

A new, climate-efficient equity index

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A new, climate-efficient equity index

1. PUBLICA invests responsibly – now with the help of systematic climate analyses

PUBLICA invests exclusively in the interest of its active members and pension recipients. Using appropriate risk limitation strategies, it aims to generate a market return that safeguards benefits in the long term. The Investment Guidelines stipulate that ecological, ethical and social aspects should be factored in, as long as they do not impede fulfilment of the pension objectives.

Investing necessarily involves taking risks. Risks should be avoided where they are not expected to be compensated by the market or where their scope and consequences cannot be assessed. Risks that are difficult to assess and can lead to tangible financial losses for PUBLICA can also be found in the area of ESG (environmental, social and governance) criteria. PUBLICA conducts annual strategic risk analysis to identify them. Potential risks are prioritised, analysed in detail and, as far as possible, avoided or reduced by means of appropriate measures.

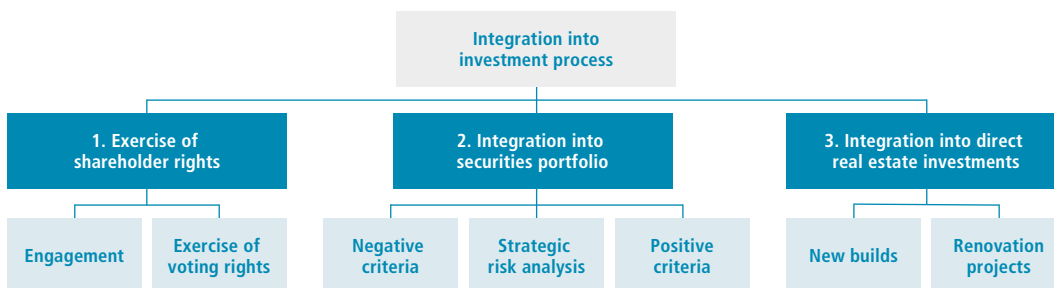


Diagram: The three pillars of PUBLICA's "responsible investment" policy – of which the strategic risk analysis is part.

The 2015 strategic risk analysis prioritised climate risks and investigated them systematically for the first time, with the result that coal producers were excluded from PUBLICA's portfolios. In addition, the Swiss Association for Responsible Investments SVVK-ASIR, of which PUBLICA was a co-founder, launched a climate-specific dialogue with international cement and steel producers. The impact of climate change on investments was also prioritised and analysed in detail in 2018. The results led to a proposal to introduce a climate-efficient index for the equity portfolios developed in association with MSCI. This was approved by the Investment Committee in December 2019, and the Board of Directors gave the green light for its implementation in January 2020.

2. A climate-efficient equity index creates opportunities and reduces risks

PUBLICA sees a climate-efficient equity index as an effective steering tool, allowing investments in companies with negative exposure to be underweighted while overweighting investments in companies that are best prepared for climate risks or have technologies and business models to reduce greenhouse gas emissions. This comprehensive coverage of climate-related risks and opportunities along with consideration of different climate scenarios constitutes a new approach. The measures taken until now have only involved ad hoc analyses of parts of the securities portfolio and specific risk aspects such as transition risks in individual sectors. A clearly defined index also offers advantages in terms of scalability, transparency and adaptability.

Various climate scenarios are taken into account

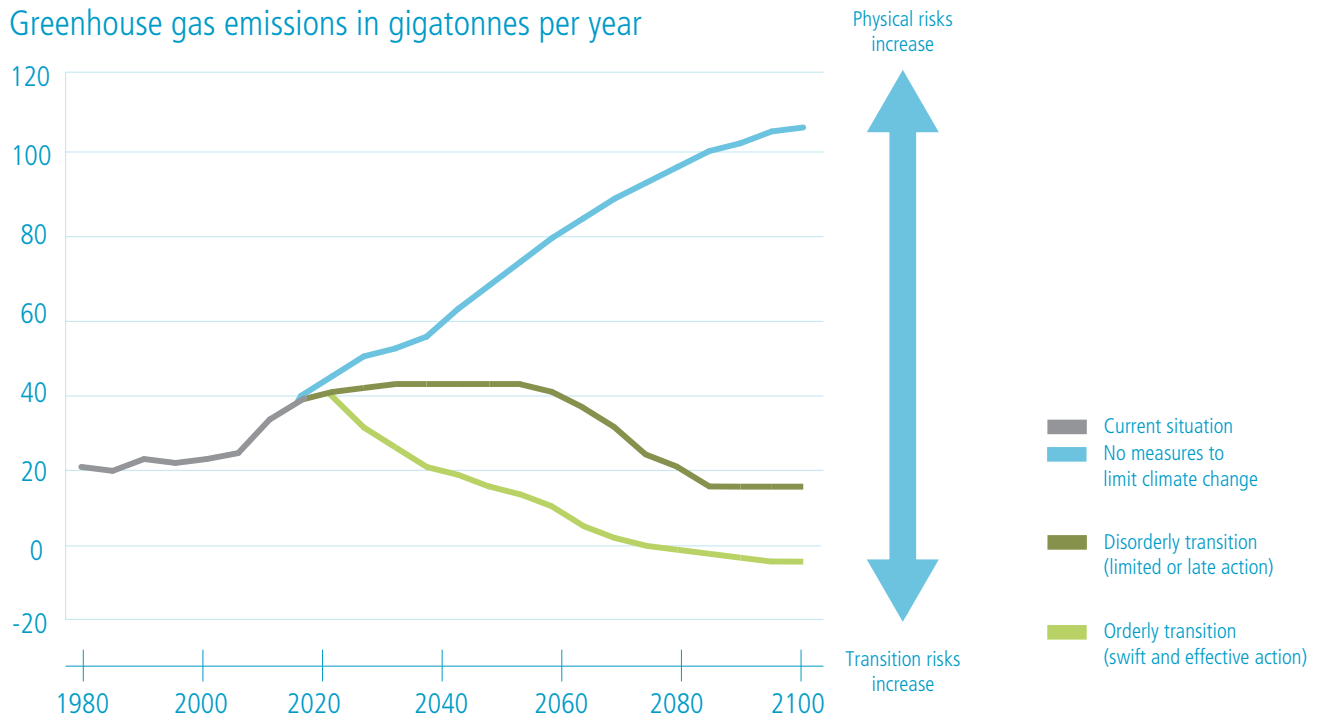
The impact of climate change on the environment, companies, and investors' portfolios depends heavily on the trend in global warming. The following scenarios are possible:

