

What risks are associated with climate change and what should we do about it?

“The era of global warming has ended. The era of global boiling has arrived. Leaders must lead. No more hesitancy” concluded Antonio Guterres, UN Secretary General, in July. Although many countries have signed up to climate targets to restrict global warming, translating this fragile consensus into actions to achieve these targets appears politically challenging. Politicians are backsliding from original commitments in the face of growing popular unrest arising from a fear of the social and economic sacrifices needed to achieve net zero, and a reluctance to make sacrifices without a pan-global commitment. The risks associated with climate change are discussed below, but the most significant issue is the international political system’s difficulty in changing at the speed necessary to restrict warming to manageable levels. Tackling this requires two things: first, creating an international consensus on action so that sacrifices are proportionate globally; second, convincing a sizeable majority of the global population this is the best course of action.

Climate change is the change in global weather patterns, especially temperature. We know current climate change is mainly caused by human actions, especially releasing carbon into the atmosphere trapping heat like a blanket. Global temperatures are likely to be 2.8 degrees higher by the end of the century¹, and even higher if each country fails to deliver its currently promised commitments. The other dimension is the unprecedented speed of change as society needs to adapt at a far faster rate than ever before in human history.

There are three major types of climate change risk: impact on nature, society and the economy. The impact on nature results in extreme weather changes, changes to the oceans, and risks to biodiversity. Extreme weather brings economic and societal disruption that we are increasingly seeing in our everyday news, e.g. forest fires across Europe and North America this summer. Nasa’s climate models forecast the number of people exposed to extreme potentially lethal heat (35C plus) will increase exponentially by 2050². Climate change also creates major changes to our oceans. Average sea surface temperatures across the globe have been rising by just over 0.1C per decade since 1970, but this year has been closer to 0.2C³. Rising sea temperatures risk the livelihood of 650-800 million people who depend on fishing, as well as restricting a key source of global nutrition. It also creates a risk to biodiversity through a rapid change in habitat and species (e.g. bleaching coral reefs), and results in increased flooding, as recently seen in Libya caused by the Storm Daniel medicanne.⁴

The second major risk is to society. Climate change increases inequality by disproportionately impacting the vulnerable. 750 million people live below the poverty line globally, who are at risk if climate changes causes food shortages and increases food prices. Climate change risks also increasing inter-societal conflict, for example as limited water resources are stretched, countries upstream on a river may divert water thus disadvantaging the society downstream. Higher overall temperatures are expected to increase high vector diseases such as malaria, dengue fever which will increase the pressure on poorer societies.

The third major risk is to our economy. Agriculture is impacted by flooding, droughts and heatwaves. For example, production of maize is forecasted to drop by 24% by the end of the century⁵. As a result, prices to consumers will rise. Businesses are affected as extreme weather damages factories,

¹ UN chief denounces ‘foot-dragging’ and ‘naked greed’ for lack of climate action (FT, September 21, 2023)

² Climate change: the chilling reality of baking cities (FT, July 29, 2023)

³ Missing ice and bleached coral: the sudden warming of the oceans (FT, August 7, 2023)

⁴ Catastrophic Libyan flooding fuelled by warming oceans (FT, September 16, 2023)

⁵ How will global warming affect the crops that we grow? (FT, July 20, 2023)

supply chain operations and disrupts transport. Water will be more expensive due to drought, which will likely affect the cost of raw materials and production. Businesses will also have to pay higher insurance premiums (floods, wildfires and other climate-linked weather events accounted for around 56% of total insured losses between 2018 and 2022⁶). On the other hand, new business opportunities will arise in green energy and infrastructure. The Carbon Disclosure Project reported that 225 of the world's 500 biggest companies believe climate change could generate over \$2.1 trillion in new business prospects⁷.

Although these three risks are crucial, the most significant risk to mitigating climate change is the political system's challenge in delivering the changes required. Democratic governments ultimately depend on public support (even autocracies generally rely on implicit public support). Although most polls show the public are worried about climate change, polling also shows a reluctance to bear the economic and social sacrifices required, often amplified by negative media which fails to adequately convey the upside from for instance, green investment. The public is also reluctant to adopt measures which disadvantage it ahead of others internationally – a classic prisoner's dilemma.

To overcome these barriers, two things are required. First, ensuring that there is international consensus on action, so that sacrifices are proportionate globally. This is challenging, but the international mechanisms exist, so what is required is the second change i.e. that a sizeable majority of the global population can be convinced this is the best course of action. Country leaders' narrative to date is failing to cut through with simple compelling messages that convey the threat level – for example where are the maps on Tik-Tok showing AI mock-ups of major cities wiped out by floods? Cutting through is made more complicated by social media which reinforces our echo-chambers, but is not impossible.

Additional Sources

UK Climate Change Risks Assessment 2022

Climate Change and Resilience: Physical Hazards and Societal impacts: Mckinsey

Stockholm Institute Peace Research: Climate Change and Risks

Chatham House Climate Change Risk Assessment

⁶ Lloyd's of London: charging a premium for climate risks (FT, September 7, 2023)

⁷ [How Climate Change Impacts the Economy \(columbia.edu\)](https://www.columbia.edu/~c4m/How_Climate_Change_Impacts_the_Economy.pdf)