Zachary Krausman

Ethics of Science and Technology

11/9/16

We can stop climate change

Climate change is poised to cause catastrophic damage to our society within the next fifty to one hundred years. We can’t reverse the effects of climate change, but we can stop its progression. We can’t stop what’s already going to happen but we can prevent total catastrophe. There is only one thing causing climate change, and that is the emission of CO2 (and minor amounts of other gases) into the atmosphere. The problem is that there are billions of sources of CO2 emissions. If you’ve ever used anything that uses coal, diesel, gasoline, propane or natural gas, you’ve created CO2 emissions. In order to stop CO2 emissions, we need to invest in renewable energy sources that don’t create or create much less CO2 and improve efficiency of technologies that do rely on fossil fuel. The main issue is that the things we can do right now will take time and the technology we need doesn’t exist yet.

Renewable energy sources would be ones that we can constantly get and ones that have zero carbon emissions. There are a lot of these such as solar power, hydroelectric, thermal and biofuel as well as others. There are a few problems preventing these energy sources from being used everywhere. The main problem is well summed up by Ross Koningstein and David Fork in their article *What it would really take to reverse climate change*. They say “What’s needed are zero-carbon energy sources so cheap that the operators of power plants and industrial facilities alike have an economic rationale for switching over within the next 40 years”. The main issue is money. In today’s world, clean energy is like organic food. It costs a lot more and most people don’t really understand what the difference is. The current renewable energy sources we have just aren’t as efficient time wise as fossil fuels are. Fossil fuel creates much more energy for a much cheaper price. Just like clean energy is organic food, energy companies are grocery stores. They make their money off bulk sale. Energy companies make fractions of cent for every kilowatt hour of energy they provide. So the problem is that renewable energy sources don’t make enough energy to be economically feasible and that they don’t make energy that is easily transmittable. However, this is also the solution, clean energy doesn’t need to be transmitted if it’s being produced on site. For example, most homeowners who buy solar panels put the solar panels on their houses and the power goes straight to them in the form of batteries. Yes, it will take a lot time for companies and households to integrate these power sources into their facilities. This would not put power companies out of business because they would own the equipment and have to maintain it.

Historically it’s always been really hard to see what the future is going to bring and right now that’s the issue. We need to make our consumption of fossil fuels more efficient which is much easier said than it is done. We’ve made good strides but it just isn’t fast enough. Technological growth in these areas has stagnated. The United States just hit its record high of its highest average miles per gallon a year at 24.8. That means the average American gets around 24.8 miles per gallon of gasoline (city driving). This number just simply isn’t good enough the amount of gas that an average of 24.8 miles per gallon uses is still too much, and we simply don’t have the technology. Every year a new car model comes out and sometimes they get slightly better and sometimes they get slightly worse. For example, the average car in 2013 produced 21.6 mpg while the average in 2014 was 21.4 mpg. We’ve clearly made some strides in the past couple years to make that number jump but it isn’t enough. The solution does rely on making better cars, it relies on using them less or filling them to capacity. This means we as a society need to make a conscious effort to walk/bike more places and to take public transportation whenever possible.

The two main objections are money and time. Nobody wants to pay more money than they have to and nobody wants to spend extra time doing something. The problem is that we’re going to have to pay money and spend time at some points. If climate change doesn’t stop cities are going to be destroyed. So the choices are pay now and the world as we know it doesn’t get destroyed or pay later to adapt our society to a new age.

Sources:

<http://spectrum.ieee.org/energy/renewables/what-it-would-really-take-to-reverse-climate-change>

<http://science.howstuffworks.com/environmental/green-science/reverse-global-warming.htm>

<http://www.npr.org/templates/story/story.php?storyId=99888903>

<http://whatsyourimpact.org/greenhouse-gases/carbon-dioxide-emissions>

<http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_6_a>

<https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

<https://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11>

<http://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2011/04/20/driving-to-545-mpg-the-history-of-fuel-economy>

<http://www.autonews.com/article/20150604/OEM05/150609925/average-u.s.-mpg-edges-up-to-25.5-in-may>

<http://phys.org/news/2016-11-average-fuel-economy-high-mpg.html>

<http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html>