

Explaining the mechanics

UBS Life Climate Aware World Equity Fund

As mentioned by the recent recommendations of the FSB's Task Force on Climate-related Financial Disclosures (TCFD), climate change is one of the most significant and yet misunderstood risks that companies and financial organisations face today. The potential impacts are physical, regulatory and technological and manifest both in the short and long term.

In April 2016, 174 countries and the European Union, officially signed the UN Climate Change Paris Agreement to reduce greenhouse gas emissions, limit global average temperature to a maximum of 2° above pre-industrial levels and accelerate the transition to a lower-carbon economy. This transition will create both risks and opportunities and will affect all sectors and industries across the globe. Achieving this mission will require action not only by governments and companies. Investors have a crucial role to play and need to adopt more resilient long term strategies to tackle climate change, which include:

- investing in climate solutions
- engaging with investee companies to encourage they implement the TCFD disclosure recommendations
- adopting scenario analysis to assess climate related risk and opportunities.



How can carbon risk be managed in a passive global equity portfolio?

Some passive investors are adopting an exclusion policy, for example by investing in tracker funds that are benchmarked to ex-fossil fuel indices. While that is a simple strategy to implement there are a couple of attendant consequences to consider, one financial and one philosophical. By excluding any investment in fossil fuels the passive investor is avoiding not just the risk but the opportunity of one of the major market segments; for example, some 'oil majors' are among the largest investors in alternative energy. Acceptance of the risk of diluted financial returns is part and parcel of an exclusionary strategy, which may be deemed to conflict with fiduciary responsibility.

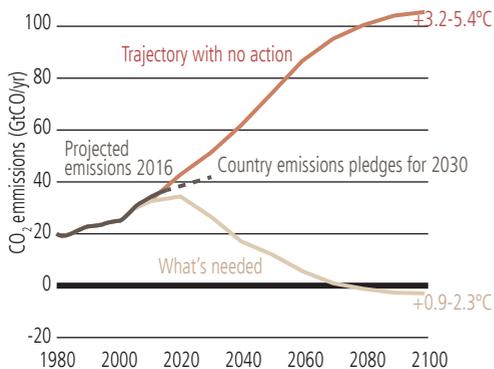
The second consequence has to do with an investor's definition of responsible investment. While the hope is that over time the world will be less reliant on carbon, it is clear that at the very least a prolonged transition period will be needed to achieve this, given current levels of fossil fuel dependence. Anyone who simply excludes this sector is unable to exert any influence on the means and timing of such a transition. Many responsible investors believe that being part of this process is an essential component of driving effective and long lasting solutions.

Investors who buy into this strategy will likely choose to stay invested in carbon-emitting companies so that they can:

- create a positive change through proactive engagement with the companies that appear to be the least well positioned for the needed transition
- support more companies in developing the new technologies that are needed for the global economy to transition successfully.

This is a strategy the UBS Climate Aware fund aligns itself with.

Low growth in global carbon emissions continues for third successive year



Source: Future Earth; CDIAC/GCP/IPCC/Fuss et al 2014/ Rogelj et al 2016

An alternative and arguably, from a big picture perspective, a more responsible approach is for investors to mobilise behind the world-wide efforts under the Paris Agreement.

What are the objectives set for the UBS Climate Aware fund?

The fund is designed to achieve three objectives simultaneously:

- 1 to substantially reduce the carbon (CO₂) footprint¹ of a passive global equity portfolio
- 2 to materially increase investment in companies that are best placed to benefit from the growth in demand for renewable energy and associated technologies
- 3 to achieve long-term returns broadly in line with the net of costs performance of the underlying index benchmark (e.g. FTSE Developed Index, MSCI World, etc.).

There is a natural tension between these three objectives since, all else being equal, the more the portfolio is re-shaped away from the index benchmark the greater the chance that investment

¹ In this note CO₂ footprint includes the six greenhouse gases covered by the UN Framework Convention on Climate Change and its Kyoto Protocol: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

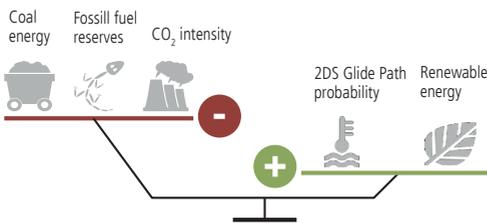
returns will diverge. The Fund therefore strikes what we believe is an appropriate balance by constraining the degree to which the portfolio can deviate from the index, which is achieved by imposing a maximum tracking error budget of 50 basis points (0.5%). This overall budget is managed by limiting the permitted deviations from the index at individual stock, industry, sector and country levels, such that unintended risks are not taken while managing the carbon risk.

