

GLOBAL ENERGY MANAGEMENT IN AN ETHICAL WAY (outline)

If people on the Earth to be reasonably rational, capable to love and care for other humans and not overly self-centred (or not brain washed in some negative way), the picture we see on the Earth is not consistent with above heavenly concept. Hence, we cannot expect people in general to follow warm-hearted appeals to be nice to all others. In a fundamental way, average humans are self-centred and would not be fair to others. This may stem from an animal instinct for survival built in our DNA. So, the subject I will talk here is, what could possibly be done to make humans to work together in a positive, productive way. Is there any evidence that this could be done? The answer will not be a great magic that effortlessly solves the problem once and for all. I shall present my argument as a scientist. Soon you will see that a physicist can be a great partner to geologists.

Let me start with a geologist Walter Alvarez who might be a colleague of someone in the audience today. He noticed a chirred thin layer, called Cretaceous-Tertiary boundary or K-T boundary when he was studying strata in Gubbio, Italy in late 1970s. The K-T boundary corresponds to the time when dinosaurs suddenly disappeared some 65 million years ago. Walter's father, Louis Alvarez, a novel laureate in physics, started to work with his son on this and soon they, along with nuclear chemists, Frank Asaro and Helen Michel, came up on the theory that the extinction of dinosaurs was initiated by an asteroid collision to the Earth. The major justification of the theory came from the fact that the K-T boundary contains too much iridium. This was published in 1980. You may be very familiar with the theory, but the discovery history contains more interesting things in it. So, allow me to elaborate on it for now. This theory made many dinosaur specialists angry, because they were the dinosaur specialists and would not like amateurs such as geologists, physicists and chemists to butt in their field. So, they seriously worked to disprove the theory for quite a long time, only finding supportive evidences for the theory. Now, the last challenge was to find the big crater if such a big collision should have taken place on earth. Now NASA led to a suspicious area in Mexico that could be the crater that eventually was proven to be the crater. In the mean time astrophysicist, Carl Sagan utilized the calculation method of how much dust in the air would cause climate change and ended up to write a book "Nuclear Winter" stating that nuclear war would cause similar climate change as the asteroid collision so that humans will die out instead of dinosaurs this time, should a large scale nuclear war would start. Not only the lost side of the war but all the countries will die out and there will be no winners. This means there is no point using atomic bombs as it will eventually end up

an extinction of all humans and others. Army specialists hated this theory and stated to work to disprove the theory. After a long effort to disprove, they had to accept the Carl Sagan theory of the mass extinction due to the nuclear war.

Many people think that the cold war was ended because of the tremendous efforts of many politicians. I DISAGREE. I think it was because of the serious scientific collaboration between geologists, physicists, chemists, astrophysicists, dinosaur specialists, and even military analysts who ended up to prove that nuclear war is meaningless for anyone. (Well, minus some stupid people who do not read scientific papers.)

My point is this. Good wills cannot stop a global disaster, but cool scientific facts could. All we need to do is to produce undisputable evidences that selfish use of energy will result a global disaster in a near future. Do not publish anything unless it can be proven to be true for anyone. No speculations.

This reminds me the environmentalists who have been running around to warn people that humans are destroying the Earth's environment because of the liberal use of energy, especially fossile energies, such as oil and coal. I do agree that we should do the best effort to reduce power consumption for the future generations. But, no one seems to be telling general public that the solar energy reaching the Earth is $3850,000 \times 10^{18}$ J (exajoules) per year, while human energy consumption total was 474×10^{18} J (exajoules) in 2008. Only 0.00012312 of solar energy or one 10,000th of solar energy. Admittedly, it is NOT negligible but is so small when compared with solar energy reaching from the sun. This should be recognized when we talk about the global warming. I should also point out the correlation between the atmospheric temperature change and the activities of sunspots. Higher sunspot activity means more nuclear particles reaching the earth, which in turn causes change in the amount of cloud on earth that relates to the amount of solar energy reaching the surface of the Earth. So, the global warming up of the atmospheric temperature may not be because of the increased power consumption by humans. Do not take me wrong. I do insist that reducing energy consumption is very important for future humans. But, unscientific theory would make people disbelieve the importance to do so. We have to be scientific to be persuasive. This is my ethical approach for globally managing energy. Politics doe not work. Don't play with words.