

A Brief History of Climate Change

Climate change is one of the defining challenges of our time today. But how did we actually get here? Let me take you on a journey through the history of climate change science and policy.

It started around 200 years ago when famous scientists like Fourier, Tyndall, and Arrhenius laid the foundations for describing the greenhouse gas effect.

Without the greenhouse gas effect, the average temperature on Earth would be -18 degrees Celsius/0 Fahrenheit. It would be freezing. But the observed surface temperature is around 15 degrees Celsius 60 Fahrenheit, and this difference is achieved through a blanket that we all know. It's called the atmosphere. This atmospheric blanket is actually very thin and can best be compared to an apple's peel.

Look at this wonderful view of Zurich. You can actually observe the radiative interchange between the sun and our planet. But it would take until the mid of the 20th century for scientists to find out what the natural properties of CO₂ are.

Through the rising levels of CO₂ in the atmosphere, we trap more heat and observe the current warming of our planet.

In 1985, now-famous scientist called Dave Keeling started measuring the CO₂ in the atmosphere. And he did that on top of a volcano: Mauna Loa, in Hawaii.

Why did he choose to measure CO₂ levels on top of a volcano? The remote location allows for measuring only the carbon dioxide that has already mixed up with the atmosphere.

These CO₂ levels are now known as the Keeling curve. Unfortunately, the graph's main trend is very much upwards, giving testament to the human emissions into the atmosphere.

In the 1980's, a spike in global temperatures validated the scientific hypothesis of global warming.

In 1988, NASA scientist James Hansen testified before the U.S. Congress, where he stated he was 99% certain global warming was coming.

As a consequence, the United Nations Environment Programme (UNEP) and the World Meteorological Organization established the Intergovernmental Panel on Climate Change in 1988.

It wasn't until the IPCC published its first report in 1990 that we began to fully understand the scope of the climate crisis.

In 1992, the U.N. agreed in Rio that nations should work together to prevent dangerous warming.

The Kyoto protocol in 1997 was the world's first genuine attempt at setting mandatory emission reduction targets. A valiant effort that, ultimately and unfortunately, failed.

It was 14 years later, after Al Gore's documentary "An Inconvenient Truth" was released in 2006, that the public became widely aware of the climate crisis.

And yet it took another decade longer for all of the U.N.'s member nations to agree to set emission targets and to agree on a global framework for dealing with climate change.

You've probably heard about it. It's called the Paris Agreement. This agreement includes commitments from all major emitting countries to cut their climate pollution and to strengthen those commitments over time. The pact also provides ways for developed nations to assist developing nations in their climate efforts.

There are only about 20 of such global treaties that are ratified by more than 170 countries. It's a truly historic landmark agreement.

Since then, world governments and corporations have been trying to determine exactly how to cap and reduce emissions.

Things like the Task Force on Climate-Related Financial Disclosures, Climate Value at Risk, new emission regulations, the rise of electric vehicles, new energy sources and many, many social movements have pushed the cause forward.

As with every movement, climate has struggled with counter-movements, and new crises have forced resources and attention elsewhere. Many interesting articles have been published that compare the Corona pandemic with climate change. The pandemic has taught us that foresight and early action are often superior to otherwise necessary, more drastic measures when waiting too long.

With more than two centuries of evidence proving global warming is real and human-caused, and with less than ten years remaining to constrain warming to less than 1.5C realistically, the need to act has never been more important.

The willingness of the public, corporations and governments to create a more sustainable future for all of us has never been higher. But there's one, very important last point, and that is that, unfortunately, we don't need less emissions, or a little less emissions, we need no emissions. It's called net-zero. This fact has started a race towards a net-zero carbon emission economy.

I am hopeful, because I think the world has never been more committed to solving the climate crisis.

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