How are the portfolio of investments constructed?

The Fund’s investments are selected using a **transparent, rules-based and optimised portfolio construction methodology**.

Within the constraint of the risk budget we are currently able to re-distribute around 15% of the total investment, effected through a series of factor-tilts. Three of the factor-tilts are ‘risk-reducing’ and two are ‘opportunity-seeking’. This is graphically represented below, showing how the risk-reducing factors are underweighted (negative tilt) and the opportunity-seeking factors are over weighted (positive tilt).

Factor tilts applied to the Climate Aware fund



Source: UBS Asset Management. For illustrative purposes

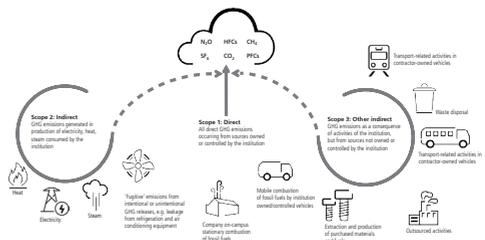
We draw on seven data sets to assess each company across these five factor-tilts:

Risk-reducing factor-tilts: CO₂ Intensity, Coal Energy and Fossil Fuel Reserves

Data Sets 1-3: We collect three types of carbon emissions data from the most reputable third parties (notably Trucost):

- ‘Scope 1’ – the level of direct CO₂ emissions resulting from the company’s consumption of fossil fuels in its own production processes
- ‘Scope 2’ – the level of indirect CO₂ emissions arising from the consumption of bought-in power
- ‘Scope 3’ – any indirect CO₂ emissions associated with the company’s purchasing and sales activities not otherwise captured

Greenhouse Gas Emissions - reporting protocol



Source: World Resources Institute and World Business Council on sustainable development

To standardise the measurement of carbon emissions across companies that vary greatly in size we then scale each company’s total tonnage of emissions relative to its total revenues, a measure we refer to as its **CO₂ Intensity**.

It is important to note that no companies are automatically excluded from the portfolio on the grounds of the level of their CO₂ emissions,

though the optimisation process may exclude some companies on the grounds of their small size.

Data Set 4: Coal Energy

This data set comprises both the absolute level of coal-fired energy generated and the output of coal mining companies.

Data Set 5: Fossil Fuel Reserves

Being in the ground or under the sea fossil fuel reserves are potential sources of future emissions and they also carry the potential risk of permanent loss of value should governments implement policies to restrict companies from fully extracting their reserves.

Opportunity-seeking factor-tilts: Renewable Energy and Glide Path Probability

Data Set 6: Renewable Energy

In constructing the portfolio we aim to increase investment in companies that invest in renewable energy and associated technologies.

Data Set 7: Glide Path Probability

The International Energy Agency (IEA) has defined the future trajectory of reductions in CO₂ emissions that each industry segment needs to achieve if there is to be at least a 50% chance of meeting the 2° maximum rise in average global temperature.

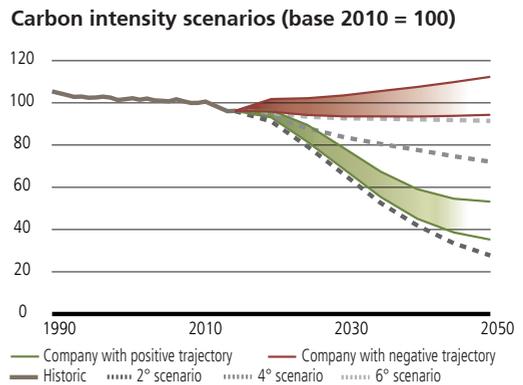
We adopt those industry trajectories as benchmarks to calculate the probability that a given company will achieve its associated industry target.

Our starting point is to derive a base-case probability that a company will achieve its target by looking backwards, by examining the trend in its historic CO₂ emissions data.

A **crucial innovation** in our approach is that we then refine that initial probability by taking into account forward-looking insights that can better inform us about what the company might achieve in the future.

