

Conclusions: A Personal Note

What should we do about global warming, and what can we do?

The prodigious scientific labors described in this website have brought to light an extraordinary fact. We, you and I, the people now active, are making the most consequential decisions in the entire history of the human race.

We know this because it is the sober conclusion of the scientific community, a result of deliberations over many years in the greatest collective inquiry project that has ever existed. Thousands of scientists around the world without serious dissent agree on what is happening, what is likely to happen, and what we can do about it.

Global warming is upon us. It is too late to avoid damage: the annual cost is already many billions of dollars and countless human lives, with worse to come. It is *not* too late to avoid catastrophe. But we have delayed so long that it will take a great social effort, comparable to the effort of fighting a world war—only without the cost in lives and treasure. On the contrary, reducing greenhouse gas pollution will bring gains in prosperity and health. At present the world actually *subsidizes* fossil fuel and other emissions, costing taxpayers hundreds of billions of dollars a year in direct payments and perhaps five trillion in indirect expenses. Ending these subsidies would more than cover the cost of eliminating greenhouse gas emissions.¹

The first step is cheap: research and development of advanced technologies (energy storage, pollution-free shipping, next-generation nuclear reactors... to solve our problem we need “all of the above”). The world’s governments could easily double this negligible fraction of their budgets. But we cannot wait for better technologies, and thanks to past research and subsidies for

¹ E.g., cost of heat waves: Watts et al. (2020). Subsidies: Coady et. al. (2017); David Coady et al., “Global Fossil Fuel Subsidies Remain Large: an Update Based on Country-level Estimates.” IMF Working Paper 19/89, International Monetary Fund, Washington, DC, 2019, online at <https://www.imf.org/en/Publications/WP/Issues/2019/05/02/Global-Fossil-Fuel-Subsidies-Remain-Large-An-Update-Based-on-Country-Level-Estimates-46509>. Mitigation cost: Sergei Klebnikov, “Stopping Global Warming Will Cost \$50 Trillion [spread over 30 years]: Morgan Stanley Report,” Forbes.com, Oct. 24, 2019, online at <https://www.forbes.com/sites/sergeiklebnikov/2019/10/24/stopping-global-warming-will-cost-50-trillion-morgan-stanley-report/>; another estimate was \$9 trillion a year until 2050, which would cost \$3.5 trillion additional to what was already being spent on renewable energy infrastructure etc., Eric Roston, “McKinsey Pegs the Price Tag of a Livable Climate at \$9.2 Trillion a Year,” Bloomberg Green Jan. 25, 2022, online at <https://www.bloomberg.com/news/articles/2022-01-25/mckinsey-pegs-price-tag-of-livable-climate-at-9-2-trillion-a-year>. {from internat n.71a and 81}

clean energy we have what we need to act now. Many of the actions will actually pay for themselves. For example, replacing coal-fired power plants with wind, solar, or nuclear facilities would immediately reduce the millions of premature deaths and other harms from coal smoke. Other policies could improve public transportation, protect forests, and so forth, with net benefits entirely aside from acting against global warming. We have done far too little of this, mainly because of the tremendous power for obstruction wielded by the fossil fuel industries and their ideological allies. It's not a scientific problem now, it's a political problem.

Under current policies, by the time our little children reach retirement age the global average temperature will be... well, that's a good question. The climate system is such a tangle of interactions that scientists have been able to state only broad limits. Policies put in place in recent decades to reduce emissions have made a real difference, bringing estimates of future temperatures down to a point where the risk of utterly catastrophic heating is now low. If we are lucky, and the planet responds at the lower limit of what seems possible, we might be able to halt the rise with less than another 1°C of warming, putting us a bit under 2°C above 19th-century temperatures. That would be a world with widespread devastation, but survivable as a civilization.

The scientists tell us, however, that if the climate system responds in the most likely way, current policies will bring a world nearly 3°C warmer than our grandparents knew. The impacts, such as dust bowls, flooding, and mass migration of refugees from regions where life can no longer be sustained, would make it hard to maintain a somewhat prosperous civilization. The science is uncertain, and if we are unlucky, we would actually get a 4°C warmer world. Then it would be problematic whether we could maintain any advanced civilization at all. There is a further possibility (one percent probability? five percent? nobody knows) that even the 3° warming would trigger feedbacks that push the global temperature rise in the following century to 5 or 6°C. On that planet there would be few regions in which a group of human beings could physically survive.

The world's emissions of greenhouse gases are rising. Yet the world's scientists have explained that we need to get the emissions into a steep *decline* by the year 2030. Yes, that soon. What if we fail to turn this around? The greenhouse gases lingering in the atmosphere would lock in the warming. **The policies we put in place in this decade will determine the state of the climate for the next 10,000 years.**

It is hard to grasp that there is a chance that the entire project of human civilization might come to nothing. It is almost as hard to grasp that as things stand now, the *most likely* legacy we leave our children will be a world of weekly climate disasters, spoiled ecosystems, failed states, and desperate dictators armed with nuclear weapons. We can avoid this if... IF the targets that nations and other groups have set for reducing their emissions are met, and IF further pledges to tighten

restrictions are made and fulfilled. This won't happen without resolute action by many people. Full responsibility for the entire future of civilization rests on the people who are active in this decade—on us, here, now. It's as if we have woken up in a science-fiction movie. But it's not fiction, it's physics.

What can we do? Of course each of us should work to reduce greenhouse-gas emissions in our personal lives. But it is far more important to join with others to work within our communities at all political levels.² Climate change is what is known as a “collective action” problem, specifically the problem called “managing a commons.” The global atmosphere is like a forest or an irrigation system or a fishery where individual users must be restrained from selfishly over-exploiting the resource to the detriment of all.

Field studies around the world have found principles of behavior that make for successful commons management. Similar principles are familiar in political science, and they are associated with republican governance. Underlying all successful republics are habits of respect for established law, and particularly respect for the rights of others; dedication to the commonwealth and to the common good; a search for consensus (decisions that may not entirely satisfy anyone but that everyone accepts as “good enough”), and where consensus cannot be reached, respect for decisions made by voting or other lawful mechanism. Groups that live by these rules have a long record of successful cooperation. In international negotiations, we can manage our common atmosphere if and only if there are enough nations that live by republican principles to chivy the rest into line.

So it is crucial to our success that we maintain republican principles in our domestic politics—and extend them. All categories of citizens must be drawn into a common effort, with effective help from all levels of government. If we do not make big changes in our economy and society, in how we live and how we govern ourselves, global warming will force far more radical changes upon us. In particular, we must restrain the influence of amoral corporations and extremely wealthy people, who have played a despicable role in blocking essential policies. To allow ever worse climate disruption would give those who already hold too much power opportunities to seize even more amid the chaos. The struggle to preserve our climate is inseparable from the struggle for democracy.³

² See the online links page. For a full review of mitigation methods and policies see IPCC (2022).

³ Wearth (2022); is paywalled, email me (sweart1@gmail.com) for a copy. For commons see Ostrom (2015); for politics see Klein (2014), Monbiot (2017), and especially Lieven (2020).