Columbia Business School

Climate Risk (Gernot Wagner) SP2027

B8233 1.5 credits

PROFESSOR AND TA INFO

Gernot Wagner
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Office Hours: Wednesday 2:30-4:30 pm
Please sign up via gwagner.com/oh, or join me on a morning run: gwagner.com/run. If none of these times work, please email me.

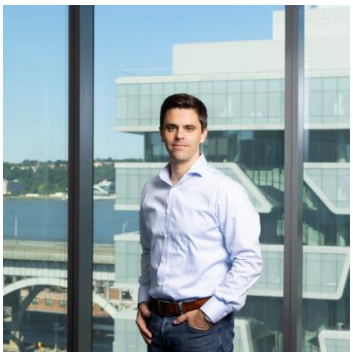
TEACHING ASSISTANTS
Quentin Harel
Section 001 (Mondays 9:00am-12:15pm)
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Louisa Zinke
Section 050 (MSCF; Mondays 2:00-5:35pm)
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Office Hours by appointment.

Communications from the instructor and teaching assistants about the course will take place through Canvas. Students should make sure they regularly check for announcements and messaging notifications.

TEACHING TEAM


Gernot Wagner


Quentin Harel


Louisa Zinke

COURSE DESCRIPTION

Climate risk is real. It is costly to the economy, society, and the world, as evidenced by high and ever-increasing Social Cost of Carbon (SCC) estimates. Most businesses and corporations, meanwhile, experience climate risk mostly indirectly, via policy, technology, and market risks. This class focuses on climate risks head on, exploring to which extent they also pose direct financial risks to business now and in the near future. Along the way, we will answer a number of questions, such as: If climate change is so costly, why does it not show up (more) in asset prices? If climate pollution is so bad, why is polluting so profitable? We will also dive into questions around insurability of physical assets like real estate, stress

testing of financial assets, and corporate scenario planning. Lastly, we will discuss risk as opportunity for those relatively better able to take advantage of risks and uncertainties.

REQUIRED AND RELATED COURSES

This Climate Risk course builds upon the introduction to the topic in B8705 Business and Climate Change. Further pre-requisites: Core courses in Managerial Economics and Corporate Finance.

STUDENT LEARNING OUTCOMES

This course is designed for MBA students interested in the intersection of business and climate change, especially those with an eye toward finance, economics, and corporate risk management and strategy. The specific course objectives for Climate Risk are for students to:

- Categorize the broad range of climate risks and uncertainties for business.
- Evaluate when and how these risks and uncertainties materialize e.g. in asset prices and insurance premia.
- Assess climate-related financial stress tests.
- Understand the role of corporate climate and risk disclosure.
- Gain hands-on experience in corporate scenario planning.
- Assess to what extent climate risks provide financial opportunities.

CLASSROOM NORMS AND EXPECTATIONS

Core Culture

Students are expected to adhere to CBS Core Culture in this class by being Present, Prepared, and Participating.

Inclusion, Accommodation, and Support for Students

At Columbia Business School we believe diversity strengthens any community or business model and brings it greater success. The School is committed to providing all students with equal opportunity to thrive in the classroom by providing a learning, living, and working environment free from discrimination, harassment, and bias on the basis of gender, sexual orientation, race, ethnicity, socioeconomic status, or ability.

Students with documented disabilities may receive reasonable accommodations. Students are encouraged to contact Columbia University's Office of Disability Services for information and to register for services.

Columbia Business School adheres to all community, state, and federal regulations as relate to Title IX and student safety. Read more about CBS' policies to support Inclusion, Accommodations and Support for Students.

Honor Code and Academic Integrity

The Columbia Business School Honor Code calls on all members of the School community to adhere to and uphold the notions of truth, integrity, and respect both during their time in school, and throughout their careers as productive, moral, and caring participants in their companies and communities around the world. All students are subject to the Honor Code for all of their academic work. Failure to comply with the Honor Code may result in Dean's Discipline. Here you can review examples of Academic Misconduct which may result in discipline. The Honor Code applies to all students and is also found on the EMBA Honor Code page.

