Climate Change Politics in the Developing World (PSCI-4991-302)

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Class Location: PCPE 225
Class Hours: Mondays 1:45-4:44
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Office Hours: Wednesdays 3:00–4:00
Office Hours Sign-Up: calendly.com/ggros

What this course is about

Climate change is one of the biggest challenges of our time. Scientists overwhelmingly agree on what's causing it: the release of carbon dioxide and other greenhouse gases from human activities like generating electricity, driving cars, running factories, and growing food. But here's the catch—these are also the same things that drive economic growth and help lift people out of poverty, especially in developing countries.

So what do we do? Climate policy is designed to help reduce our energy consumption or transition to cleaner, low-carbon technologies. And we've made some real progress—renewables, batteries, and energy-efficient technologies are cheaper and more available than ever. Still, we're not using them nearly enough to slow down global warming seriously. That raises a big question: if we know what's causing the problem and we have tools to fix it, why aren't we moving faster?

That's where politics comes in. This seminar looks at how politics—everything from public opinion and governance institutions to interest groups and international negotiations—shapes the way countries deal with climate change. Our focus will be on the developing world, where the stakes are exceptionally high. Together, we'll explore how different actors, from global organizations to local communities, are trying (or sometimes failing) to tackle the climate crisis.

Goals and Objectives

This course is your chance to dig into some of the most important—and urgent—questions in climate politics today, with a special focus on low- and middle-income countries. We'll use real-world examples, thought-provoking readings, and guest experts' lectures to explore how different communities and governments are responding (or not responding) to the climate crisis. Along the way, you'll sharpen your analytical thinking and learn to make persuasive arguments—both in discussion and in writing—about complex and high-stakes issues. Over the semester, we'll explore four big questions:

1. How is climate change affecting people's lives around the world?
We'll start by looking at the big picture: how climate change is expected to impact economic growth, health, migration, and even conflict. But we'll also zoom in on questions of *climate justice*—why the people who've contributed least to global emissions are often hit the hardest, and what that means for fairness and responsibility.

2. What can governments do?
From carbon taxes and clean energy subsidies to tech innovation and geoengineering, we'll explore a wide range of policies aimed at reducing emissions, or helping people adapt to a changing climate. We'll think critically about the tradeoffs between adaptation and mitigation, and what those tradeoffs look like in the Global South.

3. Can countries work together to fix a global problem?
Climate change mitigation is also a collective action problem. We'll dive into the international agreements and institutions—like the Paris Agreement—that are supposed to help countries cooperate. But we'll also ask: Are they working? And if not, why not?

4. What gets in the way of bold climate action—and where is change still possible?
Even when the science is clear and the solutions exist, powerful barriers stand in the way of progress: limited state capacity, low public demand, and political gridlock, to name a few. But it's not all doom and gloom—we'll also look at creative, local efforts to drive climate action from the ground up.

By the end of the course, you'll have a deeper understanding of what's at stake in climate politics—and the tools to think critically and communicate clearly about one of the most defining challenges of our time.

Course Requirements

1. Class attendance and participation: 10%

2. Reflection on a climate event (15%)

3. Midterm: 35%

4. Country case study: 30%

5. Presentation: 10%

1. Class attendance and participation (10%)

This seminar will rely largely on class discussions. Class attendance is thus required to do well in the course. Attendance will be recorded for each class meeting, and will constitute a portion of your participation grade. You can miss one class, no questions asked, with no penalty. In the absence of exceptional circumstances, all subsequent missed classes will be reflected in your participation score.

The course schedule details course reading assignments. You are expected to come to class prepared to discuss the readings and be an active contributor in class discussions.
Preparing notes for each reading will ensure that you are prepared for class discussion and will also assist you in class assignments. If you struggle with speaking up in seminars, please reach out to me within the first two weeks of the semester.

This course will involve a relatively substantial amount of reading. While I expect you to come prepared for class, I do not expect you to remember every word in every assigned reading. These handouts will be exceptionally helpful in teaching you how to (a) get the main point of what you read, (b) remember what you read, and (c) engage with the material.

