PHYSICAL CLIMATE RISKS

WHAT ARE PHYSICAL CLIMATE RISKS?

Physical climate risks refer to financial risks that arise directly from the physical impacts of climate change and climate events. They are categorized into chronic and acute risks. Chronic risks refer to climate variability, gradual temperature and precipitation shifts, or sea-level rise. Acute risks are extreme events such as floods, droughts, heat and cold waves, wildfires, and storms, whose frequency and severity are amplified by climate change. Physical hazards affect businesses every day.

Physical climate risks have very tangible financial consequences today, and they are expected to increase rapidly, especially in Europe where temperatures are rising more than twice the global average. They affect sales, production costs, working conditions, productivity, and cause disruptions and damage to assets, infrastructures, and supply chains. They directly affect the businesses' cash-flows, asset values, and credit ratings.

WHAT ARE THE DIMENSIONS OF PHYSICAL CLIMATIC RISKS?

Physical climate risk assessment involves evaluating various critical dimensions, including the nature and location of each peril, its present value based on historical data, future projections, and the characteristics of at-risk assets. About ten standard perils, such as thermal stress, heatwaves, cold waves, droughts, floods from precipitation or flash floods, storms, forest fires, and rising sea levels, are recognized for their widespread effects across most business sectors. Additional perils may be pertinent for specific companies or sectors.

Risk projections generally align with the IPCC's greenhouse gas emission reduction scenarios, with treasurers typically focusing on a projection horizon of up to ten years. This period balances the immediate impacts of climate change against the longer-term nature of adaptation strategies.

The assessment also hinges on the characteristics of the assets at risk, like warehouses, plants, or key suppliers, and their operational or financial attributes, such as their contribution to company margins, employee involvement, or energy consumption. Understanding these factors enables the calculation of each peril's value at risk and facilitates the consolidation of this information to gauge overall risk exposure comprehensively.

This process mirrors how treasurers determine a net currency position, applying stress with implied volatility to ascertain the value at risk, providing them with the necessary information to manage and mitigate physical climate risks effectively.

AS PHYSICAL CLIMATIC RISKS ARE NEW TO CORPORATES, ARE THERE SPECIALIZED SERVICE PROVIDERS AVAILABLE WHO FOCUS ON ESTIMATING PHYSICAL CLIMATE RISK?

Physical climate risk may be a relatively new concern for some companies, but it's already a familiar issue for investors. In response to investor demand, rating agencies offer company-specific climate risk scores, akin to credit or ESG scores. These scores, which may range from 1 to 5 or use color-coding from green to red or letter grades like A to C, depending on the provider, offer a quick reference for asset managers. They can use these scores to easily compare and select between two assets, identifying which is ostensibly less exposed to climate risk.

But the reliability of these scores is being questioned, particularly due to the characteristics of company assets that are used, which are generally not provided by the company themselves. Initial studies

have indicated that scores can vary or even diverge significantly between different providers. This variability raises concerns about the dependability of these scores for making informed, risk-based decisions in a corporate setting. Moreover, such simplistic scoring systems are inadequate for treasurers, who require detailed figures and the capability to simulate various scenarios. For instance, a treasurer would find little use in being told that their FX exposure in EUR/USD is rated as 'orange' or '2 on a scale of 5.' This lack of detailed information is similarly unhelpful in the context of climate risks. Treasurers need precise data to accurately size investments and evaluate the return on investment against the actual reduction in risk.

PHYSICALCLIMATERISKS WAS BORN OUT OF THIS LACK OF ACTIONABLE PHYSICAL CLIMATE RISK MEASUREMENT?

Precisely. Physicalclimaterisks emerged in response to the pressing need for actionable physical climate risk measurements. Our team brings years of experience in climate risk measurement and management to the table. We've worked collaboratively with operational and financial corporate managers, harnessing collective intelligence, to create a climate risk assessment platform tailored to meet the specific needs of each treasurer.

WHAT MAKES PHYSICALCLIMATERISKS DIFFERENT FROM EXISTING SOLUTIONS?

Our platform is the result of practical insights gained from collaborations with risk managers, focusing on ensuring effective climate change adaptation for their companies. We offer the same level of data transparency and methodological clarity that treasurers are accustomed to in managing other risks. We focused on creating a set of transparent, replicable, and auditable risk metrics based on certified historical data from Copernicus (ERA5) and over 20 global climate projection models (CMIP6). We avoid proprietary data and opaque practices, ensuring that every risk measure or score is transparently calculated and based on publicly available, certified data. Our platform enables treasurers to identify and rank each asset according to its current and projected risk over the selected time horizon, based on the chosen IPCC scenario. We provide a second metric that pinpoints assets most likely to incur significant damage or loss, using historical and projected data. A third metric assesses the rate of risk evolution, again based on historical and projected data. These three dimensions of risk analysis allow treasurers to effectively prioritize assets most at risk.
In our approach, treasurers input the characteristics of the assets, and our platform applies climate perils to each, generating actionable risk indicators for direct use in decision-making. This empowers operational managers to make decisions, distinguishing our solution from existing ones that assign a color or grade to a company. Our goal is to enable operational managers to act on information they understand and can easily access, to enhance their company's resilience and capacity to adapt.

NEW ACCOUNTING AND SUSTAINABILITY RULES WILL APPLY TO MANY COMPANIES FROM 2024. HOW DOES PHYSICALCLIMATERISKS HELP COMPANIES?

Indeed, IFRS S2 and CSRD (ESRS E1) will require most companies to disclose at least the proportion of assets materially exposed to climate risks and the associated monetary value. With Physicalclimaterisks, reporting is generated automatically. It's just a click away

IS THE ONLINE PLATFORM ALREADY AVAILABLE?

The platform is not yet available online, but it is fully operational on our intranet. We are currently providing all the necessary risk assessment elements and actionable indicators to companies. Treasurers simply need to contact us and specify the assets they want to include in the risk assessment. Our goal is to ensure that the platform is user-friendly and efficient, so we are actively seeking funding to enhance its ergonomics. This improvement will enable each treasurer to independently manage their company's resilience, making the platform a more effective tool for navigating climate risks. ▬

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Jean-Louis Bertrand,
CEO Weatherisus