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# **EFFAS Certified Climate Risk Analyst® (ECRA)**

Programme overview

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# Welcome

In an era where climate change is reshaping the global landscape, the ability to understand and manage climate risks is essential for professionals in the financial and investment sectors. The growing relevance of both physical and transition climate risks underscores the urgent need for informed decision-making to mitigate these risks and capitalize on emerging opportunities.

Investors and financial analysts must assess how climate-related events and the transition to a sustainable economy affect asset values, portfolio performance, and long-term financial stability. Institutions must navigate regulatory pressures, assess the implications of emerging technologies, and align strategies with evolving market demands.

The EFFAS Certified Climate Risk Analyst (ECRA) programme is designed to equip finance and investment professionals with the expertise to navigate the complex interplay of climate risks and their economic implications.

Join us in advancing the critical dialogue on climate resilience and sustainability within the financial and investment industries!

The EFFAS Certified Climate Risk Analyst (ECRA) programme is designed for a **diverse range of professionals** seeking to understand and manage **climate risks in the financial and business sectors**:

- **Risk Managers** aiming to incorporate **climate risks into investment decisions** and ensure **asset resilience against extreme weather events**
- **Financial Analysts** seeking to enhance **models by integrating climate risk exposure factors**; **ESG Fund Managers** looking to deepen their **understanding of climate-related financial dynamics**.
- **Environmental Engineers and Technicians** managing **natural resources, infrastructure, and climate change mitigation**, adaptation projects, or designing **projects with climate considerations**.
- **Business Owners and Sustainability Managers** seeking to **integrate climate risks** into supply chains and operations to mitigate financial exposure
- **Risk and Sustainability Consultants** assisting companies and governments in **understanding and addressing the impacts of climate change on operations, resources, and supply chains**.

This programme is tailored for individuals who aim to lead in the evolving landscape of climate-conscious financial and operational decision-making.

# Introduction

Climate change is changing weather patterns, generating more frequent and intense extreme events such as droughts, floods, storms and heat waves, among others. These events can have negative economic consequences, such as lower productivity, rising production costs, and disruption of supply chains, which can affect a variety of economic sectors, from agriculture and energy to insurance and finance.

On the other hand, climate transition risks refer to the indirect impacts of climate change, such as changes in policies and regulations, technology, and consumer preferences. These risks may arise as society moves towards a low-carbon economy and measures are taken to reduce greenhouse gas emissions. Assessing climate transition risks involves analysing how changes in policies and regulations may affect organisations' business models.

For example, implementing stricter policies on carbon emissions may have an impact on companies that rely heavily on fossil fuels. Similarly, the adoption of clean and renewable technologies can lead to opportunities for some companies and to challenges for others.

The identification, assessment and quantification of climate risks (physical and transitional) in different economic sectors is essential to understand and address the impacts of climate change. This requires a detailed analysis of possible future climate scenarios, as well as of changes in policies and regulations related to climate change and their impact on each specific sector. This will allow organisations to adopt more informed strategies and appropriate measures to mitigate these risks, allowing companies and institutions to strengthen their resilience.

"Warming Stripes"-Global: Ed Hawkins, National Centre for Atmospheric Science, UoR. <https://creativecommons.org/licenses/by/4.0/>



# What Makes ECRA Distinctive?

The EFFAS Certified Climate Risk Analyst® (ECRA) programme equips participants to drive sustainable strategies, enhancing resilience and ensuring they are prepared to lead in a rapidly changing economic and regulatory environment. By fostering expertise in climate risk management, the ECRA programme contributes to a sustainable financial future, ensuring that professionals are well-prepared to:

## **Understand Climate Change and its Impacts**

Develop a strong foundation in the science of climate change, its economic consequences, and how it affects financial institutions and markets.

## **Navigate Climate Regulations and Opportunities**

Gain insights into global climate policies and regulations while identifying investment opportunities in sustainable finance, renewable energy, and climate-resilient projects.

## **Analyse and Quantify Climate-Related Risks**

Learn to identify, model, and analyse physical and transition climate risks, including measuring their financial impacts on assets, portfolios, and business performance.