2. Reflection on a climate event (15%)

Sometimes during the semester, you will attend a climate-related event of your choice on campus or elsewhere (e.g., while visiting your hometown, while traveling, etc.). The type of event you attend is up to you: it could be a conference, a teach-in, a rally/demonstration, a town hall meeting with local or state representatives regarding an environmental or climate issue, etc. You will then write an 800-1,200-word reflection on your experience, drawing on the readings where relevant. **The deadline for submitting your reflection is November 15.**

4. Midterm (35%)

The midterm will be an in-class exam on November 3rd, with no connection to Wi-Fi.

5. Country case study (30%)

You are expected to write a 12-15 page-long case study summarizing critically a specific country's mitigation and adaptation efforts—deadline: **before midnight on December 11, 2025**.

6. Presentation (10%)

In the last class meeting (December 1st, 2025), you will give a 20-minute presentation on the country you chose for your case study (described above). Your presentation should be analytical (not just descriptive) and should focus on assessing the actions, barriers, and challenges of addressing climate change in your country of choice.

Logistics

Course site

All the materials for this course will be posted on the course site on Canvas. You can log in at canvas.upenn.edu. Your username is your university ID (UUID), and your password is your regular password.

Office Hours

Please sign up to office hours using calendly.com/ggros. Outside of office hours, I will be busy doing other parts of my job (directing PDRI-DevLab, writing scientific papers, applying for grants, supervising graduate students, serving on faculty committees, writing tenure assessment letters, etc.). Office hours are the time I have set aside to focus on you personally. Even if you don't have specific questions, the interactions generated during a good office hour discussion could help clear up any confusion you might have on a topic.

Communication

I will communicate with the class via Canvas and email. In general, I prefer that course-related communication takes place using Canvas. Please ensure that your UPenn email address is one you check regularly. To ensure my ability to respond to all student emails in a timely fashion, please be sure to check the course syllabus and Canvas thoroughly for answers to any questions. I respond to emails during normal university work hours, and students can typically expect a response to an email inquiry within 2-3 working days. I do not typically respond to emails in the evenings, on weekends, or statutory holidays. I do not respond to unprofessional or rude emails.

Grade policy

- The grade you earn is the grade you will receive in this course. Grades are not negotiable, and I do not award points based on your intention to do well. The only thing that matters in determining your grade is your performance in the course.

- Every effort will be made to grade fairly and impartially; however, mistakes sometimes occur. If you have a serious reservation about how you have been graded, write a comprehensive description of the mistake as you see it. Re-grade requests will only be accepted within a week after the return of the graded work.

- Late assignments will be penalized 1/10 of the grade every day, including the date the assignment is submitted. For example, if you submit your reflection on a climate event on 11/18 (deadline: Nov 15th; total points: 15) and receive a grade of 13/15, it will register as a 8.5/15 when calculating your final grade (subtracting 4.5 points total, or 1.5 points for 11/16, 11/ 17, and 11/18).

Etiquette

Please be considerate of your fellow students: arrive at class on time, take notes of what has been discussed, and do not leave the session early unless absolutely necessary. Turn off cell phones

during class.

Accommodation for students with disabilities

The University of Pennsylvania encourages the full participation of students with disabilities. Students with disabilities are encouraged to discuss special accommodations that may be needed for successful participation in this course. Specifically, the University accommodates students with disabilities who have registered with the Office of Student Disabilities Service. Students must register with the Student Disabilities Services (SDS) to be granted special accommodations for any ongoing conditions. For more information on the services that you are entitled to, please refer to the following guide.

Accommodating tiny children

Tiny children are great. If you are breastfeeding or can't find childcare, feel free to bring your baby to class. We'll make it work.

Religious Accommodation

The University accommodates students whose religious obligations conflict with attendance, submitting assignments, or completing scheduled tests and examinations. Please notify me in the first week of class if you will require any accommodation on these grounds. For more information, please refer to Penn's Policy on Religious Holidays.

