



**EDHEC**

Climate  
Institute

# EDHEC Climate Institute

Translating Climate Science into Actionable Financial Intelligence

# Introducing EDHEC Climate Institute



# Introducing EDHEC Climate Institute

A taskforce of experts dedicated to applied research activities on Climate

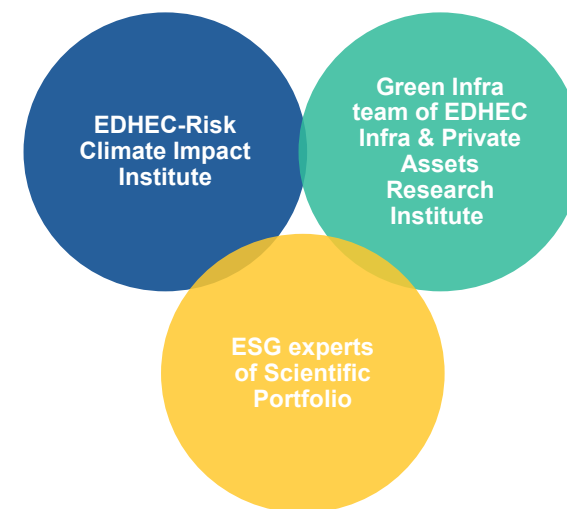
## 20+ YEARS

*of applied research in climate & finance for decision-makers*

The EDHEC Climate Institute builds on the longstanding expertise of the **EDHEC Risk Climate Impact Institute**, the **Green Infra team of EDHEC Infra & Private Assets Research Institute** and **ESG experts of Scientific Portfolio**.

By bringing together leading researchers in climate finance (11 of them hold a PhD), the new institute combines deep expertise in climate risks with advanced quantitative analysis to expand research capacity in the **financial measurement of climate risks**.

It has a long track record as an independent and critical reference center in helping long-term investors to understand and manage the **financial implications of climate change on asset prices and the management of investments and climate action policies**.



# Our Mission

Independent climate risk research and open-source tools for investors, asset managers, and regulators



# What Sets EDHEC Climate Institute Apart

## Principle 1 - INDEPENDENT

- Peer-reviewed methodology
- Open science principles

## Principle 2- ACTIONABLE

- Directly applicable to investment, risk management, and compliance
- Applied research used in scientific ventures

## Principle 3- OPEN

- Open-source tools, free data access, Interactive platforms
- EXCITE, CLIRMAP

# Four Interconnected Research Programmes

## CLIMATE SCENARIOS

- ▶ Probabilistic frameworks
- ▶ Scenario downscaling
- ▶ Geo-sectoral GVA climate shocks

## GREEN ASSETS

- ▶ Asset-level financial impact: infrastructure, corporate, real estate
- ▶ Scientific Climate Ratings

## CLIMATECH

- ▶ World's largest repository of resilience & decarbonisation strategies
- ▶ 1,800+ asset-strategy applications

## REGULATORY INTELLIGENCE

- ▶ Monitoring SFDR, CSDR, ISSB, TCFD-aligned regimes globally
- ▶ Policy analysis and guidance

# Climate Scenarios

The backbone of forward-looking risk assessment



# Climate Scenarios

## Active Workstreams

### PROBABILISTIC

#### SCENARIO PROBABILITIES

- ▶ Assigning probability distributions to long-term climate scenarios
- ▶ Moving beyond narrative stress tests

### GEO-SECTORAL (NGFS+)

#### DOWNSCALING

- ▶ NGFS scenarios at regional and industry-level Granularity
- ▶ Country-sector GDP impact mapping

### TAIL SCNEARIOS (NGFS++)

#### EXTREME PATHWAYS

- ▶ Severe warming using Kaya identity decompositions
- ▶ Filling gaps in mainstream frameworks

# Climate Scenarios

## Selected Publications

- » Rebonato, R., Melin, L. & Zhang, F. (2025). **How to Assign Probabilities to Climate Scenarios.** EDHEC Climate Institute. [Access publication](#)
- » Melin, L. & Zhang, F. (2026). **Quantifying Climate Risk Premia.** EDHEC Climate Institute. [Access publication](#)
- » Zhang, F. (2025). **Estimating Likelihoods for NGFS Transition Scenarios with Bootstrap Confidence Intervals.** SSRN. [Access publication](#)

**Interactive tool:** EXCITE — EDHEC Cross-Model Climate Institute Temperature Emulator

[climateinstitute.edhec.edu/data-visualisations/excite-emulator](https://climateinstitute.edhec.edu/data-visualisations/excite-emulator)

# Geo-Sectoral Physical Risk

Quantifying economic damage at regional and sectoral levels



# Physical Risk

From Climate Hazards to Financial Losses



## ▶ **GVA Impact Modelling**

Extending Kotz et al. (2022) with sectoral granularity layered onto regional damage estimates across 3,672 provinces covering 95% of global GDP

