

## Hey Buddy, Can You Spare A Generation?

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I have just come to a startling realization! I am a member of the first generation that has had a real opportunity to address the problem of climate change, and my children are members of the last generation that will have the opportunity to prevent massive climate change due to anthropogenic activities. It is sobering.

My first encounter with the climate change issue occurred when I was in college in the early 1960's. I became interested in the subject when I read a Scientific American article on carbon dioxide in the atmosphere. The author speculated that high levels of CO<sub>2</sub> in the earth's atmosphere could have impacts on the earth's average temperature, but discounted the importance of the gas. He made some fairly impressive (at least to me) calculations about converting fossil fuels to carbon dioxide and emitting them into a dynamic atmosphere such as ours. His conclusion was that if all the known reserves of recoverable fossil fuels were burned, the increase in CO<sub>2</sub> in the atmosphere would only be enough to increase the concentration from 319 ppm to something less than 600 ppm, and that such a small increase would not be enough to cause measureable change in the earth's equilibrium temperature.

This was also the first time I had seen the saw-tooth curve of the CO<sub>2</sub> concentration in the atmosphere measured at the Mauna Loa observatory in Hawaii, with its clear and dramatic upward slope. The data were consistent and the cause of the increase year on year was easy to understand....yet I was very slow to catch on. I was in the "the earth is too big to fail" camp. Surely people are not capable of doing enough to the complex systems that govern the environment of this huge planet to make any real measurable or irreversible differences in world, I thought. So I did nothing.....and I failed to get others to do anything....for a long time.

As I look back on those days in 1963, I now realize that I am a member of the first generation that had the information and the opportunity to address climate change, and to prevent the changes from having significant adverse impacts on ecosystems, habitat, species and human welfare. Now almost 50 years later I look at the record and see that little has been accomplished. Others have tried to do something, and even I over the last 20 years have become an advocate for action to address this massive problem. But the curve at Mauna Loa continues its relentless climb essentially unabated.

As I look forward, seeing the changes that have happened since 1963 in terms of CO2 concentrations, changes in climate that have seriously impacted our poles and glaciers, rapid changes in species diversity in some parts of the world, more intense storms and more severe droughts, increases in average temperatures in almost all parts of the globe and measurable increases in sea level, I have begun to realize that my children are in the last generation that will have the opportunity to address climate change in a meaningful way.

How can such a significant issue, with such potential for major impacts on the earth's natural systems be moving so quickly? A problem of this magnitude that must be recognized, evaluated, understood and addressed in two short generations may be a problem that we cannot be addressed by us. We may only be able to pass the problem on to a third generation that must deal with adaptation rather than solution.

So, I give the second generation my best wishes as they attempt to address the problem of climate change, and the third generation my apologies for my generation not making it possible for them to rely on and enjoy the natural systems of the earth to the extent that I have. My hope is that that the world they will live in and give to their successor generation will be an acceptable one that will allow the planet to flourish....in some fashion.