Scenario	Description	Potential impact on the portfolio
No measures to limit climate change ("business as usual")	Governments do not implement the goals agreed at the 2015 United Nations Climate Change Conference in Paris. Greenhouse gas emissions continue to rise due to global economic growth.	Physical risks: substantial Transition risks: low Unrestricted climate change reaches tipping points and causes major damage to buildings and production facilities due to extreme weather and rising sea levels.
Disorderly transition (limited or late action)	Uncoordinated measures adopted at short notice take companies and investors by surprise.	Physical risks: high Transition risks: high Climate change reaches tipping points and causes financial losses. At the same time, companies and consumers face additional taxes and duties.
Orderly transition (swift and effective action)	Globally coordinated, broad-based measures give players enough time to adjust their behaviour.	Physical risks: moderate Transition risks: moderate Globally coordinated and carefully implemented measures successfully limit climate change. Companies and investors are able to bear the costs of adjustment.

Diagram: Potential impact of various climate scenarios on the portfolio

The risks that companies are exposed to depend on how fast and effectively governments can implement their measures to reduce greenhouse gas emissions. If little action is taken, greenhouse gas emissions will rise and the pace of climate change will accelerate. In the long term this will lead to increases in physical risks such as extreme heat, extreme cold and extreme weather. If effective action is taken quickly (within the next 5 years), the main issue will be transition risks, such as taxation of CO₂ emissions.

Greenhouse gas emissions in gigatonnes per year



Transition risks or physical risks predominate, depending on the climate path

Diagram: Various climate scenarios (illustrative)

The challenges of climate change for investors include:

Potential errors in corporate valuations:

It is normally assumed that financial markets are efficient, in other words that publicly available information is factored into the prices of shares and bonds. However, the time horizon and information complexity may make efficient pricing impossible. Because climate change involves extremely complex interactions between climate factors, political decisions and corporate valuations and extends over a very long time horizon, it is reasonable to suppose that the long-term opportunities and risks associated with climate change are not adequately reflected in today's share prices. This is confirmed by academic studies.

Potential misvaluations due to failure to consider different climate scenarios:

Investors should take account of a number of possible climate scenarios and distinguish between regulatory risks (taxes, bans, etc.) and physical risks (weather-related damage to buildings, production outages, etc.) for companies.

Climate change creates winners and losers:

The objective of moving towards an economy with lower greenhouse gas emissions also brings opportunities for companies in the form of new technologies, services and products. A comprehensive analysis should therefore also cover the risks and opportunities for companies.

3. The parameters of the climate-efficient equity index cover a range of climate scenarios

PUBLICA’s climate-efficient equity index is not constructed using a single climate metric, but instead takes account of a number of climate-relevant attributes for each company. This diversifies the various models used to assess the opportunities and risks associated with climate change, making the index overall less susceptible to errors in individual models and their assumptions.

PUBLICA’s climate-efficient equity index is based on three parameters:

Parameter 1: The expected costs of taxation of CO₂ emissions over a 30-year period are compared with the company’s market capitalisation. This ratio acts as a risk measure for potential regulation to achieve the goals of the Paris Agreement.

Parameter 2: This is based on an innovative patent analysis covering almost 100 million patents registered worldwide in more than 400 categories, all of which are aimed at reducing greenhouse gas emissions. The potential earnings over a 30-year period are simulated in relation to the company’s market capitalisation. This captures the opportunities that regulation opens up for innovative and adaptable companies.

Parameter 3: Changes in climate increasingly lead to interruptions to business as well as damage to production facilities and office premises. Parameter 3 contains the expected costs consequent on this. Climate-related advantages such as higher crop yields due to milder temperatures are also taken into account. All a company’s locations are included when calculating parameter 3.