Course materials (videos, assignments, problem sets, etc) are for your use in this course only. You may not upload them to external sites, share them with students outside of this course, or post them for public commentary without the instructor's permission.

Course Attendance Policies

Students should review and be familiar with the MBA Attendance Policy and the MBA Exam Policy. Please complete this form if you are absent for an excused reason: Core Excused Absence Form.

Generative AI Policy

Students in this course may only use Generative AI tools for research and must include a citation describing any usage. Using these tools to generate responses to assignments violates the CBS Honor Code. Please contact me if you have any questions about this policy.

COURSE ROADMAP/SCHEDULE

Sessions	Topics and Pre-Readings	Assignments Due (Assignment Types)
Module 1: Overview 22 March 2027 • Classifying risks • Transition risks	*Climate risks 101* ○ Sachs et al, "Distinguishing Among Climate Change-Related Risks" (2025) ○ Wagner, "Climate risk is financial risk" *Science* (2022) *Guest: TBC* *Background/Optional/Assumed Knowledge* ○ JPM, "Introduction for Climate Intuition" (2025)	Read syllabus (C: Indiv) Answer Welcome Quiz (C: Indiv)
Module 2: Climate Risks 29 March 2027 • Risks vs uncertainties • Quantifying climate risks	*Intro to climate risk tools & quantitative methods for estimating climate-adjusted financial risks* *Guest: Sid Pai, StepChange* ○ Readings TKl	Reflections memo 1 (C: Indiv) [due by Thursday 10pm]

Module 3: Insuring climate risks 5 April 2027 • Physical asset risk • Supply chain risk	○ "When Insurance and Policy Align, Resilience Scales," *RMI* (31 March 2026). ○ WWF, "Tackling the insurance protection gap," via Allianz.com(!). *Guest: TBC* *Background/Optional:* ○ "Homeowners face a $25trn bill from climate change," *The Economist* (2024)	Reflections memo 2 (C: Indiv) [due by Thursday 10pm]
Module 4: Scenario Planning 12 April 2027 • Geopolitical risks • Qualitative & quantitative scenarios	*Guest: Alan Iny, Partner and Director, Global Lead for Creativity & Scenarios, BCG* ○ Shell, "The Energy Transformation Scenarios" (2021) [data.xlsx]; and explore the latest "Shell Scenarios" more broadly. ○ Lang, Iny *et al.*, "Beyond Tomorrow: Four Scenarios for the World of 2050," *BCG* (2026). ○ Backler, Iny, D'Intino, Parker, and Hirashita, "Navigating the Future with Strategic Foresight," *BCG* (2025). *Background/Optional:* ○ Cornelius et al., "Three Decades of Scenario Planning in Shell" *California Management Review* (2005)	Reflections memo 3 (C: Indiv) [due by Thursday 10pm]
Module 5: Legal Risks 19 April 2027 • Legal risks • Reputational risks	*Guest:* TBC ○ Wetzer *et al.* "Climate risk assessments must engage with the law", *Science* (2024)	Reflections memo 4 (C: Indiv) [due by Thursday 10pm]
Module 6: Scenario discussions 26 April 2027 • Student presentations of scenario analyses	○ [fellow students' slides] *Guest 'judge': Sid Pai, StepChange*	Scenario presentation (A: group)

METHOD OF EVALUATION

The goal of this course is to develop a firm understanding of the physical impacts and financial materiality of climate risks. Students will be expected to come prepared to class to discuss the readings and actively engage in course discussions. [40% of the final grade]

Students will also write four brief reflections following weeks 1 through 4 [5% each, 20% total], and prepare a final presentation as part of a group [40%].

Participation and engagement (C - individual)	40%
Reflections (4x 1-2 pages, 5% each) (C - individual)	20%
Scenario presentation (A – group/group)	40%