**ClimateWise Transition Risk Exposure Matrix**

The pilot study focused on the energy, real estate and agriculture sectors.

### Methodology

- **Acute and chronic risks**
  - High resolution (5m) flood hazard mapping for full coverage of listed and unlisted companies along with counterparty datasets.
  - Assessment of transition and physical risk on equities, bonds, loans, real estate and infrastructure.

- **Various scenarios by region/peril including**
  - US
  - China
  - Europe
  - Latin America

- **Baringa’s unique Climate Change Scenario Model**
  - Built on transition and physical risk models.
  - Resilience and robustness of portfolios is assessed through software, reports and datasets.

### Outputs

- **Heatmapping**
  - Identifies corporates and sovereigns which have a high exposure to climate transition risks.

- **Company capex**
  - Provides an early indication of where higher risks may lie within a portfolio.

### Applications

- **Scenario impacts:** Value change; impairment.
- **Real assets (Private equity, Real Estate, Infrastructure)**
- **Unlikely to maintain current business models in a world that needs to transition to 2°C.
- **Impacts on sector- and region-level fundamentals**
- **Inclusion on the list does not indicate use of or endorsement by the CFRF Risk Management Working Group members.**
- **Business as Usual, Paris Agreement Scenario and 2°C**
- **Financial Stability Board’s Task Force on Climate-related Disclosures**
- **Counterparty datasets are not embedded in the methodologies; counterparty exposure is assessed directly from counterparty data.**

### Website

- **CISL website**

- **Heatmapping Analytics**
  - Vulnerability heatmapping
  - Risk heatmapping
  - Risk heatmapping of diverse investment portfolios
  - Uses Baringa’s unique Climate Change Scenario Model to assess potential changes in property values and LTV ratios and applications today go far beyond those within the financial services sector.

- **2 Degrees of Separation - Carbon Tracker**
  - Carbon Tracker website (report).

- **https://2degreeseparation.com/**
  - Company capex
  - Portfolio-run (e.g. quarterly, etc.)
  - In-house toolkit
  - Unlikely to maintain current business models in a world that needs to transition to 2°C.
  - Temperature alignment based on sector and region.

### Additional Information

- **Baringa’s standard scenario for 4°C, orderly 2°C**
  - Baringa’s standard scenario for 4°C, orderly 2°C.

- **The CRIS method allows asset managers and investors to**
  - Know how their portfolios are exposed to climate risk and how they may be impacted in the future.
  - Understand and quantify catastrophe risk.
  - Support strategic decision making and financial stability.

- **Counterparty datasets are not embedded in the methodologies; counterparty exposure is assessed directly from counterparty data.**

- **Increasingly, the technologies and methodologies being employed by financial institutions today go far beyond those within the financial services sector.**

- **Rapid physical risk heatmapping of diverse investment portfolios.**

- **Unlikely to maintain current business models in a world that needs to transition to 2°C.**

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The methodology identifies how a low-carbon policy and transition scenarios can impact asset portfolios and companies, including physical and transition-related risks. It leverages a range of tools and frameworks to assess the potential financial impacts of climate change.

**Key Tools and Frameworks:***

- **Basham 3.0**
- **FloodModel**
- **KatRisk Spatial**
- **North America Inland Flood**

**Methodology:***

1. **Baseline Scenario**: Develop a baseline scenario that represents the current state of the asset and its exposure to climate risks. This includes an analysis of historical data and trends.
2. **Transition Scenarios**: Develop transition scenarios that simulate different levels of climate change, including 1.5C, 2C, and 3C.
3. **Impact Assessment**: Analyze the potential impacts of climate change on the asset, including physical and transition-related risks.
4. **Financial Impact**: Quantify the financial impacts of climate change on the asset, including expected losses and potential declines in asset value.
5. **Mitigation Strategies**: Develop mitigation strategies to reduce the impact of climate change on the asset.

**Key Output:**

- **Transition Risk Assessment**: Provides a comprehensive understanding of the potential risks associated with climate change.
- **Financial Impact Assessment**: Quantifies the potential financial impacts of climate change on the asset.
- **Mitigation Strategies**: Recommendations for strategies to reduce the impact of climate change on the asset.

**Use Cases:**

- **Real Estate Investors**: Identify potential risks and opportunities associated with climate change.
- **Lenders**: Understand and measure the potential physical risks to borrowers.
- **Investors**: Assess the impact of climate change on their investment portfolios.