## **Integrate Climate Strategies in Finance**

Acquire the skills to manage climate risks and embed climate considerations into business strategies, including understanding the transition to Net Zero and climate resilient adaptation plans.

## **Explore the Evolution of Green Finance**

Become familiar with the growing field of sustainable finance, including trends in green markets and innovative financial instruments for a low-carbon future.

# Programme Objectives

The core objective of this programme is to highlight the role of ESG considerations within investment processes. Upon completion, participants will be able to:



Understand the **science** behind **climate change** and its **financial impacts**.



Learn **global climate regulations** and their **effects on financial institutions**.



Identify and model **climate-related risks**, including **asset vulnerability and exposure**.



**Quantify** climate-related risks' financial impacts **on portfolios and businesses**.



Explore opportunities in **sustainable investments and renewable energy**.



Understand **climate adaptation plans** and how they incorporate '**Net Zero**' goals and **financial strategies**.



Manage **climate-related risks** and integrate them into **financial strategies**.



Gain insights into **green finance** and the **growth of sustainable markets**.

# Programme Structure

- 1** Climate change science
- 2** Policies, regulations and sector-specific initiatives in response to climate change
- 3** Climate risk identification and modelling
- 4** Climate risk financial impact quantification
- 5** Climate opportunities
- 6** Net Zero and adaptation plans
- 7** Economic effects of climate-related risks
- 8** Sustainable finance
- 9** Climate risk and asset classes

# Programme Description

## Module 1. Climate change science

Understand climate change, the IPCC's scientific findings, and its global impacts. Explore mitigation strategies and address misinformation, equipping students with a comprehensive perspective on the significance of climate change in a global context.

## Module 2. Policies, regulations and sector-specific initiatives in response to climate change

Examine the UNFCCC, COP, and EU action plans, along with global initiatives like GFANZ and NGFS. Review regulations impacting businesses and finance, with a focus on frameworks like TCFD, CSRD, and IFRS in shaping climate reporting and fostering alignment with international climate goals.

## Module 3. Climate risk identification and modelling

Assess the impact of physical and transition risks on economic sectors, exploring climate scenarios and interdependencies. Cover meteorological modeling techniques, climate pattern analysis, and pathways for transitioning to a sustainable future, focusing on eliminating fossil fuels and achieving climate goals.

## Module 4. Climate risk financial impact quantification

Apply methods to assess acute and chronic climate impacts, including resilience analysis, carbon accounting, and transition scenario metrics. Explore materiality thresholds and best practices for disclosing climate-related information in financial statements, equipping participants to analyze and report climate risks effectively.

## Module 5. Climate opportunities

Identify opportunities for positive impact and innovation in climate change, including renewable energy, sustainable agriculture, and green technologies. Gain insights into the financial benefits of addressing climate challenges and leveraging climate opportunities for sustainable growth.

## Module 6. Net Zero and adaptation plans

Develop strategies for Climate Transition Plans, Net Zero goals, and decarbonization efforts, emphasizing their role in mitigating climate change. Explore adapting physical and financial assets to climate risks, including risk transfer, and highlight resilience-building as a critical factor for sustainable business and financial viability.



