



# Initiative in Sustainable Finance

Building bridges between academia and  
industry, policymakers, and society

ARTIFICIAL INTELLIGENCE

BIODIVERSITY

CLIMATE

FINANCIAL MARKETS

SUSTAINABILITY

WEALTH MANAGEMENT

## Introduction

The Department of Finance at the University of Zurich has launched a new Initiative in Sustainable Finance.

This lighthouse project spans multiple disciplines within academic finance and aims to address current and pressing issues in sustainable finance using a wide range of research methods, including novel applications of artificial intelligence techniques. The topics to be investigated range from climate change and biodiversity conservation to social and governmental matters.

The goal of this initiative is to continue developing the Department of Finance at the University of Zurich into the leading global research institution in sustainable finance. By building bridges between academia and industry, policymakers, and society as well as fostering collaboration we are committed to making sustainable finance not just an abstract concept, but a tangible reality.

**Switzerland** is one of the world's leading financial centers, managing approximately a quarter of the world's cross-border assets, and Zurich ranks among the top financial centers in the world.

The first sustainable financial products were launched in Switzerland as early as the 1980s, making the Swiss financial center a pioneer in the field of sustainable finance.<sup>1</sup>

Switzerland is rapidly gaining a reputation as a global hub for financial innovation due to its achievements in both sustainability and technology.

The University of Zurich is at the heart of this hub.

<sup>1</sup> Source: *Swiss Finance Council, The Swiss Approach to Sustainable Finance, March 2023*



# Initiative in Sustainable Finance

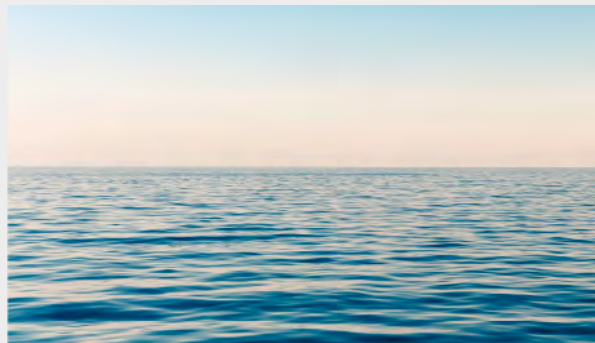
The Initiative in Sustainable Finance at the University of Zurich is the largest cluster of academic excellence in sustainable finance in Switzerland.

We combine cutting-edge research methods, data, themes, and technology to provide key insights and tools for a sustainable future. Our work demonstrates how finance can drive positive environmental and social change.

The initiative is organized around four research units addressing the following themes:

- Financial Institutions and Sustainability
- Artificial Intelligence and Sustainable Finance
- Private Wealth and Sustainable Investing
- Climate and Biodiversity Finance

## Financial Institutions and Sustainability



This research theme addresses the role of financial institutions towards sustainability. Banks, insurance companies, and pension funds play a crucial role in financing the green transformation. To achieve more sustainable practices, a major reallocation of financial capital is imperative. This change demands a significant shift in investment patterns and behavior towards sustainable business models.

Here we explore how financial capital providers identify, assess, and manage sustainable risks by examining the influence of financial institutions in allocating resources.

**Highlight research:** Fossil fuel firms face growing loan rates as climate concerns mount: Will this accelerate their decline? ([page 7](#))

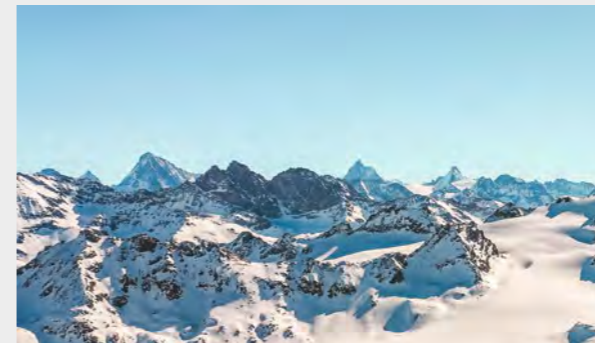
## Artificial Intelligence and Sustainable Finance



Artificial Intelligence (AI) is increasingly gaining importance in economics and climate change research, notably through the use of Natural Language Processing techniques (NLP). NLP interprets human language, enabling the efficient analysis of large datasets. This capability is essential for assessing and understanding complex unstructured environmental data and sustainability reports, facilitating more informed research and decision-making processes in these critical areas.

ClimateBert and ChatClimate are two examples of NLP tools that are actively being used in the field of sustainable finance. ClimateBert assesses corporate sustainability communications, while ChatClimate helps its users understand the IPCC climate change reports. These platforms empower anyone to evaluate data and information, fostering accountability and propelling transparency when pursuing sustainability from a financial perspective.

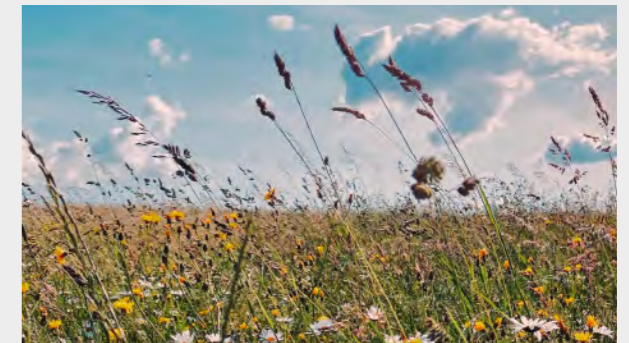
## Private Wealth and Sustainable Investing



With significant global assets at their disposal, private wealth owners can drive change through their activities and investments. Our previous research shows that many wealth holders have a keen interest in sustainable investing. However, it also shows financial advisors lack of relevant expertise.

