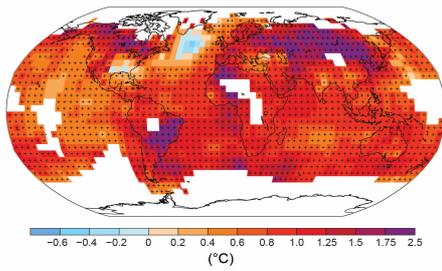


Climate Change Denial *Refuted*

Global warming isn't a prediction. It is happening. James Hansen

A warming world

Observed change in surface temperature 1901–2012



Observed global change in temperature from the beginning of the 20th century until 2012. Many areas warmed well over 1 degree Celsius (IPCC, 2013).

Common questions

What is anthropogenic climate change (ACC)?

The rise in average global temperatures, both in the atmosphere and in the oceans, due to human activities that lead to increased concentrations of greenhouse gases. As a result, ice caps melt and natural disasters such as droughts occur more frequently.

What is the evidence for anthropogenic climate change?

Since 1880, global temperatures have increased by 0.8 °C. This change is anthropogenic, which has been proven by means of decreased isotopic C₁₃-C₁₄ ratios in the atmosphere. The correlation between CO₂ and temperature is extremely strong in paleoclimatic data.

Why bother about anthropogenic climate change?

A changing climate will have irreversible consequences which affects everyone on the planet. Coastal areas are endangered by sea level rise putting the lives of millions of people at risk.

What is the Intergovernmental Panel on Climate Change?

The Intergovernmental Panel on Climate Change (IPCC) is a UN body established in 1988 that reviews the scientific literature on climate change. Thousands of scientists voluntarily contribute to reviewing the literature and compiling it into reports with recommendations for policy makers. The IPCC reports make clear that the scientific evidence of anthropogenic climate change is solid.

What is the Paris Agreement?

It is a political agreement reached in 2015 in which countries agreed to reduce their carbon emissions in order to keep the increase in global temperature well below 2°C to prevent dangerous and possible irreversible climatic changes. This agreement runs until 2030. However, it is very probable that the 2°C threshold will not be reached, as so far, nations have not kept their promises.

Why bother about the denials and sceptics?

As scientific facts are ignored, the consensus on the topic is influenced negatively. This greatly hinders any attempts to solve the problems and to seriously address the threat posed by climate change.

Spectrum of denialism

Attitudes to nature Attitudes towards ACC

Despot Denialism

Outright denial that climate change exists and denial that it is caused by human influences. Opposes any action to combat climate change.

Enlightened despot Denialism and scepticism

Is sceptical about the problem, does not believe in the severity of the consequences. Takes no action.

Steward Sceptical

Denies that the consequences will be dramatic. Argues that (as yet non-existing) technology will be the solution (ecomodernism). Continues current habits, takes no action.

Partner Accepting without acting

Acknowledges anthropogenic impacts on the global climate and admits that there will be serious consequences. However, takes no adequate action. Focuses on technical solutions.

Participant Accepting + action

Fully acknowledges human influences and the possible consequences. Takes required action in order to sustain future generations with the necessary resources.

Denier arguments refuted

'There is scientific uncertainty.'

There is overwhelming scientific consensus that climate change exists and that it is caused by human action. There are no notable conflicts among scientists concerning the reality of anthropogenic climate change or its long-term catastrophic consequences. **misrepresentation**

'The Earth's climate is always changing.'

Temperatures have increased dramatically since the Industrial Revolution, as a direct result of greenhouse gas emissions. This is shown unequivocally by peer-reviewed scientific research. Moreover, changes in geological time have been much slower than the present-day changes. **jumping to conclusions**

'CO₂ is beneficial for plant growth.'

This may be true to some extent, but rising CO₂ levels also have many negative consequences, which cannot be ignored (e.g. sea level rise and increased droughts). **oversimplification**

'Anthropogenic greenhouse gas emissions are a very small percentage of the total emissions.'

For many decades, humans have been adding about 30 times more CO₂ to the atmosphere compared to what it yearly incorporates in the long-term carbon cycle without removing any, which causes major imbalances in the natural system. **oversimplification**

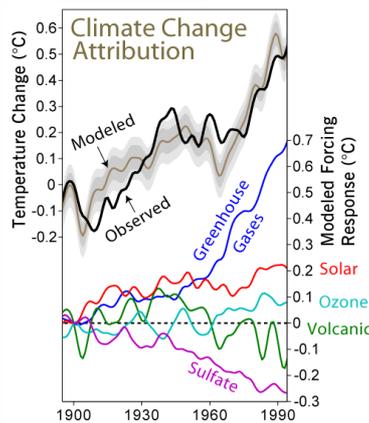
'Scientific models are not reliable.'

The models used are able to accurately reproduce historical climate data, and they can therefore be expected to accurately model future climate. **impossible expectations**

'Antarctica is gaining ice.'