# Programme Description

## Module 7. Economic effects of climate-related risks

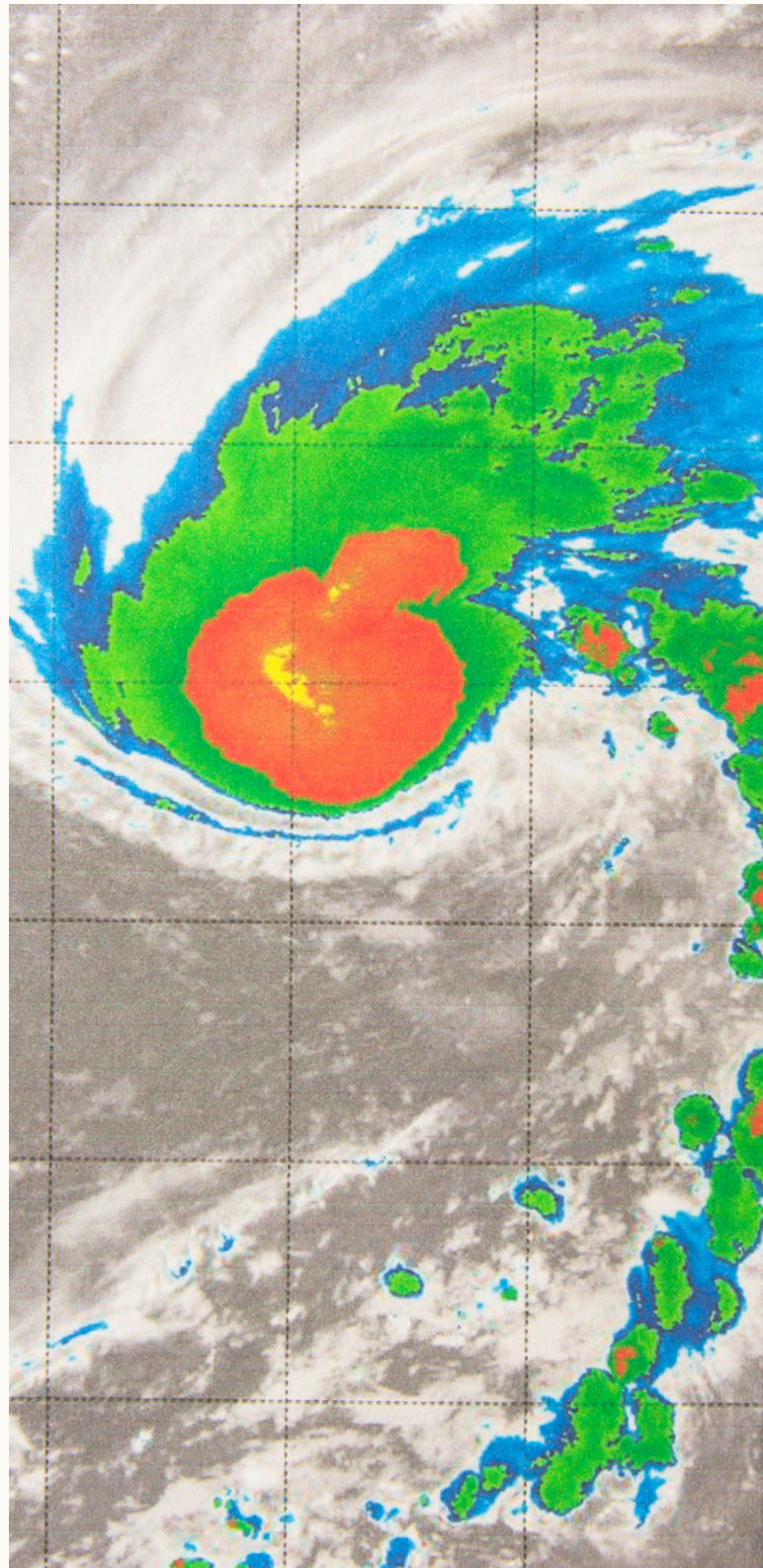
Analyse macro and micro climate risks, their impact on systemic risk and financial stability, and the need for tailored mitigation strategies. Highlight the link between climate risk and financial supervision, with a focus on stress testing exercises.

## Module 8. Sustainable finance

Explore sustainable finance, including green, social, and sustainability-linked finance. Emphasize the importance and impact of sustainable financial practices, equipping participants with the knowledge to apply finance in supporting climate mitigation, adaptation, and building a sustainable financial system.

## Module 9. Climate risk and asset classes

Apply climate risk concepts to various asset classes, including equities, bonds, private markets, and real estate. Cover portfolio alignment and management, providing an overview of how climate risks impact financial asset classes and how these risks can be integrated into asset valuation.



# ECRA's Digital Learning Experience

The ECRA online programme carefully structures 9 Modules, each crafted in line with the comprehensive examination syllabus. For a holistic learning experience, each module comes equipped with:

- **Engaging E-seminars**
- **Informative course slides**
- **Sources & references**
- **Self-assessment centre**
- **One specimen exam**

Please note that the multiple-choice questions (MCQs) provided are sample questions intended for practice. The ECRA programme is a fully online, self-paced training programme designed for independent study.

