

Whatever happened to searching for the truth?

Finally this week, we are feeling the heat of summer. I am off next week to teach for the WNU in Korea and China. I always enjoy these summer courses and find the interest of those attending to be inspiring.

That being said I thought I would be a bit more philosophical this month. For the past two months I have been also posting my blog on www.theenergycollective.com. Thanks to that site for allowing me to share my thoughts with a broader audience. My last post seemed to stir up a litany of comments (well over 100) with some very extreme points of view (to be fair both negative and positive). I was called a "**patently gross liar**" as well as "**not the brightest person to talk to on the subject**". Nuclear power is a topic that invokes quite a bit of passion.

The nature of the comments supports many of the things I have been talking about for the last year or so; confirmation bias being one of the most critical concepts. As I see it, in that post I pointed out three relevant studies that were carried out with good scientific rigour, all subject to peer review and authored by three very different groups of experts.

The first was by a Canadian regulator who is responsible for ensuring public safety which is why they did a study to determine if people living near nuclear plants are getting sick. Their strongly supported conclusion was that this is not the case. You would think this is would be good news. Even If I was against nuclear power I would still be pleased to find out that children who live near these plants are not getting sick.

The second was by an American environmentalist who has

demonstrated that operating nuclear plants instead of fossil plants over the past 40 years or so has benefited society by reducing real deaths due to pollution. Again, good news as this study claims about 1.8 million lives saved.

And finally the third a study by a small army of United Nations experts from around the globe who have determined that radiation has not and is not likely to kill anyone as a result of the Fukushima accident in Japan. Once again, good news that even after a horrible accident, human life has been protected.

So why are these things so hard for so many to accept? As I have just read in Daniel Kahneman's "Thinking Fast and Slow" – *"when people believe a conclusion is true, they are also very likely to believe arguments that appear to support it, even when these arguments are unsound"* – once again confirming what I have said many times before, beliefs come first and anything that disputes our beliefs is immediately suspect.

It is easy to become cynical in a world where there is little desire to believe in science and the search for truth. It has become a case of my scientists versus your scientists. Everyone can find someone to support his or her point of view. The press feeds this model as the more alarming side of the story gets the most coverage. They then try to demonstrate fairness by soliciting input from both sides of the issue. However, when showing both sides of a debate it is often not in the context of where the science is; they just pull out "experts" on the other side giving the illusion of broad based disagreement even though there may be significant scientific consensus.

For example, as was stated by President Obama this week in his speech on climate change; *"The overwhelming judgment of science – of chemistry and physics and millions of measurements – has put all that to rest. Ninety-seven percent of scientists, including, by the way, some who originally*

disputed the data, have now put that to rest. They've acknowledged the planet is warming and human activity is contributing to it." He continues "but I don't have much patience for anyone who denies that this challenge is real. We don't have time for a meeting of the Flat Earth Society." It is nice to see a leader that says we have scientific consensus so we need to act.

Does that mean that the consensus is right? Of course not. Science is far from perfect but in a rationale society we must be guided by the science of the day – for that is what science is all about. It is indeed healthy to continue to question and study and one day we may all be proven wrong. But until then we should be guided by the consensus of scientifically produced studies and act accordingly. That is the right thing to do. Instead, in many cases today we have unending debate resulting in the inability to act. And of course this is the strategy of many who oppose various things. These anti whatever folks know the process and in essence are the winners because they know how to keep the debate going and ensure inaction.

Here is another negative comment from my last post. ***"My jaw drops when I hear some of the comments made by pro-nuclear folks. I try to stay away from using terms such as idiotic, half-witted, ignorant or that might inflame the discussion. Sometimes, however, the comments are so asinine, so moronic, it's hard to resist."*** I am sure this individual is certain he is right and we are wrong and there is no amount of discussion or evidence that will change his mind.

This takes me back to a quote I used in my blog last summer from Dan Gardner's book "Future Babble" which is actually a quote from Leon Festinger. *"Suppose an individual believes something with his whole heart. Suppose further that he has a commitment to this belief that he has taken irrevocable actions because of it; finally, suppose that he is presented with evidence, unequivocal and undeniable evidence, that his*

belief is wrong; what will happen? The individual will frequently emerge, not only unshaken, but even more convinced of the truth of his beliefs than ever before."

This is what makes the movie Pandora's Promise so interesting. It is about recognized environmentalists who have studied the issue and changed their mind. I still haven't seen it as it is not yet showing in Canada but the reviews are very interesting. Everything from well done to one sided propaganda. Will it change any minds at all? I do hope so but the evidence is that it is really quite difficult.

So I leave you with one last negative comment from my last blog.

"You are a pro-nuclear guy trying to make believe that nuclear is as safe as mother's milk and that it is the environmentally sensitive way to generate power. Let's see, we aren't even two years this side of the Fukushima disaster that is still ongoing but, hey, I'm on the fool's side of history. There is no safe disposal for nuclear waste. The gazillions of dollars it would take to build your little fantasy of a nuclear power plant on every block are non-existent and no one will invest unless the government is there to protect their underwear from cost overruns, economic collapse, default, and, oh yeah, any kind of nuclear disaster. The real problem is that pro-nuclear folks are more concerned about their jobs than what is good for humanity. Keep living in your little bubble world. "

I would argue as to which one of us in is the bubble world, but as an industry our task is definitely a difficult one. However given the facts we must persevere.