We examine sustainable investing strategies, opportunities, challenges, and decision-making mechanisms used by private wealth owners, their wealth managers, and advisors. Furthermore, we investigate the intricacies of family offices and family businesses to enable them to create catalytic change towards a sustainable future.

## Climate and Biodiversity Finance



Climate change and biodiversity conservation stand out as two of the most urgent and difficult challenges confronting our planet. We explore the integration of climate and biodiversity related risks and address how such risks are already influencing actors in industry and finance.

Within our research we delve into the methodologies employed by financial institutions to gauge, evaluate, and mitigate climate and biodiversity risks, while also pinpointing behavioral aspects that affect decision-making.

**Highlight research:** Economic and financial consequences of water risks: The case of hydropower ([page 7](#))

# Highlights

## Academic Excellence in Sustainable Finance

The Initiative in Sustainable Finance is led by Prof. Zacharias Sautner and Dr. Falko Paetzold. Current active members include Prof. Steven Ongena, Prof. Markus Leippold and Dr. Chiara Colesanti Senni, among others. In the near future, the group of researchers will grow.

We will use our excellent academic research to generate and regularly share in-depth knowledge, insights, and data in sustainable finance. The academic output will enable industry leaders, policymakers, and other key stakeholders to make research-based decisions on sustainable finance related issues.



**Zacharias Sautner**  
Professor of Sustainable Finance at UZH, Senior Chair at the Swiss Finance Institute (SFI)

“Biodiversity is becoming more and more important in the context of ESG. Increasingly, we are seeing people trying to measure disclosures related to climate change and biodiversity. Markets and investors have already understood that addressing climate change is about financial value.”



**Falko Paetzold**  
Initiator & Managing Director of the Center for Sustainable Finance and Private Wealth at UZH

“Private wealth holders are very interested in sustainable investing, but the advisors are an important barrier for that to be realized. There is an intention-behavior gap. To understand the situation better we need more data. This will help us to provide the right knowledge to relevant groups of people to make a change.”



**Markus Leippold**  
Professor of Financial Engineering at UZH, Senior Chair at the Swiss Finance Institute (SFI)

“The most pressing challenges of our world do not respect the boundaries of scientific disciplines. They require the combined efforts of scientists from different fields. As a catalyst for innovative and interdisciplinary research, the initiative bridges the gap between natural and social sciences. Its research supports policy and decision-makers in shaping our future and the future of the next generations.”



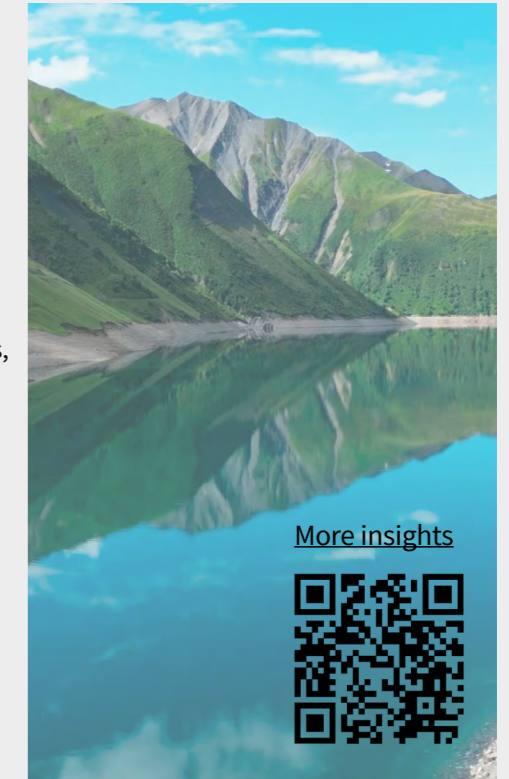
**Chiara Colesanti-Senni**  
Senior Researcher

Chiara Colesanti Senni is a postdoctoral researcher at the University of Zurich. Her research focus lies on environmental risks, financial supervision and monetary policy.

Her latest research paper “Economic and financial consequences of water risks: The case of hydropower” looks into how water risks affect hydroelectricity generation in Europe and the US.

Key questions include:

- **How severely does drought impact hydropower generation?**
- **Are investors aware of these “water risks” when valuing hydropower companies?**



**Steven Ongena**  
Professor of Banking

Fossil fuel firms face growing loan rates as climate concerns mount: Will this accelerate their decline?

Banks are increasingly factoring climate risk into the loans they offer to fossil fuel companies. As a result, companies holding on to large reserves of coal, oil, and gas could face significantly higher borrowing costs in the future, especially in regions with stricter climate policies.

### Paris Agreement boosts banks pricing in climate change transition risks for fossil fuel firms.

**Before Paris Agreement**  
Loan pricing increases by 28%<sup>1</sup>

Country with less stringent climate policies (e.g. Australia)

Country with more stringent climate policies (e.g. UK)

**After Paris Agreement**  
Loan pricing increases by 82%

Country with less stringent climate policies (e.g. Australia)

Country with more stringent climate policies (e.g. UK)

[More insights](#)



<sup>1</sup> Relative to the sample of 236. The increase before the Paris Agreement is 66 bps and increases by 195 bps after.

**Impressum**

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