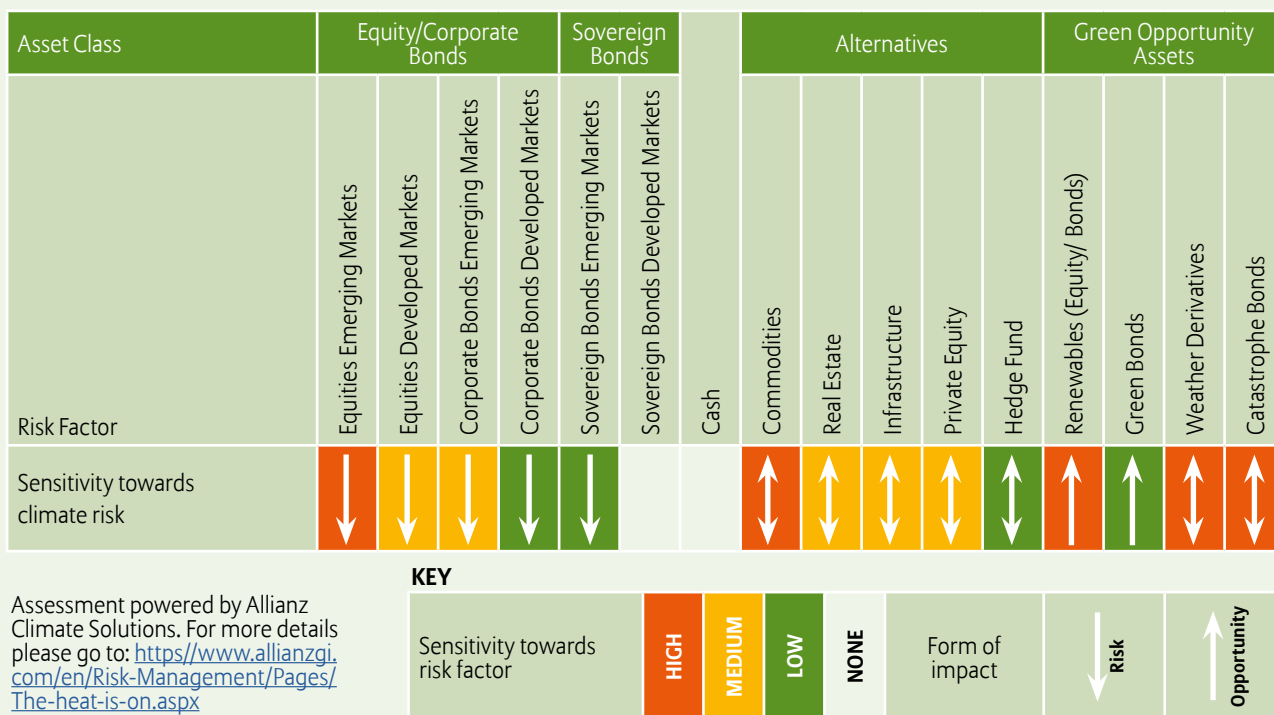
From a strategic investment perspective asset owners may want to integrate climate and other ESG risks into SAA. Like climate risk, the SAA typically has a mid-to-long-term horizon, for example 5-20 years. It may determine up to 90% of an investor's portfolio risks and is an established decision making tool for investment committees and boards. In fact, the recent 2015 Risk Monitor survey by Allianz Global Investors also revealed, that asset class diversification

strategies are the most common risk strategies applied by institutional investors world-wide.¹

Today, there is no industry standard for climate risk integration into SAA. AllianzGI Global Solutions risklab has prototyped two methods:

1. Pricing approach: quantifying carbon emissions rights peak price risks and link into long-term economic scenario generation and capital market assumptions for equities and corporate bonds. The tail risk-adjusted investment assumptions are then used for the SAA analysis.²
2. Non-pricing approach: climate risk scoring of a broad set of asset-classes using heat-map expert input by Allianz Climate Solutions (see figure 2) and ND-GAIN climate adaption index³. The SAA optimization is then performed subject to a maximum portfolio climate risk budget which may not be exceeded through the asset class mix.

Figure 2: Climate risk asset class heat-map



The pricing of climate risks into capital market assumptions and scenarios used for SAA analysis is high-end from a financial engineering perspective. In practical terms, its advantage is that this key input – Capital Market Assumptions – which determines SAA results to a large degree, is extended in a transparent and quantitative way. It’s caveat is that it adds a number of additional assumptions and modelling complexity that not every investment committee will feel comfortable with.

In the non-pricing approach, ‘standard’ capital market assumptions are used as input for the SAA. However, the relative risk and return attractiveness of each asset class is amended by adding a relative climate risk score using the expert input by Allianz Climate Solutions. In this holistic, top-down optimization, for a broadly diversified portfolio with a higher share of risky assets, you would typically see the following effects: emerging markets equities and bonds tend to lose portfolio share while developed markets assets and

various alternative assets would gain allocation, such as private market renewable energy. Of course, this outcome is largely driven by the input assumptions. For example, if an asset owner plans to invest into a low-carbon risk equity strategy the risk sensitivity input should be lower compared to the original assessment in the climate risk heat-map.

In order to have full transparency on portfolio effects and to gather controlled insights, we envisage performing an SAA optimization without consideration of climate change risks and then adding related analysis in a second step. Ultimately, our recommendation is to document all key climate risk assumptions and possibly amend investment beliefs. Such a statement could be: *“We expect climate risk factors to have a material impact on the financial performance of our assets over the mid to long-term. We assume there will be a pricing of environmental risk at some point in the future. However there is no certainty about when this will happen and how high*

the impact will be exactly. Therefore, we aim to minimize the exposure to climate risk in our investment portfolio with minimal opportunity costs today.” ●

- http://www.allianzgi.com/en/Risk-Monitor_June_2015/Pages/default.aspx.
- For more details please refer to <http://www.esgmatters.co.uk/en/Thought-Leadership/AllianzGIWhiteResearchPapers/Pages/default.aspx> Responsible Investing Reloaded. Dr. Steffen Hoerter, Allianz Global Investors, Capital Markets Analysis, 2011.
- The “Notre Dame-Global Adaptation Index (ND-GAIN)” is a free open-source index that shows which countries are best prepared to deal with superstorms, droughts, security risks and other vulnerabilities caused by climate disruption, as well as their readiness to successfully implement adaptation solutions. For further details see www.gain.org.