

How the climate crisis was brought about in a single lifetime

It's true. The climate crisis was principally brought about in a single lifetime. Contrary to what you may have heard or thought, for the most part the climate crisis was not slowly caused over centuries by many generations of human beings, but rather in a single lifetime. Which means, of course, that the people who largely caused this problem are still alive – and still making it worse.

I want to talk about how this happened. Not the mechanics of how greenhouse gases were released into the atmosphere, but how this was allowed to happen, why no one stopped it – and why, even today, we are not doing nearly enough.

Let's be clear at the onset that it is not too late to act – there is still time – though, as we shall see, the solution to the climate crisis that I am going to propose may seem...well...radical.

The circumstances that made the climate crisis possible (perhaps even inevitable) are striking – and more than a little unusual. Even though we have been bringing about this crisis for quite a few decades now, to many people along the way it really did seem that there were few consequences to these actions.

This was largely because of an unusual time delay that challenges and confuses our ordinary temporal perception of cause and effect. It is important to understand this issue, as it can help explain our decades of inaction – as well as suggest how we can finally, adequately, and quickly mobilize. Allow me to explain.

If you pour a quart of oil down a storm drain, the consequences will soon be obvious, as it can quickly contaminate as many as a million gallons of water – it's true. Release a billion times that amount of CO₂ into the atmosphere (carbon dioxide, the principal greenhouse gas causing the climate crisis), and there will be little impact, anywhere on earth.

Hence, it may seem that there is little need to worry about the wholesale dumping of CO₂ into the atmosphere. For decades, we kept telling ourselves that there wasn't much to worry about.

But, there was. If you keep releasing enough CO₂ into the atmosphere (which we did), the impact will be felt everywhere on the planet, but there will – and this is important – there will be a significant time delay before the consequences are felt.

I would argue that this time delay played a major role in bringing about the climate crisis – without it, I doubt the situation would have gotten anywhere near this far. The delayed impact also set the stage for an extraordinary generational split on the climate crisis that is now revealing itself across the planet.

In order to understand how all this works, imagine that you could indulge in some sort of self-destructive behavior, say cigarette smoking, but without any consequences, whatsoever.

You could smoke three, four, even five packs a day without significantly harming your health – every day for your entire adult life – no strings attached.

Ok, imagine one string: while you would suffer none of the consequences of your actions, your children would suffer them all.

Cancer, heart disease, emphysema, stroke – you get the idea. They wouldn't have to wait for the symptoms to show up later in life, they would experience them from birth onward.

And, not only your children, but your grandchildren – and, moreover, every subsequent generation of your descendants for hundreds of years.

Here's another twist, if enough people did it, then not only the descendants of the smokers, but every child born on the planet for the next few hundred years would suffer the consequences.

We are by no means talking about a majority of human beings here. Not half, not even a quarter. If just one in eight people on the planet did it, this would be enough to make every child born for hundreds of years suffer for their entire lives.

One last twist: not only would subsequent generations of human beings suffer for hundreds of years, but all life on the planet will be profoundly impacted, from the heights of the atmosphere to the depths of the oceans. Thousands upon thousands of species would suffer, many would go extinct.

Unfortunately, this is not a thought experiment. This is how anthropogenic (i.e. human-caused) climate change works. The abused substance in question is not tobacco but fossil fuels.

During one lifetime people enjoy, dozens of subsequent generations suffer.

I know: I keep saying just one lifetime? Isn't it true that our fossil fuel addiction goes back hundreds of years?

Yes, that's right. In fact, I have written about the first true fossil fuel economy to emerge on earth, which was 400 years ago in Shakespeare's London.

But let's look at CO₂ in the atmosphere. Although there are a number of other important greenhouse gases (some that you may have heard of, like methane, others that you likely haven't, such as HFCs – both of which we will be taking up in future sections), CO₂ is the most significant greenhouse gas and hence an important benchmark.

For the whole of human history, indeed even before there were modern humans, before there were Neanderthals, CO₂ in the atmosphere has held at about 280 ppm.

Then, something happened, something big. A few hundred years ago people started digging up large quantities of fossil fuels. When burned, they released CO₂ into the atmosphere.