Policy on Academic Misconduct

Academic honesty is critical in this class. As stated in the Student Handbook, things like "cheating" and "plagiarism" are serious violations and will lead to strict consequences. If you're found to have done either, you may get a zero on the assignment or exam, and in some cases, an "F" for the entire course, depending on how serious it is.

Policy on the Use of Generative AI Tools

The release of ChatGPT in November 2022 marked a significant moment in how we work with technology. Tools like ChatGPT and other generative AI are already becoming important for many careers, not just in the future, but right now. At the same time, universities (and society more generally) are still figuring out when and how it's okay to use these tools. Here are a few things to keep in mind:

1. AI-generated work may not count as your original work. These tools build on existing texts, usually without citing where that information came from.

2. AI tools can reflect bias or errors found in their training data. They often repeat what they've seen, rather than question or improve on it.

3. AI is not perfect. Currently, these tools cannot reason, evaluate, or make informed judgments independently. They can be impressive, but they lack the capacity for deep or critical thinking.

Please keep these points in mind when using large language models (LLMs) like ChatGPT. That said, I know these tools are here to stay, and I want to approach their use thoughtfully and realistically. So I'm adding the following expectations for using AI tools in this course:

1. If you use an AI tool, you must say so clearly in your work. Please include the name of the tool and how you used it. For example: *ChatGPT-4o. (YYYY, Month DD of query). "Exact text of your prompt."*

2. Do not use AI in a way that violates copyright or counts as plagiarism. If you're not sure whether something is okay, ask first.

Using AI in ways that break these rules will be treated as academic misconduct under the University of Pennsylvania's policies. That could mean a lower grade, failing an assignment, or failing the course. Finally, it's your responsibility to follow these guidelines. If you're ever unsure about whether your use of AI is appropriate, please talk to me. We're all learning how to use these tools responsibly, and I'm happy to help.

Where do I find the readings?

All class readings, including book chapters, papers, and magazine articles, are available electronically through the class website on Canvas.

Schedule

Week 1: Introductions (September 8)

Learning objectives:

- What is climate (and how is it different from weather)?

- Key facts about climate change

- Why must we look at politics if we care about the climate?

Required readings:

- Dessler, Andrew E. *Introduction to Modern Climate Change* 3rd edition, (2022), chapter 1: pp. 1-13.

- Intergovernmental Panel on Climate Change (2023), Climate Change 2023: Synthesis Report, Summary for Policymakers, pp 4-18 (https://shorturl.at/0hT7B).

- Ezra Klein's NYTimes podcast "Is decarbonization dead?" https://shorturl.at/0vBXg.

Week 2: What is climate change? (September 15)

Guest lecturers:

- Prof. Irina Marinov and Lillian Miller (PhD student)

Learning objectives:

- What are the basics of the science of climate change?

- What is the best evidence that CC is human-induced?

Required readings:

- Maslin, Mark. *Climate change: a very short introduction*, (2021), chapters 1-5.

Week 3: Where are we, and how worried should we be? (September 22)

Learning objectives:

- Improve basic understanding of the world of energy - past and present

- Improve understanding of the menu of options for climate mitigation

- What should we be focusing on most? How do we choose?

Required readings:

- Max Roser (2020) - "The world's energy problem" Published online at OurWorldinData.org. Retrieved from: https://ourworldindata.org/worlds-energy-problem

- Caucheteux, Juliette, Sam Fankhauser, and Sugandha Srivastav. (2025). "Climate change mitigation policies for developing countries." *Review of Environmental Economics and Policy* 19(1): 69-89.

- Hannah Ritchie. (2024). *Not the End of the World*, chapter 3: pp. 66-114.

Week 4: Climate change's impact (September 29)

Learning objectives:

- Discuss the multiple dimensions in which climate change is affecting us.

- How climate change will affect politics by increasing conflict, migration, and economic disparities.

