

## How Jupiter Helps Publicly Traded Companies Project and Disclose Future Physical Climate Risk Impacts to Assets and Supply Chains

**The Influential TCFD framework is guiding many national regulators—including the SEC and the FCA—that are developing climate risk reporting standards**

The Task force for Climate-related Disclosures ([TCFD](#)), created by the G20 Financial Stability Board in 2015, is designed to offer companies guidance on disclosing “decision-useful, forward-looking information on financial impacts” from climate risk.

The TCFD’s disclosure reporting framework, published in 2017 and amended in 2021, has become an important and influential point of convergence: jurisdictions from the European Union to the U.K.’s Financial Conduct Authority to the U.S. Securities and Exchange Commission are formulating regulatory changes that conform to, or strongly resemble, TCFD guidelines.

The TCFD considers two categories of climate-related risk: transition risk and physical risk. It recommends disclosing both types of risks, and the assessment of their material financial impacts on the company’s risk management, strategy, and short- and long-term performance.

### TCFD and the Role of Scenario Analysis

The TCFD classifies physical risks as acute (event-driven impacts) or chronic (impacts from longer-term climatic shifts). Both acute and chronic physical risks can impact a company financially by damaging its assets, impairing employee safety, and disrupting its supply chain, operations, and transportation. The TCFD recommends assessing physical risk through scenario analyses that provide “a variety of reasonable outcomes, both favorable and unfavorable.”

TCFD recommends using multiple scenarios, one of which should be in line with the Paris Agreement 2°C emission limit, which is in line with the IPCC RCP2.6 scenario.

The results of the scenario analyses should be disclosed quantitatively and qualitatively. Quantification of physical risk can be in the form quantifying the hazard (e.g., proportion of assets exposed to 100-year return period flood depths) and through financial impacts (e.g., changes to expected revenue due to asset damage). Physical risk should be qualitatively disclosed through how it fits into the company’s risk management and strategy.

Figure 1

## Climate-Related Risks, Opportunities, and Financial Impact

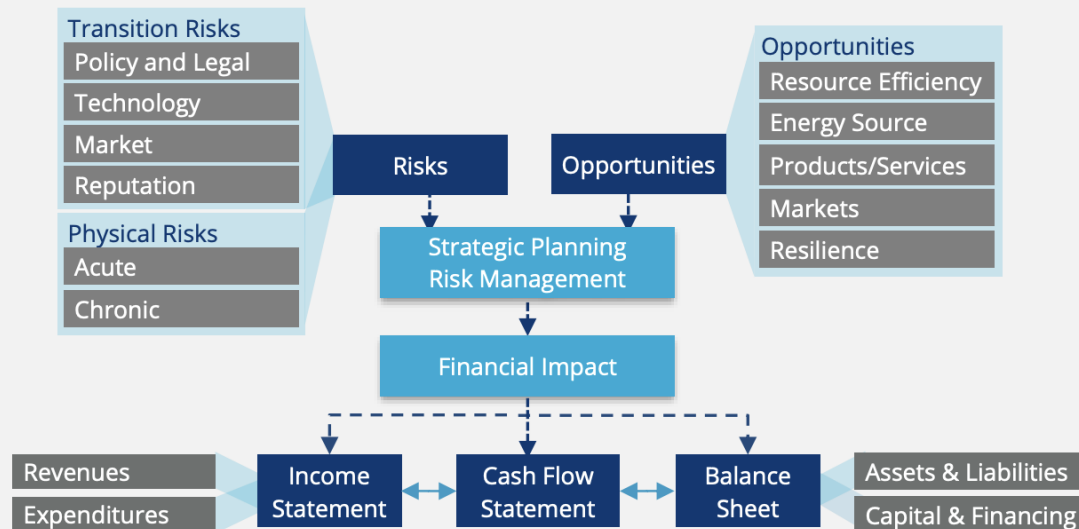


Figure 1: Depiction of how climate-related risks and opportunities are represented in a company's financial statements.

Source: [TCFD Report 2017 Recommendations](#)

## ClimateScore™ Global's Flexible Scenario Analysis Capabilities

[ClimateScore Global](#), Jupiter's flagship analytics tool, quantifies climate risk for scenario analysis for any combination of acute and chronic peril metrics—flood, wind, severe heat and cold, wildfire, drought, hail, and extreme precipitation—at portfolio scale (90 meters) for all points on the planet's land surface.

Its scope and granularity capture the most complete view of climate risk across the globe and across time. This enables users to project how a portfolio of assets may be affected by climate change: the perils it will be exposed to, vulnerable segments and their locations, and how that risk will change over time and across varying carbon emissions scenarios.

With its vast breadth of metrics, climate scenarios, and time horizons, ClimateScore Global enables users to use the most suitable and best available data to assess and report risk projections.

For example:

- Users can quantify the impacts of extreme heat on agricultural workers using WetBulb Globe Temperature—the global standard in determining heat stress on humans—rather than raw temperatures.
- They can match assets' remaining usable life spans to specific and flexible time horizons (every five years to 2100).
- They can model impacts based on multiple emissions scenarios (SSP-1 2.6, SSP-2 4.5, SSP5-8.5).

## Assessing Companies' Global Asset Footprints

Jupiter customers already employ Jupiter climate data analytics in risk assessment and reporting.

For example, JLL used Jupiter Intelligence physical climate risk information for their [2020 Global Sustainability Report](#) (pg. 23), released in 2022. They prioritized information about their eight office headquarter locations for a mix of acute and chronic perils to highlight their potential physical risk exposure.

AstraZeneca chose to screen their physical risk using Jupiter Intelligence in 2021 for their [Annual Report](#) (pg. 221) for all of its sites, using all three of ClimateScore Global's SSP-RCP scenarios (SSP1-2.6, SSP2-4.5, SSP5-8.5). It also chose to take a [deeper dive](#) into 12 business critical locations to understand their exposure in a worst-case scenario by 2030 and 2050.

## Supply Chain Analysis

Jupiter also enables global risk analysis of companies' assets and supply chains to offer a comprehensive understanding of physical risk associated with owned assets, suppliers, and supply chains, including linear assets such as rail lines, transportation nodes, ports, and roads. The breadth of ClimateScore Global, and Jupiter's globally-consistent model methodology, give firms confidence that far-flung suppliers are modeled with as much acuity as their assets at home.

## About Jupiter

[Jupiter Intelligence](#)™ is the global market, science, and technology leader in physical climate analytics for risk management and resiliency planning.

Jupiter analytics are used across the private and public sectors. Customers include at least one of the world's five largest firms in insurance, asset management, banking, chemicals, minerals and mining, oil and gas, pharmaceuticals, power, and reinsurance—as well as critical departments and agencies within both the United States government and climate-change-vulnerable geographies around the world.

In addition, Jupiter Promise is a global partnership with non-government organizations (NGOs) designed to provide climate analytics at little or no cost to improve resilience for the planet's most vulnerable and underserved populations.

Jupiter's enterprise-grade solutions together form the world's only global-to-street resolution climate analytics offering. In addition to ClimateScore Global's portfolio-scale analysis, the Jupiter ClimateScore Planning suite delivers ultra-high-resolution projections of peril-specific climate impacts on individual assets, facilities, neighborhoods, and communities.

For more information, please visit <https://jupiterintel.com> or email us at [info@jupiterintel.com](mailto:info@jupiterintel.com).