THE HISTORY OF CLIMATE CHANGE

Though emotions and opinions about climate change vary widely, we believe the best approach to understanding the theory behind it all, is to start with its history in the mid-1800s with a woman named Eunice Foote.

Foote was an American scientist looking to solve a problem observed nearly a half century earlier. Given the distance our planet is from the sun, the average surface temperature should be no more than 0°F, far too cold for life to survive. What Foote had noticed was that certain gases, namely methane and carbon dioxide, trapped heat. She speculated that energy from the sun, light and heat, would reach the earth and then be trapped by the abundance of these greenhouse gases.

Her speculations were confirmed some half century later by a Swedish scientist, Svante Arrhenius. He was the first to suggest that the industrial revolution, highly dependent on coal for power, would bring about global warming. Where Foote was the first to observe greenhouse gases, Arrhenius was the first to suggest that there could be a ‘feedback loop.’ He suggested that as the planet got warmer, its ice coverage would decrease. Ice, being white, reflects a lot of the light; in fact nearly all the light that hits it is directed back into space. So, the warmer our industry made the planet, the faster ice melted. The faster ice melted, the warmer the planet became.

During the 1900s, the topic of global warming had been brought up several times. As more information was uncovered about the perils of this phenomenon, the conversation shifted from mere curiosity to alarm by mid-century. This resulted in a push to pass legislation in the US. Presidents from both major political parties, including Carter, Nixon, Bush, and Clinton, worked to pass legislation intended to curb the effects of global warming.

Now more commonly referred to as climate change to encapsulate its wide-reaching effects, global warming could drastically affect the entire world, including profound impacts on the US job market. In the Midwest, rising temperatures may render once fertile lands useless, forcing farmers to alter their farming practices. Along the coasts, the results of climate change may manifest themselves as rising water levels with the potential to submerge entire cities. Americans would be forced to adapt their livelihoods to these geographic changes.

At Mirova, in addition to the risks presented by climate change, we see two sources of opportunity. First, the prospect of new businesses and jobs created by the pursuit of a new, low-carbon economy could be a much needed breath of fresh air into parts of the rustbelt, where manufacturing was once the mainstay of every family. Similarly, searching for solutions to global warming’s negative effects will again spawn business and new infrastructure. As more and more information about global warming presents itself, we come closer and closer to finding ways to mitigate the effects of the problem that Eunice Foote discovered nearly 200 years ago.

1http://www.giss.nasa.gov/research/briefs/ma_01/
3http://history.aip.org/climate/co2.htm
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