## ▶ **European Equity Market**

Bouchet & Schneider (2026): Quantifying country-sector heterogeneity in physical climate risk for European equities

## ▶ **Global Macro Damages**

End-of-century per capita GDP declines of up to 70% in equatorial and tropical provinces under SSP5-8.5 (Schneider, 2026)

# Geo Sectoral Physical Risk

## Selected Publications

- » Schneider, N. (2026). **The Global Geography of Long-Term Projected Macroeconomic Damages from Chronic Physical Risk and the Aggregation Problem**. EDHEC Climate Institute. [Access publication](#)
- » Bouchet, V. & Schneider, N. (2026). **Physical Climate Risk in the European Equity Market: Quantifying Country–Sector Heterogeneity**. EDHEC Climate Institute. [Access publication](#)
- » Schneider, N. (2025). **EDHEC-CLIRMAP: Climate-Induced Regional MACroimpacts Projector – The Macroeconomic and Econometric Background**. EDHEC Climate Institute. [Access publication](#)

**Interactive tool:** CLIRMAP — Climate Risk Map

[climateinstitute.edhec.edu/data-visualisations/clirmap](https://climateinstitute.edhec.edu/data-visualisations/clirmap)

## Green Assets

Climate risk rating for Infrastructure,  
corporate and real estate assets



# Green Assets

## Key Figures

### 6,000+ ASSETS RATED

- ▶ Investable infrastructure across +25 countries
- ▶ 100+ sub-sectors rated

### SECTOR SPECIFIC MODELS

- ▶ 30+ damage functions
- ▶ 13 sector-specific emission models

### ASSET-BASED ASSESSMENT

- ▶ High resolution hazard mapping
- ▶ Financial impact from acute physical risks

### 5,000+ COMPANIES

- ▶ Corporate ratings launched in 2026
- ▶ Extending to global listed equities

# From Climate Scenarios to Financial Ratings

## STEP 1 – CLIMATE SCENARIOS

- ▶ Probabilistic scenarios with geo-sectoral downscaling
- ▶ NGFS + high-risk pathways

## STEP 2– RISK QUANTIFICATION

- ▶ Physical + transition risk at asset level
- ▶ Indirect regional and supply chain shocks
- ▶ Damage functions & emission models

## STEP 3 – FINANCIAL IMPACT

- ▶ Revenue and valuation Impact
- ▶ Impact on Enterprise, Value, Equity and Debt (PD, LGD)
- ▶ Freely accessible ratings for infrastructure assets

# ClimaTech

The world's largest repository of climate resilience strategies



# ClimaTech

By the Numbers

## 100+ STRATEGIES

- » Decarbonisation and resilience measures evaluated
- » Evidence-based effectiveness scoring

## 8 SECTORS COVERED

- » Energy, transport, water, telecom, social infra, waste, data, power
- » 101 asset subclasses

## 1,800+ APPLICATIONS

- » Unique asset-strategy combinations
- » Up to 95% effectiveness in best cases

## PEER REVIEWED

- » World Bank, EIB, OECD, WWF, Ofgem
- » Independent validation committee

Q4 2026  
Expansion to  
Corporate  
Sector:  
Adding new  
sectors to the  
database  
covering a broad  
range of non-  
infrastructure  
assets.

# ClimaTech

8 Peer-Reviewed Papers (2025)

- » Arnold, R., Hubert, C., Manocha, N. et al. (2025). **Reducing Infrastructure Climate Risk Through Technology Measures: An Overview**. EDHEC Climate Institute. [Access publication](#)
- » Sector papers: Renewable Power, Transport, Data Infrastructure, Networked Utilities, Energy & Water Resources, Social Infrastructure, Environmental Services, Non-Renewable Power. [Access publications](#)

Key finding: large-scale electrification, renewable integration, and flood/heat-resilience systems deliver the **strongest measurable results** — while some popular measures show only marginal impact.

**Open-source database:** ClimaTech Project  
[climateinstitute.edhec.edu/climatech-project](https://climateinstitute.edhec.edu/climatech-project)

# Climate Regulation and Policies



# Climate Regulation and Policies

## Programme Director

### Frédéric Ducoulombier

- ▶ Examines the **normative landscape** shaping climate risks, their assessment, and management.
- ▶ Provides **actionable insights** to enhance the integration of climate risks into decision-making and facilitate the transition.

## Key Focus Area

- ▶ Sustainable finance regulation: fiduciary duties, disclosure requirements, prudential oversight, and tools for green, transition, and climate solutions finance.
- ▶ Broader financial and economic regulation that may exacerbate or mitigate climate risks.
- ▶ Analyses how normative forces shape the climate strategies of financial institutions, non-financial businesses, and public-sector entities.