Required readings:

- Adom, Philip Kofi. "The socioeconomic impact of climate change in developing countries over the next decades: A literature survey." *Heliyon* (2024), 10(15): e35134.

- Koubi, Vally. "Climate change and conflict." *Annual Review of Political Science* (2019), 22(1): 343-360.

- Cattaneo, Cristina, et al. "Human migration in the era of climate change." *Review of Environmental Economics and Policy* (2019) 13(2):189-206 .

- NYTimes: https://shorturl.at/jSDBf

Week 5: Global governance – mitigation (October 6)

Guest lecturer:

- Professor Michael Weisberg (Philosophy)

Learning objectives:

- Introduction to the idea of the "tragedy of the commons" as it relates to global public goods.

- Understand the global governance structure that seeks to support inter-country cooperation: e.g., the UN Framework Convention on Climate Change (UNFCCC), the Paris agreement, etc.

Required readings:

- Keohane, Robert O., and David G. Victor. (2016). "Cooperation and discord in global climate policy." *Nature Climate Change* 6(6): 570-575.

- The Paris Agreement https://shorturl.at/J4vDF

- Carbon Brief's COP29 summary: https://shorturl.at/wAxJY

Week 6: Global governance – adaptation (October 13)

Guest lecturer:

- Professor Allison Lassiter (design)

Learning objectives:

- Improve understanding of what we mean by climate adaptation.

- The global governance support for national adaptation plans: strengths and weaknesses.

Required readings:

- Woodruff, Sierra C., and Patrick Regan. (2019). "Quality of national adaptation plans and opportunities for improvement." *Mitigation and Adaptation Strategies for Global Change* 24(1): 53-71.

- Mizuno, Osamu, and Naoyuki Okano. (2024). "Reconsidering national adaptation plans (NAPs) as a policy framework under the UNFCCC." *Climate Policy* 24(9): 1309-1321.

- Alves, Fátima et al. (2020). "Climate change policies and agendas: Facing implementation challenges and guiding responses." *Environmental Science & Policy* 104: 190-198.

Week 7: Green transition (October 20)

Guest lecturer:

- Dr. Santiago Cunial (UNDP)

Learning objectives:

- Why is it hard for governments to engage in a green transition, even as prices of renewables are dropping to unprecedented levels?

- What explains why some countries succeed and others fail in their transition?

Required readings:

- Cunial, Santiago. (2024). "Policy legacies and energy transitions: Greening policies under sectoral reforms in Argentina and Chile." *Energy Policy* 188: 114059.

- Aklin, Michaël, and Matto Mildenberger. (2020). "Prisoners of the wrong dilemma: why distributive conflict, not collective action, characterizes the politics of climate change." *Global Environmental Politics* 20(4): 4-27.

- Stoddard, Isak, et al. (2021). "Three decades of climate mitigation: why haven't we bent the global emissions curve?." *Annual Review of Environment and Resources* 46(1): 653-689.

Week 8: The Geopolitics of Mineral Extraction (October 27)

Guest lecturer:

- Arwen Kozak (Kleinman Center for Energy Policy)

Learning objectives:

- What do we mean by the "Geopolitics of mineral extraction"?

- Why do China and the USA suddenly care so much about Cobalt mines in the Congo?

Required readings:

- IEA: The Role of Critical Minerals in Clean Energy Transitions (Executive Summary only) – https://shorturl.at/4BRaj.

- Church, Clare, and Alec Crawford. (2020). "Minerals and the metals for the energy transition: Exploring the conflict implications for mineral-rich, fragile states." *The geopolitics of the global energy transition.* Cham: Springer International Publishing, pp. 279-304.

- World Economic Forum: Why China's critical mineral strategy goes beyond geopolitics – https://shorturl.at/eXfYp

Suggested (but not required) readings:

- Amoah, Macdonald, et al. (2024). "Critical minerals mining and Native American sovereignty: Comparing case studies of lithium, copper, antimony, nickel, and graphite mining in the United States." The Extractive Industries and Society 20: 101557.