**IMPORTANT: The online programme does not include tutorial services.**





# Key Benefits of the ECRA Programme

## Expertise from Leading Climate Risk Professionals

Learn directly from renowned Climate Risk Experts in the financial and insurance sectors, benefiting from insights and case studies shared by industry leaders (e.g., professionals working with global regulatory bodies or major financial institutions).

## Exclusive Access to Cutting-Edge Climate Risk Data & Regulations

Gain access to the latest financial research and high-quality disclosures from authoritative organizations like the Intergovernmental Panel on Climate Change (IPCC), the Task Force on Climate-related Financial Disclosures (TCFD), and the European Sustainability Reporting Standards (ESRS). Stay ahead with updates on evolving global climate regulations and standards.

## Practical Climate Risk Knowledge

Acquire in-depth knowledge to effectively manage climate-related risks within companies, financial institutions, or investment funds. This expertise uniquely positions participants to respond to client needs, safeguard businesses, and reduce exposure to climate-related risks.

## Enhanced Professional Credibility and Networking

Build connections with ESG-focused professionals and join a recognized market of climate risk practitioners. Demonstrate your proven competence in climate risk management, supported by ethical standards and a globally respected certification.



# ECRA's Faculty



## **Prof. Dr. Emanuele Campiglio**

### **Academic Director of the ECRA® Programme**

Emanuele Campiglio is Associate Professor of Economics at the University of Bologna and Scientist at the RFF-CMCC European Institute on Economics and the Environment (EIEE). He is also a Visiting Fellow at the London School of Economics (LSE), where he previously held academic positions. His research focuses on environmental macroeconomics, sustainable finance, and the political economy of sustainability transitions. He leads the ERC-funded SMOOTH project on sustainable finance and has contributed to several international research initiatives, including the Horizon 2020 CASCADES project. A recipient of prestigious grants and a recognized expert in his field, he has published extensively on climate-related financial risks, green macroeconomics, and low-carbon economic transitions.



## **Dr. Maria Arana Antelo**

Maria Arana is Marsh McLennan European Climate and Sustainability Leader. She has been fully dedicated to this role since April 2023. In addition to her European responsibilities, she leads the Transition Pillar globally, focusing on driving insurance innovation that supports clients in their sustainability and decarbonization journeys. Holding a PhD in Mechanical Engineering, her career began with over a decade in R&D within the power generation industry, laying a solid foundation for her expertise in energy systems and sustainable transformation. Ms. Arana brings deep technical expertise and a strategic vision to her role. Her mission is to empower organizations to navigate the evolving landscape of climate risk and transition effectively. Prior to this, Ms. Arana served as the Energy and Power Leader for Marsh Europe from 2016 to April 2023, guiding clients through complex energy transition challenges. She joined Marsh in 2009 as Head of the Power & Utility team in Zurich, where she spent five years as a Power placement broker.



# ECRA's Faculty

## **Pablo Arufe**

Pablo Arufe is based in Madrid following nearly a decade in London and has a strong background in corporate finance and sustainability. Pablo currently splits his time between the Sustainability Advisory team at Cardano and the European Sustainable Investment team at Mercer. In his dual role, Pablo provides a broad range of sustainability services to institutional investors, corporates, and asset owners. His areas of expertise include corporate finance and credit analysis, climate and ESG regulatory reporting, climate scenario analysis and strategy, and sustainable investment consulting. Pablo holds a First-Class Honours BSc in Accounting and Management with Finance from Birkbeck, University of London, and is a CAIA Charterholder. He has also earned several ESG and sustainability certifications from leading organisations, including GARP and the CFA Institute..



## **Prof. Dr. Alexander Bassen**

Professor Alexander Bassen is a distinguished expert on capital markets and management at the University of Hamburg. He specializes in finance, ESG, and reporting courses. Among his notable roles, Alex serves on the German Advisory Council on Global Change and was a member of the EFRAG PTF ESRS and the G7 Impact Task Force and Chair of the ISB for GHG Protocol. He holds honorary positions at the University of Oxford and is a Visiting Professor at the Hong Kong Baptist University. Additionally, he advises various sustainable finance committees.