# Climate Regulation and Policies

## Publications

- ❑ O’Kane, D. (2025). **Multi-Counting and Overlaps in Scope 1, 2, and 3 Upstream Emissions: A Structured Path Approach.** Working Paper
- ❑ O’Kane, D. (2026). **Emissions Accounting in Global Supply Chains: An Input-Output Model Approach.** White Paper.
- ❑ Ducoulombier, F. (2025). **Rebuilding Trust in Net-Zero Targets - Five Structural Shifts in the SBTi Draft Corporate Net-Zero Standard and What They Could Deliver.** Policy Paper.
- ❑ Ducoulombier, F. (2025). **The Carbon Footprint of Final Demand: Evolving Methods and Insights from Environmentally Extended Input-Output Analysis.** Policy Note.
- ❑ Ducoulombier, F. (2025). **Charting a Pathway for Transition Finance – Challenges and Opportunities in the EU Framework.**

## Our Team



# Leadership & Research Teams

## Co-Directors

Camille Angué  
Dr. Anthony Schrapffer

## Marketing & Communications

Maud Gauchon

**15+ researchers** across four dedicated programmes spanning climate science, macroeconomics, financial engineering, data science, and policy.

Multidisciplinary teams producing research that is **scientifically rigorous** and **directly actionable** for investment decisions.

Based in **Nice, Paris, London, and Singapore.**



# Climate Scenarios & Risk Modeling

## **Dr. Lionel Melin**

Team Lead

Probabilistic climate scenario frameworks and climate-economy models

## **Dr. Fangyuan Zhang**

Scenario likelihood estimation, Creation of extreme pathways

## **Dr. Adham Jaber**

Scenario implementation and downscaling tools

## **Dr. Nicolas Schneider**

Physical Risk Expert

Geo-sectoral GVA damage modelling and macroeconomic impact

## **Dr. Edouard Civel**

Transition Risk Expert

Transition modelling, including in real estate

# Green Assets

## Corporate Climate Risk

Thomas Lorans  
Dr. David Labeurthre  
Julien Priol

Corporate-specific climate risk assessment for 4,000+ listed companies (2026 launch).

## Infrastructure Climate Risk

Dr. Bertrand Jayles  
Dr. Jeanette Orminski  
Qinyu Goh

6,000+ infrastructure asset ratings across 25 countries.

## Real Estate

### New programme

Expanding climate risk assessment to real estate as a third major asset class.

## **Dr. Catherine Tubb**

Head of ClimaTech

## **Dr. Rob Arnold**

Lead Resilience & Decarbonisation Specialist

## **Dr. Alessandra Treviso**

Senior Research Engineer

## **Conor Hubert**

Research Engineer

Open-source knowledge base cataloguing **100+ strategies** across 8 infrastructure sectors and 101 asset subclasses.

The world's largest systematic, evidence-based repository of resilience and decarbonisation strategies.

Now **expanding to corporate sectors.**



Climate change is not just an environmental issue; it is a financial risk that demands rigorous, science-based tools for investment decision-making.

**EDHEC Climate Institute**

# Our Partners

To advance the frontiers of climate research and drive innovation across industries, the EDHEC Climate Institute (ECI) collaborates with academics and business partners to develop cutting-edge insights and actionable solutions.

## Trusted by key investor players



- Scientific Beta “Upgrading Climate Scenarios for Investment Management” research chair
- AMUNDI “Measuring and Managing Climate Risks in Investment Portfolios” research chair
- Amundi “ETF, Indexing and Smarte Beta Investment Strategies” research chair
- Aberdeen Property Investors “EDHEC European Real Estate Investment and Risk Management Survey” strategic research project
- The French Asset Management Association (Association Française de la Gestion Financière, AFG) “Financial Risk Management as a Source of Performance” research chair
- AXA Investment Managers “Regulation and Institutional Investment” research chair
- Bank of America Merrill Lynch Goals-Based Wealth Management and Applications to Retirement Investing research chair
- BDF Gestion “Maximizing Volatility Pumping Benefits in Equity Markets” research chair
- BNP Paribas Investment Partners “Asset-Liability Management and Institutional Investment Management” research chair

For more information, please contact Maud Gauchon on:  
[maud.gauchon@climateimpactedhec.com](mailto:maud.gauchon@climateimpactedhec.com)

**LONDON**

10 Fleet Place, Ludgate  
London EC4M 7RB - United  
Kingdom  
Tél: +44 (0)207 332 56 00

**PARIS**

16-18, rue du 4 Septembre  
75002 Paris – France  
Tél: +33 (0)1 53 32 76 30

**SINGAPORE**

1 George Street  
#15-02 Singapore 049145  
Tél: +65 (0)6438 0030

**NICE**

393, Promenade  
des Anglais - BP3116  
06202 Nice  
Cedex 3 – France  
Tél: +33 (0)4 93 18 99 66



NEWSLETTER



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