- NYT: Seabed-Mining Firm Faces Legal Questions Over Controversial Trump Policy – https://tinyurl.com/5n7mwrrx.

- McKinsey & Co: What is a supply chain?

Week 9: Midterm

In-class midterm exam on November 3rd.

Week 10: Public opinion: Climate Change Beliefs and Climate Actions (November 10)

Learning objectives:

- The levels and determinants of climate knowledge and attitudes in the global south

- Is exposure to the consequences of climate change affecting climate attitudes?

- Are there electoral consequences of climate exposure? If so, why?

Required readings:

- Cologna, Viktoria, et al. (2025). "Extreme weather event attribution predicts climate policy support across the world." *Nature Climate Change*: *earlyview.*

- Reser, Joseph P., and Graham L. Bradley. (2020). "The nature, significance, and influence of perceived personal experience of climate change." *Wiley Interdisciplinary Reviews: Climate Change* 11(5): e668.

- Cooperman, Alicia. (2022). "(un) natural disasters: Electoral cycles in disaster relief." *Comparative Political Studies* 55(7): 1158-1197.

> **Home Assignement: Reflection**
>
> Submit a reflection on a climate event. **Deadline: November 15th**.

Week 11: The Effects of Institutions on Climate Management (November 17)

Learning objectives:

- What is the relationship between regime type and climate mitigation policies?

- Why may democracies underperform compared to autocracies?

Required readings:

- Sanford, Luke. (2023). "Democratization, elections, and public goods: the evidence from deforestation." *American Journal of Political Science* 67(3): 748-763.

- Lindvall, Daniel, and Mikael Karlsson. (2024). "Exploring the democracy-climate nexus: a review of correlations between democracy and climate policy performance." *Climate Policy* 24(1): 87-103.

- Shen, Shiran Victoria. (2024). "Can Autocracy Handle Climate Change?" *PS: Political Science & Politics* 57(4): 487-492.

Week 12: Deforestation (November 24)

Learning objectives:

- What are carbon sinks, and what role do they play in climate change?

- In particular, what role does deforestation play in climate change?

- What explains the variation in the protection of carbon sinks?

Required readings:

- The Economist: "The obvious economics of preserving the Amazon." Date: October 23, 2025

- Xu, Alice Z. (2025). ""Bureaucratic Packing" in the Brazilian Amazon: How Political Competition Drives Deforestation." *The Journal of Politics*: *earlyview*.

- Assunção, Juliano, Clarissa Gandour, and Romero Rocha. (2023). "DETER-ing deforestation in the Amazon: environmental monitoring and law enforcement." *American Economic Journal: Applied Economics* 15(2): 125-156.

- Baragwanath, Kathryn, and Ella Bayi. (2020). "Collective property rights reduce deforestation in the Brazilian Amazon." *Proceedings of the National Academy of Sciences* 117(34): 20495-20502.

Week 13: Community and household level innovations (December 1)

Learning objectives:

- Introducing explanations of climate behavior (including inaction) that are rooted at the community levels (property rights, land titling, community monitoring, representation)

- Introducing innovations at the local level that can affect climate behavior

Required readings:

- Jayachandran, Seema. (2023). "The inherent trade-off between the environmental and anti-poverty goals of payments for ecosystem services." *Environmental Research Letters* 18(2): 025003.

- Buntaine, Mark T., Stuart E. Hamilton, and Marco Millones. (2015). "Titling community land to prevent deforestation: An evaluation of a best-case program in Morona-Santiago, Ecuador." *Global Environmental Change* 33: 32-43.

- Slough, Tara, et al. (2021). "Adoption of community monitoring improves common pool resource management across contexts." *Proceedings of the National Academy of Sciences* 118(29): e2015367118.

Week 14: Presentations (December 8)

Presentation based on your country case study.

Home assignment: Country case-study

Submit your country case study; deadline: December 11.