# ECRA's Faculty

## Alvaro Cangas



With 15 years of experience, Álvaro is currently based in Madrid, where he leads Marsh Climate & Sustainability Practice. He has spent half of his career internationally in: Egypt, USA, Qatar and Spain. He has worked in BIG4 and leading companies in the manufacturing and consumer sectors. He has extensive experience in European Union's ESG related regulations, and has developed Climate & Sustainability Strategies, reporting and climate risk quantification in multiple sectors.

## Cristina Celac



Cristina Celac is the Enterprise Risk Services Practice Coordinator at Marsh Advisory Italy, specializing in enterprise risk management, ESG, climate change risk assessments, financial impact modeling, and operational risk management. With over 12 years at Marsh, Cristina has developed expertise in various industries, including food & beverage, fashion, manufacturing, and finance. She has a background in contractual risk analysis, risk financing optimization, and insurable risk analysis. Cristina also has experience from her time at Oliver Wyman and participation in the International Risk Management Mobility programme in Paris. She holds Professional Risk Manager (PRMIA) and Sustainability and Climate Risks (GARP) certifications.

# ECRA's Faculty

## Prof. Anthony Cheung

Anthony Cheung is Managing Director and Head of ESG at one of Asia's largest multi-manager investment platforms, where he oversees ESG integration and sustainable investment strategies. With over 20 years of experience in asset management across Europe and Asia, he served at renowned institutions including Gartmore, Pictet, and BNP Paribas. As the first Certified ESG Analyst (CESGA) in Asia, Anthony has served on the World Benchmarking Alliance (WBA) Supervisory Board, the Global Reporting Initiative (GRI) Stakeholder Council, and the CFA Institute ESG Technical Committee. He contributes to climate governance as a board member of Friends of the Earth (HK) and the Hong Kong Institute of Directors. Recognized by the 2019 Regional ESG Leader Award by Insights and Mandate, Anthony actively advocates for advancing science-based, implementable climate accounting and sustainability reporting frameworks in Asia. Anthony is a Fellow of CPA Australia and based in Hong Kong.



## Jonathan Cross

Jonathan is a Senior Sustainable Investment Consultant at Mercer with over 13 years of investment experience, including 7 years in sustainable investing. Based in London, he advises institutional investors on ESG integration and leads climate strategy. Jonathan has completed secondments at the World Economic Forum, where he authored a report on advanced climate investing, and at the Pensions and Lifetime Savings Association, contributing to a practical guide on ESG and stewardship. He holds an MA and MSc from Cambridge and an MSc in Actuarial Finance from Imperial College, and is a qualified actuary (FIA).



# ECRA's Faculty



## **Dr. Nick Faull**

Dr Nick Faull, Head of Climate & Sustainability Risk at Marsh, is focused on advancing global sustainability and climate services, including risk modelling and management, to assist clients in their transition to net-zero carbon emissions and enhance their resilience to climate change. Nick was previously Head of Strategic Risk Consulting at Marsh in the UK, as part of which he lead the roll-out of Marsh's climate proposition to clients. Prior to this Nick spent nine years with Oliver Wyman consulting to financial services firms on a range of risk-related issues. Nick combines extensive consulting experience with a strong background in climate having completed a DPhil in climate change modelling at Oxford University.



## **Sandra Hansen**

Sandra leads a team of scientific experts at Guy Carpenter, focusing on catastrophe model evaluation, climate change impacts, and real-time event response. With over 15 years in financial services as an actuary and peril expert, she has developed Guy Carpenter's climate change offerings and led the evaluation of European windstorm models. Sandra holds a first-class Master's in Mathematics from the University of Oxford and a distinction in Atmosphere, Ocean, and Climate from the University of Reading.



## **Dr. René Nicolodi, CAIA**

Dr. René Nicolodi is the Head of Equities and Deputy Head of Asset Management at Swisscanto, managing over CHF 300 billion in assets. With two decades of finance experience, he is active on ESG commissions at EFFAS and lectures internationally on sustainable finance. René holds a Ph.D. in Sustainable Pension Fund Engagement from the University of Zurich and has been a Chartered Alternative Investment Analyst (CAIA) since 2009.