We consider five qualitative, forward-looking indicators of a company's overall commitment to reducing its CO₂ footprint and score them on a simple 0 or 1 scale. We refer to a company's total score on these indicators as its Low Carbon Commitment Score. Essentially by incorporating this forward-looking evidence we improve our confidence in our assessment of whether a given company will achieve its target.

We refer to this refined, forward-looking measure as a company's **Glide Path Probability**. The following chart depicts what those individual company glide paths can look like in practice, with confidence intervals around each glide path expanding as the time horizon increases and being dependant on the level of disclosure from companies in terms of data, policies, initiatives, etc.



Source: UBS Asset Management, Asset4, Trucost and IEA
Note: For illustrative purposes only. UBS Asset Management applied a quantitative model that compares a company's carbon footprint trend with the required emission reduction implied by the 2DS. This estimates the probability that a company will achieve glide path targets. Actual future results may vary from expectations.

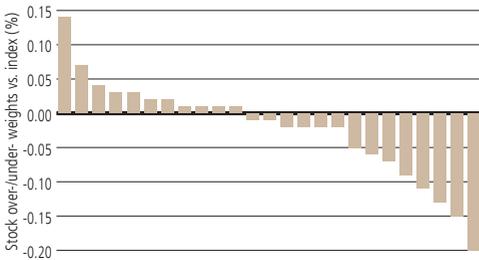
Bringing everything together

The final step in portfolio construction is to feed each company's scores across the five factor-tilts into a **Portfolio Optimiser** alongside the pre-set portfolio investment constraints. Our portfolio construction allows us to manage the carbon risk taking into account other sources of risk (e.g. sector, country, factor, etc.).

The output is the **most efficient model portfolio**, which means that the low-carbon credentials of the portfolio are maximised subject to the pre-set investment constraints.

As an example of the model output the following depicts a typical reallocation of investment within a sector, where individual companies are either over-weighted or under-weighted relative to their weights in the underlying Index. It should be noted that the over and under-weights are limited to 20 basis points (0.2%).

Distribution of stock over/underweights vs Index
(integrated oil & gas industry group)



Source: UBS Asset Management, TRQA, Trucost, FTSE.
As at 31 December 2017

This efficient model portfolio is then implemented within the Fund and rebalanced on a quarterly basis.

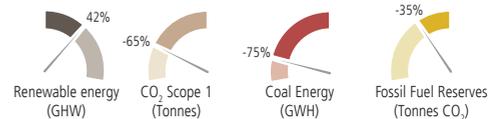
What are the Fund's low carbon credentials and what can we report?

As at 30 June 2018 the Fund's 'low carbon' credentials were as follows:

- Total CO₂ emissions by portfolio companies were contracting at an annual rate of 2.4%, compared to a rate of decline of 0.3% in the benchmark index
- Scope 1 CO₂ emissions were 65% less than the benchmark index
- Coal energy consumption was 75% less than the benchmark index
- The CO₂ that could potentially be emitted from reserves of fossil fuels was 35% less than the benchmark index
- The Fund's investments in Renewable Energy sources was 42% higher than the benchmark index.

To assist Trustees and pension fund members in understanding how these low carbon credentials evolve over time we can provide regular updates in the form of a simple progress chart:

Selected achieved relative exposures



Source: UBS Asset Management, as at 30 June 2018

What is the fund's policy on Engagement?

Investors in the fund are effectively embarking on a long-term journey. The destination is reasonably well defined but precisely how the journey will unfold is more uncertain. Clarity around the engagement strategy and active voting will be crucial to keeping the Fund on the right track. The Fund is committed to:

- Promoting the reporting by companies of emissions data
- Encouraging companies to have clear strategies and goals for reducing emissions and a commitment to regular reporting on progress
- Encouraging companies to comply with best practice in reporting on their governance, strategy, risk management, metrics, and targets, in line with the recommendations of the TFCFD
- Encouraging companies to undertake appropriate scenario testing and report implications in their annual reporting.

How is the Fund advised?

An Advisory Group has been established to provide advice on the fund's strategy and activities. Membership will include senior UBS staff and investor representatives. Core elements of the Group's brief are to keep abreast of climate related trends and developments that impact on listed companies, monitor the ongoing voting and engagement activities and to discuss recommendations in order to continuously enhance the methodology applied by the fund.

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