For more information, visit: [www.erm.com](http://www.erm.com)
For over 30 years, RMS has shaped the world's view of risk. N/A

ClimatePREDICT enables financial institutions to map their exposures to climate impacts, e.g. on:
- Real estate valuation
- Mortgage risk
- Wholesale energy prices
- Fuel mix (4 fuel types)
- Power generation-mix, vehicle technology-mix, wholesale energy prices.

Evaluates how companies’ future carbon performance would be impacted, e.g. on:
- Worker productivity; sea level rise
- Extreme weather impacts on infrastructure
- Economic impacts

ClimatePREDICT provides insights on how to increase resilience through asset-, regional-, and sector-specific strategies across all asset classes within portfolio; different climate scenarios; available.

This data is available across 61 countries, and by type of event – storm, extreme rainfall and extreme temperatures – in any currency.

For example, the impact of an extreme weather event in Paris could result in:
- A 2% drop in economic activity per occurrence
- 1.5% drop in GDP
- $100 billion in impacts

We provide the user with full documentation of the PALgamma technical methodology document which references all relevant underlying holdings across different climate change mitigation scenarios.

Transition: Policy and financial structure change. Delivered in clients' preferred data format, e.g. Excel, JSON, etc.

2) Paris disorderly transition -> average global temperature rise of 3.5ºC by 2100 (IPCC RCP 6.0)

3) Paris orderly transition -> average global temperature rise of 1.5ºC by 2100 (IPCC RCP 2.6)

The scoring methodology is built around the presence or absence of climate data and whether it is in alignment with the Paris agreement or not, for example, through the web platform. 

Transition risks are calculated by looking across the climate scenarios and looking long-term (50 years).

Ortec Finance ClimateMAPS, last update: June 2020.


https://www.fsb-tcfd.org/
Vivid's Climate Risk Toolkit uses a scenario-driven approach to assess the impact of climate risks on financial assets. Asset class, subclass and asset-level impacts are estimated using a financial impacts estimation module. The Toolkit covers all major asset classes, including listed and private equity, corporate and sovereign debt, and real estate, and both physical and transition risks.

The toolkit covers over 20,000 listed companies, and associated corporate bonds, as well as real estate and sovereign bonds for major economies.

Value impairment estimates (% of current asset value)

Breakdown of value impairment by key drivers

Quantitative climate risk assessment tool (either physical risk only, transition risk only, or combined physical and transition risk assessment)

Transitions risks (including policy timing, policy coordination, and technology), physical risks

Tail risks from extreme climate system response to anthropogenic emissions

Impacts of adaptation, emissions abatement, cost pass through

Multiple proprietary and publicly available data sources

The toolkit provides access to a range of predetermined scenarios, including Early and delayed action 1.5 degrees-compatible policy scenarios, 2 degrees early and delayed NDCs, Reference and No Policy, Extreme warming.

Bespoke scenarios designed to reflect client beliefs on technology, policy and climate system developments

Corporates are modelled at the business unit level, with each business unit being part of one of over 300 markets in 16 global regions.

Major sovereign debt issuers are modelled using macroeconomic modelling tools at the country-level, with resulting changes in sovereign risk and monetary policy variables being used to estimate bond price changes.

Real estate is modelled at the real asset-level, although this relies on the client sharing data on the underlying properties (for instance, geolocation).

Outputs for inclusion in regulatory and voluntary disclosures, e.g. TCFD.

Bespoke advisory support around integrating climate risk into asset management and investment practices

Tool for automated results delivery as part of TCFD offering is under development.

The Climate Risk Toolkit uses a bottom-up approach to estimate the impacts of transition and physical risks on corporate bonds and equities. Macroeconomic modelling is used to estimate impacts on sovereign debt.

Company level

Listed equity level

Real asset level

Sovereign or corporate bond level

Asset price value impairment based on the Climate Risk Toolkit's modelling of cost, price, and quantity impacts under climate scenarios. These impacts can further be broken down into different impact channels, including transition-related demand destruction, demand creation, direct physical impacts, carbon taxes, abatement opportunities, adaptations to physical risk, and cost-pass through.

Vivid also provides carbon intensity and temperature alignment analysis.

https://www.vivideconomics.com/net-zero-toolkit/

https://www.unpri.org/download?ac=9857