# ECRA's Faculty

## **Susana Peñarrubia Fraguas, CFA, CESGA**

Susana heads ESG Integration - Active at DWS, joining in 2001 after roles at Dresdner Kleinwort Benson. As an equity portfolio manager from 2007-2020, she earned recognition, including Handelsblatt's esteemed portfolio manager award in sustainable equities. Holding a master's in economics from Universidad de Alcalá de Henares, her accolades include "Best of European Buy side Analyst" and "TopGun" in Europe. She contributes to Schmalenbach Gesellschaft's "Integrated Reporting" and teaches for EFFAS's CESGA and ESG programmes.



## **Alexander Pui, PhD**

Alex is Senior Vice President, Climate and Sustainability Consulting at Marsh Advisory. He supports our clients by providing fit for purpose climate risk insights to help drive value adding risk management and mitigation strategies. Alex joined Marsh from Commonwealth Bank of Australia (CBA), where he led the climate analytics practice, developing climate risk management strategies and addressing emerging risks, including insurability challenges and climate scenario planning. Previously, he served as Head Nat Cat and Sustainability (APAC) at Swiss Re Corporate Solutions, overseeing property underwriting and creating innovative climate risk solutions. Recognized as Risk Leader of the Year by RMIA in 2022, Alex remains active in academia as Adjunct Fellow at the Climate Change Research Center (UNSW) and JSPS Visiting Scholar at Kyushu University.



# ECRA's Faculty

## Dr. Graeme Riddell



Graeme leads Climate & Sustainability Consulting across Asia-Pacific at Marsh Advisory and Marsh's Global COE on Climate. He helps clients integrate climate and sustainability risks into their enterprise risk management frameworks, with particular expertise in climate-related physical risks, resilience strategies, and strategic risk management. Previously, at Marsh McLennan Advantage, he led research on climate resilience and emerging risks, collaborating with global organizations such as the WEF and OECD, and contributed to the Global Risks Report. Earlier, Graeme was a climate resilience consultant with the World Bank and held various academic and consultancy roles across the Asia-Pacific region.

## Prof. Swenja Surminski



Swenja Surminski is an international expert in climate change, resilience, and disaster risk management, specializing in risk financing, insurance, and risk governance. She joined Marsh McLennan from the Grantham Research Institute at LSE, where she served as Deputy Director and Head of Climate Adaptation Research, and continues as Professor in Practice. Swenja has advised regulatory bodies, corporates, and governments, including roles at the Bank of England and the World Bank, where she developed the widely used Triple Resilience Dividend tool. She chairs the Munich Climate Insurance Initiative, is Senior Associate at the Cambridge Institute for Sustainability Leadership, serves on the UK Climate Change Committee, and has contributed to IPCC reports and the UK's climate risk assessments.

# ECRA's Faculty

## **Daniel Teetz, CFA**

Daniel is a Senior Manager at Oliver Wyman Actuarial, specializing in climate risk management for insurers. He advises insurers worldwide on various aspects of quantitative and qualitative climate and sustainability risk assessment and has extensive practical experience in implementing stress tests for insurers, having supported nearly all regulatory exercises on insurance stress testing globally. Additionally, he is a member of the working group on climate scenarios for the German Actuarial Association (DAV) and a lecturer in various continuing education programs in the insurance sector. Daniel holds degrees in Physics and Mathematics from RWTH Aachen and LMU Munich. He is a CFA (Chartered Financial Analyst) charterholder.



## **Dr. Matthias Witzemann**

Matthias is the Climate Sustainability Lead in Germany and Austria, and an Energy and Natural Resources Partner at Oliver Wyman. For more than 20 years, he has been supporting global customers in the energy industry in their transformation. His consulting focus ranges from strategy development to transformation and operational performance improvement programs. Matthias has extensive expertise in the field of conventional energy production, renewable energies, hydrogen, CCUS, and sustainability transformation. He has studied business administration at the University of Mannheim and received his doctorate from the Vienna University of Economics and Business.





## Enquiry?

If you have any questions related to our programme or application procedure, we are here to help you.

Contact us: [info@effas-academy.com](mailto:info@effas-academy.com)



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