Transition Value at Risk

Description of the Methods and Assumptions Used

The Transition Value-At-Risk (TVAR) is the quantification of the risk associated to a company under various transition scenario of the economy towards or not a low-carbon economy, expressed as a different in the market-value of the company. It uses a series of internal datasets as well as publicly available climate scenario models. The first model is the International Energy Agency's (IEA) Global Energy and Climate Model which incorporates policy, market, and technology risks to analyze the transition to a low-carbon economy. The second is Network for Greening the Financial System's (NGFS) Phase 5 Remind-MagPIE model which maps out different futures, depending on how climate change (physical risk), transition policies, technological developments and changes in preferences.

The main risks encompassed in the models are:

- **Policy transition risks** encompass potential costs or revenues resulting from changes in the policy environment, often summarized under a carbon price instrument.
- **Market risks** are considered through the integration of carbon prices per region/country, focusing on specific sectors like Power Generation, Energy Production, and Industry.
- **Technology risks** examine changes in demand for low carbon technologies versus fossil fuel technologies.

Value at Risk

- The Value at Risk (VaR) measures the potential change in share price considering the financial impact of the transition risks and opportunities mentioned above. The estimation involves a two-step process.
    - First, a valuation model calibrates the company's financials based on historical data and growth assumptions which will serve as the baseline.
    - Second, the model is run again, considering the impact of transition risks and opportunities on projected financials, such as adjusting sales trajectories and accounting for increased costs due to carbon prices.

  The difference in equity value between the two runs is the Transition Value at Risk (TVaR).
- A positive TVAR (both in absolute and relative percentages) would indicate the existence of a risk and therefore a negative performance in share prices compared to its baseline. A negative TVAR indicates an opportunity.

TVaR Scenarios Descriptions

The variables used to measure the stress that the financials of a company are experiencing is based on multiple scenarios from different providers as described below:

IEA World Energy Outlook 2024

- Stated Policies
- Net Zero
- Announced Pledges

NGFS Phase 5

- Delayed Transition
- Fragmented World
- Current Policies
- Nationally Determined Contributions
- Below 2°C
- Low Demand
- Net Zero

Constitutes a total of 10 scenarios across 2 different models.

Time Horizon

The model is calibrated to inject the data provided by the scenario annually from 2020 until 2050. The model provides a revised valuation from current forecast of the company using climate-based forecast of financial parameters (e.g., revenues, carbon price, costs, etc.)

Research Process and Cycle of Update

ISS STOXX Climate Solutions uses estimated or modelled data if disclosed data is deemed by ISS to be insufficient or inadequate. Estimated or modelled figures are based on clear estimation and modelling rules to ensure that results are based on reasonable assumptions with medium to high certainty.

- Emissions database: A summary of the process is provided below:
    - Self-reported emissions data is collected from all available sources on an annual basis.
    - Self-reported numbers are evaluated for trustworthiness and, where necessary, discarded.
    - All companies are classified according to their carbon-profile, allowing ISS STOXX to benchmark non-reporting companies against their reporting peers.
    - ISS STOXX applies its 800 sub-sector specific models to estimate the emissions of non-reporting companies according to sector-relevant financial or operations metrics.

  - Emissions of holdings are allocated to the portfolio according to an investor ownership logic. To ensure compatibility with other providers and TCFD recommendations or PCAF, multiple other metrics may also be applied.
  - Quality assurance: If ISS STOXX's analysts, after manually reviewing the data, do not find the self-reported numbers to be reliable, estimated emissions numbers will be used instead.
- Target projected emissions are calculated in the Scenario Alignment dataset. These values are then used for the TVaR's costs calculations.
- Impact on revenues: ISS STOXX SDG Solutions Assessment data is used to split company revenues. Each company has a set of operation technologies that are mapped to technology demand curves for each scenario. These are then used to stress the revenues.
- The SDG Solutions Assessment dataset follows a thematic approach encompassing 15 distinct sustainability objectives, using the UN Sustainable Development Goals (SDGs) as a reference framework. The product's focus is on assessing to what extent companies are making use of existing and emerging opportunities to contribute toward, or obstruct, the achievement of global sustainability objectives via their products and services offering from an SDG perspective.
- Impact on costs: Current carbon prices are assumed to be priced in, and levels of pricing are sourced from World Bank carbon mechanisms database. IEA scenarios provide sectoral and regional future carbon price curves that are applied to the relevant scope of emissions of corporates based on their regional footprint. NGFS provides both current and future carbon prices. These carbon prices, alongside with the forecasted emissions targets are used to calculate extra costs over the forecasting period.
- Estimated financial impact is then based on EVA financial projections.

  Please refer to the respective methodology documents for further information.

Use of Estimated Data

ISS STOXX Climate Solutions uses estimated or modelled data if disclosed data is deemed by ISS to be insufficient or inadequate. Estimated or modelled figures are based on clear estimation and modelling rules to ensure that results are based on reasonable assumptions with medium to high certainty.

- Emissions database: For companies which do not disclose emissions, and those who report with a low trust metric (according to internal analysis conducted by ISS STOXX), emissions data is modelled.

  Please refer to the respective methodology documents for further information.

Last Reviewed: March 2026
Version 2.1

ISS STOXX

sales@iss-stoxx.com
iss-stoxx.com

ISS STOXX delivers world-class research, data, and technology solutions that empower capital market participants to pursue their visions with confidence. Our expertise spans indices, corporate governance, sustainability, cyber risk, and fund intelligence, giving clients the tools they need to uncover opportunities, manage risks, and navigate evolving regulations. We are made up of 4,000 professionals operating across 20 countries and serving approximately 5,000 clients, including many of the world's leading institutional investors. Our scale and reach give us deep market knowledge, while our innovative methodologies allow us to offer our clients tailored insights that drive impact and success.

ISS STOXX Sustainability enables investors to develop and integrate responsible investing policies and practices, engage on responsible investment issues, and monitor portfolio company practices through screening solutions. It also provides climate data, analytics, and advisory services to help financial market participants understand, measure, and act on climate-related risks across all asset classes. In addition, our Sustainability solutions cover corporate and country research and ratings enabling its clients to identify material social and environmental risks and opportunities. Sustainability solutions are provided by Institutional Shareholder Services Inc., an investment adviser registered under the U.S. Investment Advisers Act of 1940.