Global decarbonisation in times of international individualism

COP30, this year's edition of the UN's annual climate conference, was held without a delegation from the world's second largest emitter of green hous gases (GHG) (Ritchie et al. 2023) and the world's biggest economy (Our World in Data 2025): the United States. After President Trump signed the US's withdrawl from the Paris Agreement during his first day in office and calling climate change "the greates con job ever" (Justin Rowlatt 2025), this absence was not unpredictable. It opens the question though: What relevance does a meeting like COP still have and what will happen to global action on climate change? I will argue that large scale decarbonisation can progress in the absence of international cooperation. One reason is that a systematic dependence on fossil fuels, "carbon lock-in", "arises [on] multiple, interdependent systems at local, regional and national levels" (Bernstein and Hoffmann 2019, 919). Additionally, there are other incentives for nations to proceed with decarbonisation measures. One of them is the goal security by reaching a higher level of energy independence.

After the first big international agreement, the Kyoto Protocol, failed to drive meaningful emission reduction, nations wrote a second one: the Paris Agreement (Bernstein 2025). Despite a goal of limiting warming to 2 degrees Celcius, "Current models estimate that the Paris Agreement will result in 2.4 degrees Celsius of warming" (Green 2024). Though these treaties contributed to accelerating action and reducing emissions (Doan et al. 2024), it does not seem unfounded to say that global cooperation on climate change struggled in the past.

The Kyoto Protocol's measures borrowed heavily from the successful fight against ozone emissions. This made sense given the view of climate change as another "global commons problem". It failed, however, to realise the increased complexity of reducing GHG emissions, when fossil fuels are fundamentally entangled with large parts of the economy. (Bernstein

2025) Bernstein and Hoffmann thus propose an updated metaphor: a global fractal. This captures three key characteristics of a global “carbon lock-in”: self-organised emergence of self-similar patterns and structures at different scales that are independent and reinforcing. (Bernstein and Hoffmann 2019, 919–20) In the context of nations, this can mean that while they can influence actions within their countries, there are many complex structures within each that also show patterns of carbon lock-in. Looking at the problem from this perspective we see that actions in one part of a fractal can have positive effects on the system as a whole.

Despite the argument that there are many systems on different scales that can drive action, nations remain a key point of influence. Why would states implement change then, if not for the pressure of international agreements? Instead of the universal benefefit of mitigating warming, we can consider additional rewards of a transition. A very relevant one I want to expand on is the geopolitical incentive of energy security and self sufficiency. “About 80 per cent of the global population lives in countries that are net-importers of fossil fuels - that’s about 6 billion people who are dependent on fossil fuels from other countries” (United Nations, n.d.). Energy being a vital resource, access to it can be seen as a matter of national security. Europe experienced first hand the consequences of relying on natural gas imports from Russia after the invasion of Ukraine (Sampedro et al. 2024). We can look at this situation using a long established concept in the theory of war. “In a context where there is no world government, and nobody but themselves to enforce the rules, countries act rationally to advance their security, power, and wealth.” (Jung 2025) Europes situation shows how the dependence limited their power to enforce tarrifs and endangered security by having limited supply of a key resource. There is thus a strong incentive for energy importers to consider alternatives. The prime example for this is China’s rapid rise to being “the world's clean-tech superpower” which “drove roughly 40% of China's economic growth” in 2023 (Justin Rowlatt 2025). Besides the

power and wealth this brings, “In China, more wind turbines and solar panels were installed last year than in the rest of the world combined.” (Brasília et al. 2025), thus capturing the security aspects as well. Though the EU is trying to stay a relevant player in the industiry, China’s dominance is “is now virtually unassailable” (Justin Rowlatt 2025). The decision many countries will have to make is between US or Russian oil or Chineese solar panels and wind turbines. Security concerns favor choosing the ladder because it is only a one time purchase in comparison to a constant dependance on supplies.

