MSCI ESG Climate Data & Metrics

MSCI offers over 700 climate change metrics including Climate VaR, Low Carbon Transition Score, forward-looking indicators, emission data, fossil fuel exposure, clean tech solutions to facilitate integration across the investment process.

Deep and broad company data

- Carbon emissions and fossil fuel exposure
- Clean technologies exposure
- Risk exposure business and geographic
- Carbon management practices and programs

State of the art climate models

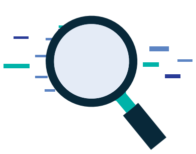
- Low carbon transition risk & opportunities
- Physical risks
- Stress test climate scenarios
- Warming potential

Insightful tools

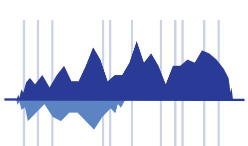
- Scalable climate portfolio analysis
- Innovative climate change indexes*
- Market-leading risk analytics*

Coverage: more than 9,600 companies including large, mid and small cap developed and emerging market equities, as well as Investment Grade, high yield and emerging market fixed income issuers; 198 countries for select / relevant metrics.

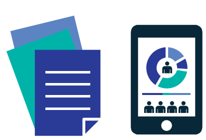
How our clients use MSCI ESG Climate Data & Metrics



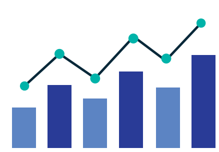
Assess exposure to climate change risks and opportunities



Portfolio construction / risk management / climate reporting



Engagement & thought leadership

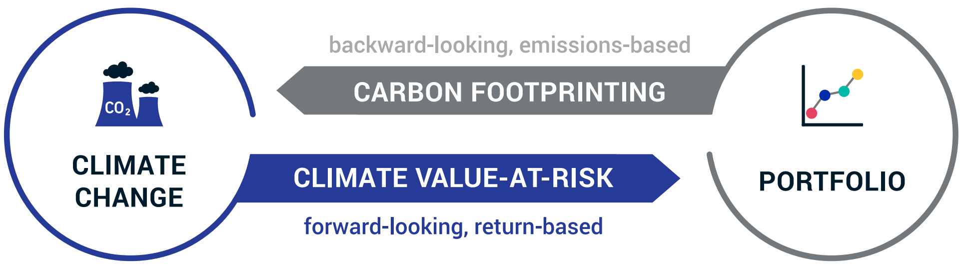


Benchmarking / Index-based product development

MSCI ESG Research's

Climate Value-at-Risk

Climate Value-at-Risk (Climate VaR) is an innovative and pioneering climate risk metric, designed to provide a forward-looking and return-based valuation assessment to measure climate related risks and opportunities in an investment portfolio. The fully quantitative model offers deep insights into how the physical and transition risks and opportunities of climate change could affect company valuations.



Assess portfolio vulnerability to scenarios

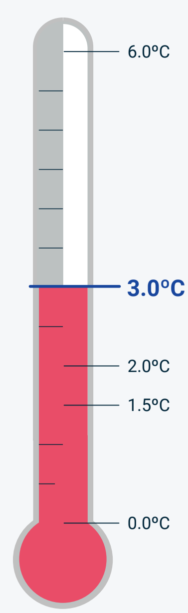
Climate Value-at-Risk provides a truly forward-looking dimension for assessing both transition risks and transition opportunities of publicly listed companies and their issued securities. The framework provides a large number of scenarios which incorporate different temperature as well as socio-economic pathways to help assess the climate impact of investment portfolios.

Warming potential

MSCI ESG Research's "warming potential" methodology computes the contribution of a company's activities towards climate change. It delivers an exact temperature value that signifies which warming scenario (e.g., BAU, 3°C, 2°C, 1.5°C etc.) the company's activities are currently aligned with. Thereafter, a "portfolio warming potential" can be computed as a weighted aggregate of the company-level warming potential. The warming potential methodology can be applied to companies as well as real estate assets.

How aligned is your portfolio with the Paris Climate Target?

The thermometer shows the warming trajectory of a portfolio, and relates it to important target temperatures in global climate change regulations.



All climate metrics overview

Climate Value-at-Risk

This risk measurement helps investors to comprehensively assess future costs related to climate change and understand what those future costs could mean towards the current valuation of securities. The premise of Climate VaR is to aggregate costs related to specific climate risks over the next 15 years and calculate what these costs might signify about financial performance into the foreseeable future.

Warming Potential

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Low Carbon Patent Analysis

Recently published patent databases allow an evidence-based, behind-the-scenes view into the strategic research and development investment of companies. Climate VaR's model currently covers 65 million unique patents that have been granted from 40 patent authorities worldwide. In this dataset, patents referring to the Low Carbon technologies have been segregated, assigned a quality scores and mapped to companies.

Current Green Revenues

The recent-year percentage of revenue, or maximum estimated percent, a company has derived from products or services related to alternative energy, energy efficiency, green building, pollution prevention, sustainable water or sustainable agriculture.

Fossil Fuel (incl Power) Screens

This dataset provides quantitative data on reserves by fossil fuel type and revenue screens (thermal coal, conventional and un-conventional oil & gas), as well as granular power generation data.

Low Carbon Transition Score

A company level score designed to identify potential leaders and laggards by holistically measuring companies' exposure to and management of risks and opportunities related to the low carbon transition. Companies with higher Low Carbon Transition score are more aligned with the Low Carbon Transition compared to the companies with lower scores.

Emissions

This dataset represents a company's Scope 1, Scope 2 and Scope 3 greenhouse gas emissions as reported (if available) or estimated by our proprietary estimation model. Scope 1 emissions are those from sources owned or controlled by the company, typically direct combustion of fuel as in a furnace or vehicle. Scope 2 emissions are those caused by the generation of electricity purchased by the company. Scope 3 emissions include an array of indirect emissions resulting from activities such as business travel, distribution of products by third parties, and downstream use of a company's products (i.e.by customers).

Sovereign

Close to 30 data points for sovereign issuers to highlight a country's exposure to transition risk and physical and economic vulnerability related to climate change. The data is collected from sources such as the United Nations (UN), World Bank, Central Intelligence Agency (CIA), etc. It also includes a number of carbon emissions factors (CO2 and GHG), their corresponding intensities and trend calculation that can be used to calculate the carbon footprint of sovereign investments.

Climate Risk Management

Assessment of corporate issuers' climate change exposure and management practices to identify leaders and laggards when it comes to preparedness for transition to a low carbon economy. The risk exposure assessment is intended to assess the extent to which a company is exposed to a material issue (or Key Issue). Under risk management assessment, we assess the strength of a company's strategy and other-forward looking measures to mitigate the risk.

Managing climate risk has become an increasingly important tenet of the investment process as investors want to be able to measure the impact of climate change and build portfolios resilient to climate risk.

Remy Briand
Head of ESG at MSCI

About MSCI ESG Research products and services

MSCI ESG Research products and services are provided by MSCI ESG Research LLC, and are designed to provide in-depth research, ratings and analysis of environmental, social and governance-related business practices to companies worldwide. ESG ratings, data and analysis from MSCI ESG Research LLC. are also used in the construction of the MSCI ESG Indexes. MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc.

For enquiries, contact ESG Client Service esgclientservice@msci.com.

About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 45 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit www.msci.com.

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