

# Quant Foundry: Addressing the Need for Climate Change Risk Management

## An Introduction for Banks & Insurers

A Solution to address some of the most challenging risks, build robust client offerings and meet regulatory needs

### GOVERNANCE

Organizations will need to align accountability and incentivization with the proposed client solutions and have a clear framework of leadership to effect and manage the change.

### STRATEGY

Decisions on the objectives of the firm, meeting the needs for disclosure, risk assessment, product innovation, portfolio solutions. Then defining how to go about building solutions.

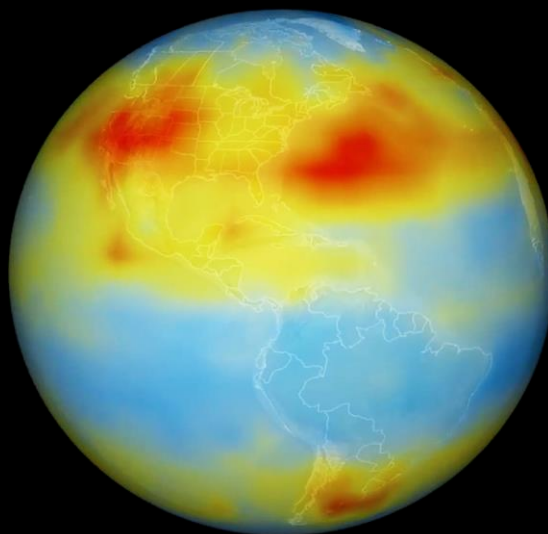
### MEASUREMENT

Defining the systems and process to meet the needs, from low cost top down approaches to bottom integrated solutions to identify and enhance investment solutions that can provide a clear insight to clients.

### DISCLOSURE

Meeting the needs for voluntary and regulatory disclosure.

Demonstrating the capabilities of your governance and strategy and capabilities to all



Climate change poses an existential threat to millions of lives and is currently not reflected in pricing of financial instruments. The Understanding the financial impact of these losses requires a new level of modelling to understand the implications of these long horizon risks that will affect both current and future investments over a time scale of the next 30 to 50 years.

Ensuring your organizations has the right framework in place to measure report and manage these risks and opportunities is moving from a voluntary to a regulatory requirement not just for banks and insurers but for asset managers. This presents a clear challenge for everyone to build an understanding of this risks and embed them within their current process.

The Quant Foundry team has researched and developed a suite of solutions to help address these challenges. This includes insight of governance, strategy and significantly a risk engine that can incorporate transition and physical impacts.

### Physical Risks – Natural Disasters

The planet is facing a set of natural catastrophes that have not been seen since prehistory.

We are anticipating unprecedented shocks driven through increasingly more frequent and powerful storms, droughts, and erratic weather patterns.

**Transition Risks – A Disaster to be Averted**  
Adapting to climate change will require individuals, companies, and governments to change behaviors at an unprecedented pace. The ability of companies to adapt to improve the sustainability of their products will require both clear management strategies but also considerable capital investment.

Those companies with large emissions or damaging products could well face huge reductions in cash flows and limited access to capital.

The suite of solutions provides you with a means to leverage our expertise and insight into climate risks on a consultative basis to enable your organization to build and train your capabilities. Then if you wish to accelerate and enhance your risk capabilities and integrate across your enterprise, covering counterparty credit, credit risk operational risk and Economic capital we have developed a coherent quantitative risk engine that can be applied to build scenarios to investigate different climate outcomes, greenhouse gas emissions target that provides results at the security level (equities, bonds).

Whether your organization is looking to get on the first rung of building the knowledge and expertise to build a framework and define your strategy, or looking to start the disclosure and reporting process all the way to integrating a full risk solution to improve the use of capital across the whole organization Quant Foundry has the skills and expertise to address your needs.



# The Quant Foundry Climate Change Model Suite

## An Opportunity for Banks & Insurers

### INTEGRATED CLIMATE MODELLING

Solution uses an integrated climate and transition model, capturing the impact of technology change, land use for al whole earth system

### MULTIPLE SCENARIO MODELLING CAPABILITY

Ability to define detailed technology costs and commodity usage for each major market. Define trade, CO<sub>2</sub> taxes and limits. Detailed sector level modelling

### CORPORATION LEVEL EVOLUTION OVER TIME

Ability to capture the diversity of revenue generation units around the world. Possible to customize and define current and future investments model capital structure constraints

### FINANCIAL MARKETS

Model can provide detailed financial instrument pricing, credit ratings, credit spread estimates, commodity prices, equity prices. Market volatilities.



The goal of the QF4CM is to provide a transparent bottom up scenario engine that can be applied to generate multiple scenarios from changes in greenhouse gas emission targets. The solution simulates the climate and industry sector outcomes and integrates this at a company level. The solution provides a clear causal link for each outcome providing a clear motivation for any capital allocation choice.



Quant Foundry is committed to continued research and investment in this space and will continue to enhance functionality addressing the myriad of risk relating to climate change. This functionality includes the impact to Sovereign bonds, Real Estate, Mortgages. We have combined forces with a world class provider of physical risk solutions to provide detailed best in class physical risk assessment for real estate portfolios down to the property level.

The Quant Foundry team decades of experience in building risk systems with teams of modelling specialists, researchers and developers combined with business analysts and project managers to help assist or run projects of any scale to accelerate the opportunities in integrating our climate risk solution.

This is complemented with a senior leadership team that have help senior roles and one awards in sustainable solutions.

## The Climate Foundry Technology

- Modern Application design that can be deployed on premises of cloud-based .NET architecture.
- Detailed Granular data model allowing detailed company level assessments.
- Rich data analysis framework that can be accessed simply from Python as standard or your favorite data analysis tool if you need customization.
- Simple programable dashboards for standardization using open standards to minimize cost of ownership.

Modular and expandable architecture allowing users to select the functionality they need but to expand when required.

### SERVICES AVAILABLE

Strategic Advisory  
Climate Scenario Construction  
Regulatory Advisory  
Quantitative Model Construction  
Risk Integration Services  
Project Management  
Business Analysis  
Model Validation

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