

In Denial of Our Role in Global Heating*

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Climate change is tough stuff. It happens so slowly you don't feel it coming, there's nobody but yourself to blame it on, and we don't think we can do anything about it. So we're doing our best impersonation of a deer blinded by headlights and doing nothing.

I know that some of you believe I'm being presumptuous about our role in global warming, but I've done the math. We create almost twice the mass of carbon dioxide by burning fossil fuels than is needed to account for the observed atmospheric concentration increases. We've also known for over a hundred years that more carbon dioxide in the atmosphere will lead to an increase of the temperature of planet earth. It's a simple energy balance – same electromagnetic energy comes in (sunlight), but less electromagnetic energy gets out when the carbon dioxide concentrations go up. Only an average temperature increase will bring the earth back to thermal equilibrium. These are simple uncontested facts in the scientific and engineering communities.

So as an engineer, knowing those facts, I must accept that anthropogenic global warming is occurring. What I don't know is: how fast is our planet heating heat up and how hot is it going to get? I leave those questions to the climate scientists who are trained to do that investigation. Their conclusion is that it's likely to warm a few degrees by the end of the century: enough to cause mass starvation due to water shortages. They also predict greater than average warming and severe drought in Utah. Those are bright headlights!

Our politicians believe we can ignore the problem by passing resolutions that ask the EPA to not act on the information that is before them, as if doing nothing is going to bring Utah a better future. Meanwhile, in the world of science and engineering, the chase is on to create the new technologies and industries that will be key to the solutions that will be needed. Utah is home to some of those fledging industries. But with the Utah political mindset, this is not a welcoming home. And our denial of the global warming science is not a good omen for other energy and high-tech industries looking to move to Utah, needing employees with strong science backgrounds. It's not good news for Utah universities trying to recruit the top science and engineering students and faculty to our state either.

We pay thousands of dollars each year for health insurance, car insurance, fire insurance, and life insurance even though we don't think we will get sick, get in an accident, cause a fire or die in the near future. Why are we so reluctant to insure against global warming given the overwhelming scientific case that we have a big problem? It's like having 97 out of 100 cancer specialists telling you that you have cancer and then deciding it's too expensive to have health insurance and treatment, trusting your fate to the 3 doctors who tell you to not worry. Be happy!

Utah has abundant renewable energy resources, super technical talent in its universities and industries, and the entrepreneurial spirit to take advantage of this inevitable global economic shift. I believe we can provide leadership in the development of the new technologies that will allow us to safely meet our energy needs without burning fossil fuels and releasing the produced carbon dioxide to the atmosphere. The key is to excuse the lobbyists from the room, bring in the purveyors of American ingenuity, and develop clean, secure, and sustainable energy options.

China sees the opportunity and is supporting its renewable energy industries. My question is: will we be buying our renewable energy technology from China or will China be buying it from us? The answer may lie in the actions of our lawmakers in the next few weeks.

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