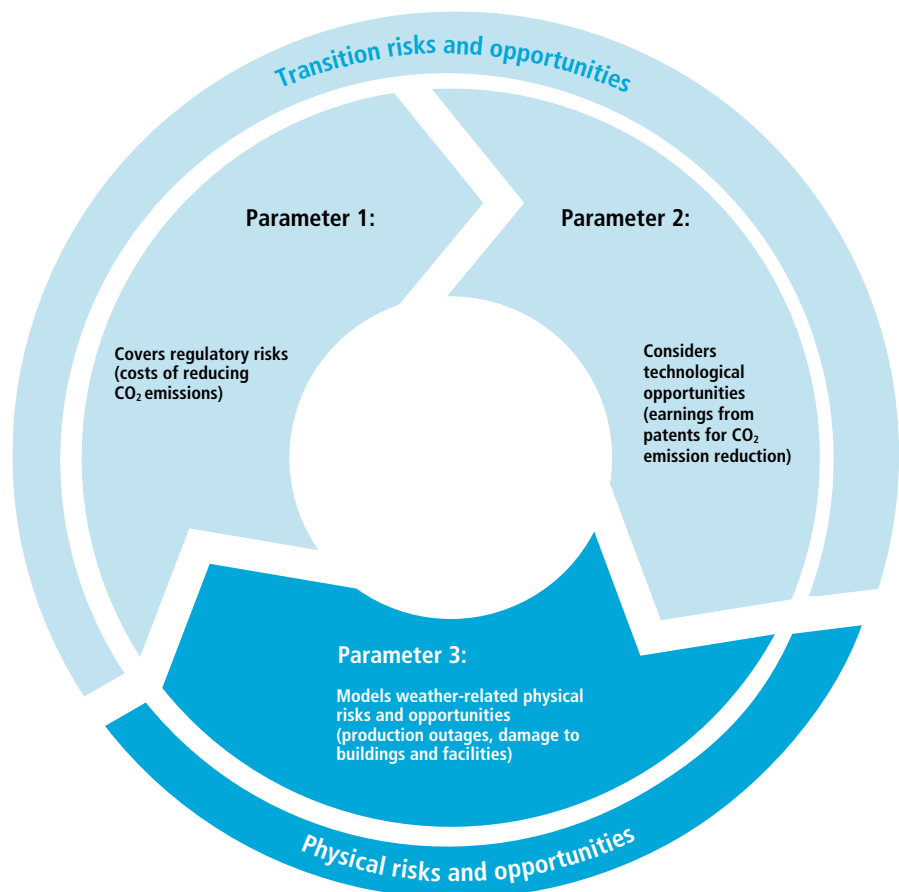


Diagram: The three parameters of the climate-efficient equity index

4. Climate data are calculated independently

PUBLICA developed its climate-efficient equity index in close collaboration with a well-known index provider and a Swiss fintech team that specialises in modelling and calculating climate data. The climate data used are predominantly future-oriented and based on official figures from governments and international organisations such as the International Energy Agency (IEA), the Potsdam Institute for Climate Impact Research (PIK) and the United Nations Environment Programme (UNEP). The data sources are not dependent on information supplied by companies and are reviewed by third parties. This approach allows a very wide range of companies to be covered – a very important consideration for PUBLICA, which has equity investments in over 50 countries and 9,000 firms.

5. Summary

Climate efficiency results from an improvement of up to 50% in each of the three parameters described over the equity portfolio as a whole, without any deterioration in the expected risk/return ratio compared with the original equity index. The aim is to progressively implement climate efficiency throughout PUBLICA's equity portfolio by the end of 2021. The innovative climate-efficient equity index is thus a further steering tool enabling PUBLICA, through its investments, to respond effectively to the challenges of climate change.

Appendix

The result of an optimisation process

An optimisation process was put in place with the aim of significantly improving PUBLICA's existing equity strategy as it relates to the opportunities and risks associated with climate. Measured in terms of certain attributes, the new index is also "better" (i.e. more efficient) than its predecessor; in other words, it exhibits (at least) 30% lower risks and (at least) 30% higher opportunities than the original index.

The focus when constructing the climate-efficient index was on strict risk management. One condition was that it should deviate only to a limited extent from PUBLICA's original equity strategy. While optimised and non-optimised indices can differ substantially when it comes to individual securities, those securities are limited to the small number that are especially climate-(in)efficient. Nevertheless, the absolute risk of the new climate-efficient index is comparable with that of its predecessor.

Care was also taken when constructing the index to ensure that individual securities are not excluded. Exclusions are taken into account in a dedicated step when compiling the equity universe. An ongoing investment also enables influence to be exerted on less climate-efficient companies. This is done as part of a dialogue intended to motivate them to act in a more climate-friendly manner.

The outcome of this construction process is a transparent set of rules and a transparent index that covers the same number of companies as its predecessor. Specific characteristics, such as the factor strategy that has already been implemented, are retained as far as possible, while much better climate efficiency values can be achieved at the portfolio level.

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