

## Physical Risk Solution

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### Description of the Methods and Assumptions Used

The ISS STOXX climate physical risk solution assesses company exposure to physical risks by simulating the impact of hazards such as tropical cyclones or wildfires on company operations and financials. The analysis is based on a company's unique exposure profile, including its sector, financial profile, and geographical footprint, e.g., where a company has production facilities or generates revenue.

The analysis of climate physical risks takes into account the operational and market risks that can have financial implications for companies. Operational risks include the costs associated with asset damage and business interruption caused by events such as tropical cyclones, floods, and wildfires. Market risks assess the potential revenue loss due to chronic physical risks such as sea-level rise, droughts, and extreme temperatures, affecting the GDP of the countries where companies operate.

The assessment then estimates the current and future financial risks and Value at Risk of companies due to climate hazard exposure. Future risk analysis is conducted under seven climate policy and emission pathways: two IPCC AR5 scenarios (RCP 4.5 considered the most likely, RCP 8.5 representing a worst-case outcome), and seven NGFS Phase V scenarios: Low Demand, Net Zero 2050, Below 2 °C, Delayed Transition, Nationally Determined Contributions (NDCs), Fragmented World, and Current Policies.

Finally, the analysis evaluates to what extent issuers have strategies in place to manage physical climate risks and assesses the robustness of those strategies.

### Scenario Descriptions

The ISS STOXX analysis incorporates two key scenarios from the IPCC 5th Assessment Report (AR5): a "likely" scenario based on Radiation Concentration Pathway (RCP) 4.5, which projects a temperature rise of 1.7 -3.2 °C by 2100, and a "worst-case" scenario based on RCP 8.5, projecting an increase above 3.2 -5.4 °C by 2100.

In addition, the analysis considers seven NGFS Phase V scenarios: Low Demand (LD, 1.1 °C), Net Zero 2050 (NZ, 1.4 °C), Delayed Transition (DT, 1.7 °C), Below 2 °C (B2C, 1.8 °C), Nationally Determined Contributions (NDC, 2.3 °C), Fragmented World (FW, 2.4 °C), and Current Policies (CP, 3.0 °C).

As a comparison point, the current risk level is assessed in the form of a historical scenario.

## Analysis Time Horizon

The ISS STOXX analysis extends to the year 2050.

## Research Process

The present analysis quantifies the current and anticipated future financial impacts emerging from the exposure of individual issuers to operational and market risks. To do this, for each scenario, ISS STOXX applies specific impact functions per hazard to establish the level of impact per location. The impact of Physical Risks is then applied to each company's specific exposure profile to establish the costs and losses from impacts to sales, costs, etc.

The analysis also uses a proprietary financial valuation model to assess the issuer's Value at Risk from considering physical risk.

## Sources and Estimated Data

External Climate models, such as CLIMADA and CMIP5 models, are integrated into impact functions to estimate the damage of the climate hazards per location.

The analysis uses granular corporate data, including asset-level information, to assess an issuer's geographical footprint and its risk exposure profile. In the absence of a company's precise asset locations, asset values are distributed based on satellite-based proxies. A company's financial data is sourced from a third-party financial data provider. Estimated financial impact is then based on ISS STOXX EVA financial projections.

*Please refer to the respective methodology documents for further information.*

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