By 1959 (I'll explain in a moment why I picked this particular year), CO₂ in the atmosphere had risen to 315 ppm, a rise of about 35 points.

If it had stopped there in 1959, it is likely that the consequences for the human race would have been, relatively speaking, minor. But it didn't stop there.

In fact, it continued to rise – dramatically. During the year that I am recording this, CO₂ in the atmosphere reached 420 ppm. So, in a little more than 60 years, CO₂ has risen by 100 points. That's three times more than it rose in the preceding centuries. (It would in fact be much more, except that our planet's oceans have absorbed a quarter of the CO₂ that we have emitted – with grave consequences, which we will be taking up in future sections.)

1959 has particular significance for me: this was the year that I was born.

Let's just pause for a moment to reflect on this: three quarters of all the CO₂ – the principal greenhouse gas causing the climate crisis – three quarters of the CO₂ emitted into the atmosphere by human beings was put there in a single lifetime – mine. Three quarters of it.

Because CO₂ can remain in the atmosphere for hundreds, even thousands of years, dozens of subsequent generations are going to be impacted by what we have done. Generations of people, animals, fish, insects, plants – every living thing on earth.

Recall the little twist that I added with my example of smoking. I stipulated that not everyone would need to do it for everyone on the planet to suffer. This is how the climate crisis has unfolded on earth.

A quarter of all the CO₂ in the atmosphere was put there by one country, my country, the United States, even though Americans constitute just 4% of the world's population. If you add in the countries of Europe, as well as Russia, in the past 60 years these countries, which during this time formed the bulk of what we called the “developed world,” have been responsible for nearly two thirds of all the CO₂ emitted into the atmosphere, even though collectively these countries are home to just one eighth of the world's population.

In contrast, the poorest 3 billion people (“Billion” with a “B” – and that's approaching nearly half of the world's population), the poorest 3 billion people on the planet contributed just 5% of the CO₂ in the atmosphere, a pretty insignificant amount.

Pause on that: the extraordinary role that one out of eight people on the planet played in the climate crisis, in a single lifetime. For the most part, these people are still alive. For the most part, each day they are still doing exactly what they did to bring about this crisis.

That last point is particularly worrisome, as my lifetime is not yet over. Life expectancy being what it is, I will live another twenty years or so. If we continue on like this, CO₂ could rise another forty points, to 455ppm, in what would have been my lifetime. In other words, in the next 20 years human beings (principally those in the wealthy countries) could put more CO₂ into the atmosphere than the human race did for the whole of our history up until the time that I was born.

In contrast, nearly half the planet's people had virtually nothing to do with causing the climate crisis, yet generations of their children will also suffer. And let's be honest, suffer more than children in the developed world, as all the wealth that our fossil-fuel economy has given us will, at least initially, likely help insulate the developed world from the climate crisis.

Pause on the injustice of that: the wealth and power that the developed world has amassed, which has principally come from our fossil-fuel economy, will help protect us from the worst of what we have done, while the rest of the world will suffer all the more for it. In future sections, we will be taking up this subject, climate justice, in detail.

Never in the whole of human history has one group impacted the planet and its life to anywhere near this degree. It's not just unprecedented, it is altogether mind-boggling.

In this chapter, I want to propose a solution to at least help mitigate this crisis. The course of action that I am going to suggest is radical. But I see no other course, as little else will likely work.

For now, I want to end with an apology, from my generation to the newest generation emerging into maturity, that of my students. There are, no doubt, better people than I to deliver it. The power brokers in the fossil fuel industry come to mind, as do the politicians that still support them, even now. However, we may be waiting quite a while for their apology.

My generation should be – and I am – ashamed of what we have done. We have left you with a planet on its way to becoming largely uninhabitable, certainly unwelcoming, for our species. What's worse, rather than correcting our mistakes, we have raised you and the generation before you to keep making the same ones. Instead of teaching you how to live sustainably on this planet, we have done just the opposite. Sadly, as you may have inherited our fossil fuel addiction, many of you may now, like us, be in the habit of casually abusing our planet, our home. Indeed, you may even have trouble imagining a sustainable way of life.

I wonder, I wonder how history will remember my generation...

All that I can say is that I am sorry and that some of us in my generation are with you in this fight – and will be as long as we have breath in us.