As I layed out, climate conferences are not the only reason decarbonisation is advancing. It is not only a process that can happen on many different scales as the fractal metaphor proposes, but there are also geopolitical incentives to transition away from fossil fuels that go beyond formal pledges. Though this can be seen as good news, climate action does benefit from global cooperation. An “ecological cold war” between “petro states” and a Sino-European “green entente” would be a battle of ideologies and not a race to net-zero (Gilman 2025). Even if reduction promises have lost their power, there still is good reason for cooperation on climate. “In particular, tax and trade institutions can be the locus for accelerating decarbonization.” (Green 2024, 42) Though decarbonisation will not cease to exist if countries turn away from climate conferences, this should not make us complacant. Instead we have to look for ways to innovate what global cooperation looks like and how it can help us get closer to net-zero.

932 Words

Bibliography

Bernstein, Steven. 2025. “POL101 Lecture 9: Climate Change.” Convocation Hall, University of Toronto, November 17.

Bernstein, Steven, and Matthew Hoffmann. 2019. “Climate Politics, Metaphors and the Fractal Carbon Trap.” *Nature Climate Change* 9 (12): 919–25. https://doi.org/10.1038/s41558-019-0618-2.

Brasília, David Gelles in New York; Somini Sengupta in, in Tirunelveli, India; Keith Bradsher in Beijing;, and Brad Plumer in Washington. 2025. “There’s a Race to Power the Future. China Is Pulling Away.” Climate. *The New York Times*, June 30. https://www.nytimes.com/interactive/2025/06/30/climate/china-clean-energy-power.html.

Doan, Nguyen, Huong Doan, Canh Phuc Nguyen, and Binh Quang Nguyen. 2024. “From Kyoto to Paris and beyond: A Deep Dive into the Green Shift.” *Renewable Energy* 228 (July): 120675. https://doi.org/10.1016/j.renene.2024.120675.

Gilman, Nils. 2025. “The Coming Ecological Cold War.” *Foreign Policy*, September 1. https://foreignpolicy.com/2025/09/01/ecological-cold-war-climate-china-europe-usa-russia/.

Green, Jessica F. 2024. “Global Climate Policy Beyond the Paris Agreement.” *PS: Political Science & Politics* 57 (1): 40–44. https://doi.org/10.1017/S1049096523000318.

Jung, Courtney. 2025. “POL101 Lecture 8: War and Other Conflicts.” Convocation Hall, University of Toronto, November 10.

Justin Rowlatt. 2025. “Do UN Climate Talks Have a Point Any More?” News. BBC, November 9. https://www.bbc.com/news/articles/c205jvyg3wjo.

Our World in Data. 2025. “Gross Domestic Product (GDP).” Our World in Data, September 8. https://ourworldindata.org/grapher/gdp-worldbank-constant-usd.

Ritchie, Hannah, Pablo Rosado, and Max Roser. 2023. “Per Capita, National, Historical: How Do Countries Compare on CO2 Metrics?” *Our World in Data*, September 27. https://ourworldindata.org/co2-emissions-metrics.

Sampedro, Jon, Dirk-Jan Van de Ven, Russell Horowitz, et al. 2024. “Energy System Analysis of Cutting off Russian Gas Supply to the European Union.” *Energy Strategy Reviews* 54 (July): 101450. https://doi.org/10.1016/j.esr.2024.101450.

United Nations. n.d. “Renewable Energy – Powering a Safer Future.” United Nations, United Nations. Accessed November 21, 2025. https://www.un.org/en/climatechange/raising-ambition/renewable-energy.

Reflection on my use of AI

For this essay I used Google's "NotebookLM". It allowed me to upload my sources as PDFs and thus get responses that are mainly based on this selected material. I used the tool for three concrete steps in the writing process:

- Overview of the Readings: I asked it to give me a reminded of what the key points of each article are. This helped me to get an overview of the ideas that are available and that I could use for building my essay.
- Feedback on my Outline: I then proceeded to working on my thesis statement and outline using the ideas from the readings and lectures. I thought about arguments I wanted to make. I then asked the AI for a feedback, ideas to extend the arguments, for quotes or specific passages that could support my arguments. This helped a lot in finding strong material to support my initial ideas.
- Feedback on first Draft: Using the feedback and some additional ideas I wrote the first draft and then uploaded it to get feedback again. Here I was mainly looking for identifying weak spots in my arguments and if my statements are in line with the sources. I then rewrote the essay using what I learned from writing the first draft and the feedback I got.

I did not copy any text from the LLM but rather used it as a partner to develop the idea of my essay and connecting it to specific sections of the readings.