ESG at Zuger Kantonalbank

Implied Temperature Rise

As the leading bank in the Zug economic region, we are aware of our responsibilities. We think and act in a future-oriented way, and incorporate environmental and social aspects into our ambitious commercial objectives. By doing so we create added value – for our stakeholder groups and for the environment.

The present version of this document is based on methodology papers drawn up by MSCI ESG Research LLC.

Implied Temperature Rise is a metric developed to show the alignment of companies and investment portfolios with the global climate targets.

Paris Climate Agreement

Investors are increasingly focusing on the financial repercussions of climate change. They want to know whether the companies in which they invest are aligning their activities with the global targets of the Paris Agreement. The Paris Agreement is a legally binding, international treaty on climate change. It was adopted by 196 contracting parties at the UN Climate Conference in Paris on 12 December 2015. Its overarching goal is to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels". The UN's Intergovernmental Panel on Climate Change (IPCC) has indicated that crossing the 1.5°C threshold risks unleashing far more severe climate-change impacts, including more frequent and severe droughts, heatwaves and rainfall.

The concept of Implied Temperature Rise

Implied Temperature Rise (ITR) is a forward-looking metric showing the extent to which companies and investment portfolios are aligned with the global climate targets. Investors can use the ITR to define decarbonisation targets and support engagement on climate risks. Like any other forward-looking method, the ITR is a simplified representation of a possible future development that – however – remains subject to a significant degree of uncertainty.

The key to understanding ITR is the concept of the carbon budget, i.e. the amount the world is allowed to emit so that global warming does not exceed 1.5°C by 2100, and the amount a company is still allowed to emit while making a fair contribution to global decarbonisation. This involves referring to Scope 1–3 greenhouse gas emissions (see below). The methodology does not take account of the costs, nor of the emissions avoided thanks to the transition to a low-carbon economy.

The calculation is based on open-source 1.5°C decarbonisation pathways provided by the NGFS (Network of Central Banks and Supervisors for Greening the Financial System). The model also uses sector-specific computed pathways whereby companies in the higher-emission sectors are given a larger carbon budget than those in sectors with lower emissions. The basis is greenhouse gas emissions Scope 1–3.

Key components of the ITR model

The following factors play a role in calculating the implied temperature rise:

- High **current emissions** are a key contributor to companies using up their carbon budget, which in turn drives up the ITR.
- A company's **decarbonisation targets** can help it to lower its cumulative emissions going forward.
- A **sector-specific decarbonisation pathway** defines the carbon budget that is aligned to the temperature curve for comparable companies within a particular sector. In the model, all pathways differ according to the sector and region.

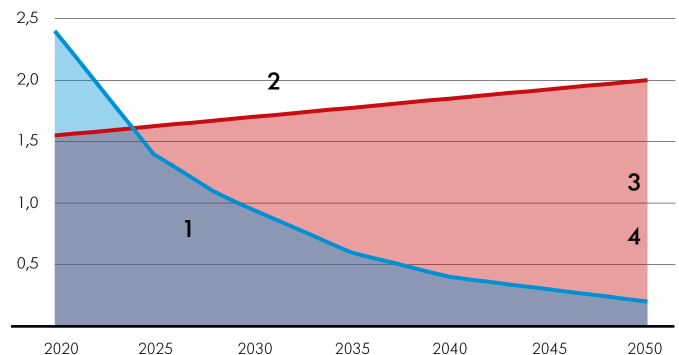
The overall amount by which a portfolio's carbon emissions overshoot or undershoot the global budget is then converted into a temperature figure. For example, an implied temperature rise of 1.5°C means that a company is expected to comply with its share of a carbon budget that would limit global warming to 1.5°C this century. By contrast, an ITR of 2.5°C would mean that the company's emissions imply a further rise in temperatures that would cause greater damage.

Emission categories (scopes)
Greenhouse gas emissions can be broken down into the following three categories:

- **Scope 1:** Direct emissions from owned or controlled sources
- **Scope 2:** Indirect emissions relating to the production of energy purchased for own consumption
- **Scope 3:** All other indirect emissions arising in the company's value creation chain (upstream and downstream emissions)

Source: Greenhouse Gas Protocol

Key steps of ITR modelling at company level



Carbon budget overshoot
Estimated annual CO_2 emissions
Carbon budget undershoot
Net-zero CO_2 reduction pathway

Source: MSCI ESG Research

1 Allocation and running of a net-zero carbon budget
2 Projection of companies' future emissions taking their targets into account
3 Comparison of 1 and 2 to measure overshoot/undershoot
4 Conversion of overshoot/undershoot in degrees Celsius of the ITR

Approach at portfolio level

To calculate the ITR at portfolio level, the aggregated budget approach recommended as best practice by the Glasgow Financial Alliance for Net Zero (GFANZ) is used. The sum of the expected greenhouse gas emissions is compared with the sum of the available carbon budgets of the underlying positions in the portfolio. The model also uses sector-specific computed pathways whereby companies in the higher-emission sectors are given a larger carbon budget than those in sectors with lower emissions.

Publications

Other publications on the subject of ESG can be found on our web page www.zugerkb.ch/en/esg.

We are signatories to or members of the following organisations

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