The West Antarctic ice sheet has recently seen an increase in land ice but the East Antarctic ice sheet is losing more ice, resulting in a net loss. The causes of the increase are explained by decreasing ozone levels in the stratosphere and an increase in precipitation. Both causes do not invalidate anthropogenic climate change. **oversimplification**

A clear trend upwards



Modelled and observed trends of temperature change correlate highly with each other. The increase in greenhouse gases has been proven to be the main driver of global warming (Rohde, 2011).

Lame excuses

'Before we do anything, China needs to commit themselves to lowering their GHG emissions. After all, as one country we cannot change the world.'

If what you are doing is wrong, it is irrelevant to point at someone else for doing the same thing. That is an excuse for avoiding responsibility.

'Carrying out the Paris Climate Agreement will be too expensive.'

There is still a chance that the climate catastrophe can be averted, but the longer we wait the more dramatic the consequences will be. Hence, current costs are minute compared to future costs.

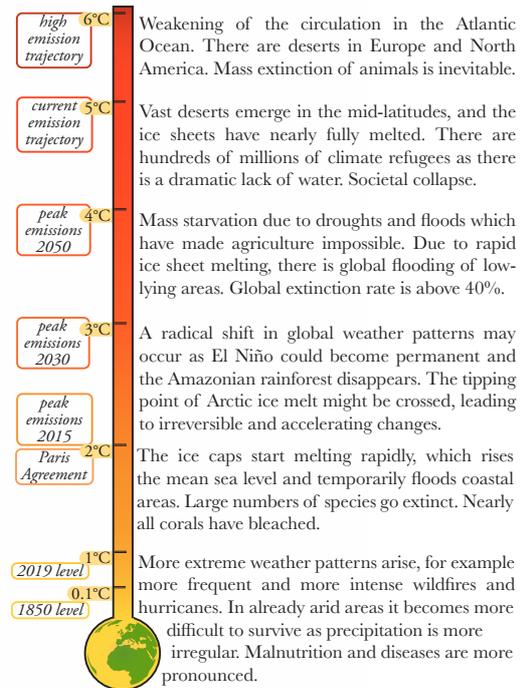
'Technology will be able to solve this issue. We just need to wait for the innovations to happen.'

Counting on uncertainties is a terrible idea as these innovations might never happen or might not be sufficient. This is ecomodernism or techno-messianism which is the belief and hope that future technological solutions will save the planet. That said, some existing technologies do have the potential to contribute to reducing emissions.

'What I do in my life is my own business. You should not preach what I ought or ought not to do.'

True, but only to a certain extent. If what you are doing harms others, you place the negative consequences of your short-term interests on other people's shoulders (including future generations).

Scale of ACC impacts



Moral reasons for action

Precautionary principle

It is unknown where the tipping points lie. The most prominent one is arctic land-ice, which could raise the sea-water level by many metres. We should not continue current trends and thus take the risk that such catastrophic effects occur; instead, we should work towards securing a livable, sustainable future.

Historical responsibility

Historically, current industrialized countries have emitted most greenhouse gases, and therefore the responsibility to act rests mostly on the shoulders of these countries.

Intergenerational justice

Industrialized societies are built upon the wealth that fossil fuels have brought. However, future generations will bear the consequences caused by historical and current actions. It is therefore immoral for the present generation not to act.

Climate justice

The largest emitters are the people who are the last to face the consequences of climate change, while the poorest (and least emitting) people on the planet will be the first to bear the brunt.

Equal distribution of resources

Industrial nations have the most resources and possibilities to act upon the climate crisis, in contrast to developing nations. Therefore, the rich nations are morally obliged to be leaders in global mitigation and adaptation policies.

Two types of denial

Implicit denialism

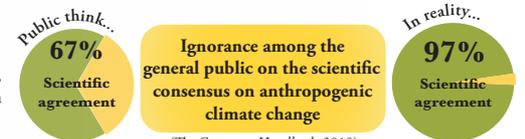
Not acting on the knowledge about the climate emergency by not speaking out and being part of the problem by your own lifestyle and your own unsustainable footprint (e.g. due to meat eating and flying). Also, not voting for green parties is implicit denialism.

Explicit denialism

Being a climate sceptic or denialist yourself or supporting deniers (e.g. by liking or sharing on social media or by providing them with a platform).

Merchants of doubt

Fossil fuel lobbyists spread doubts by disinformation in politics and among the public in order to obscure the scientific consensus. Deniers and sceptics receive an unfair amount of media attention to sell their lies to the public. Resources from the industry tends to indirectly support denialism via so-called (rightwing) 'think tanks', such as the Heartland Foundation, the Cato Institute, the American Heritage Foundation, and the American Enterprise Institute.



(The Consensus Handbook, 2018)

