

# New Technologies Will Make Carbon-Based Energy Obsolete

**WASHINGTON** – The NYT recently had a front page (scary) story on global warming, accompanied by a frightening map that shows a super heated planet. There we have it: 2014 is the hottest year on record. The world map published along with the story, in which blue areas represent cold spots while hot regions appear as bright red, is mostly red or very red. And yes, looking at a graph published below the map, it is obvious that world temperatures have gone up in the last few years. The uptick registered in 2014 is not incredible; but it is noticeable.

## **Global warming is here**

Well, there you have it. We do have global warming. It would be foolish to deny the evidence. The next question is whether this is all about the increased amounts of greenhouse gases released into the atmosphere on account of our vastly increased consumption of carbon based fuels. The environmentalists of course claim that there is no other plausible explanation. Others dispute the cause and effect connection, or at the very least its significance.

## **It is all true**

Let us assume that the environmentalist are right. Let us assume that increased world temperatures, with all the disruptions that they provoke and will provoke, are entirely man-made. Let us stipulate that the cause of this phenomenon is the large-scale consumption of carbon-based energy: coal, natural gas and oil. Yes, it is indeed so.

Then what? Well, then nothing. Yes, of course, UN

specialized agencies issue warnings and reports. There are world summits. There are proclamations, broad commitments to keep emissions within certain limits and to gradually reduce them.

But, guess what, after all that, nothing changes.

### **China and India are not on board**

And why not? It is very simple. The natural disasters that will be caused by a warmer atmosphere are still mostly in the future. But China and India's political leaders are committed to deliver economic development –today. It is as simple as that.

Call this attitude stupid, myopic, unenlightened, or whatever you want, but no emerging country is going to forego economic development today, (for which they require old-fashioned, dirty coal and oil), for the sake of a cooler planet tomorrow.

And we know very well that without the combined 3.5 billion Indians and Chinese on board (almost 50% of humanity) whatever Europe, North America and Japan will do to reduce their emissions would not make a lot of difference.

### **Changes in America make no difference**

This is the reality. The notion that, upon reading the NYT scary story, we Americans decide to pitch in by commuting to work using bicycles and by installing solar panels on our roofs, so that we will counter this ominous global warming trend, is ridiculous. Sure, we can do all of this. And may be there is some good in doing it. But forget about our fossil fuels consumption reductions having any measurable impact on global temperatures.

As I said, most emerging countries are committed to economic development for which they require conventional energy

sources. They consider everything else a distraction.

### **How do we get out of this?**

Given all this, how do we get out of this worrisome predicament? As I said, the idea of limiting carbon energy consumption may sound nice, but it is unworkable.

Therefore, our best bet is the development of new, cost-effective, scalable non carbon energy. Of course we already have some of this, (wind farms, solar panels, and electric cars). But the problem is that for the moment what we have is not really better and cheaper than the old-fashioned, dirty stuff.

### **Invest in R&D**

*Instead of imposing the large-scale adoption of these still imperfect alternatives, governments should lead the way by investing more and more in new research. We should see a proliferation of prizes, challenges and competitions that will stimulate scientists and inventors across the globe to refine existing renewable energy technologies, or to come up with something totally new and different. We really do not know what may be possible.*

However, in principle it must be possible to invent something more efficient, cheaper and cleaner than a coal-fired, electric power generation plant. Likewise, It must be possible to come up with something that will effectively replace the internal combustion engine –a really old technology– to power cars and trucks.

### **There is no better alternative**

Quite frankly, I see no better alternatives. The idea that politicians are going to guide future economic development by mandating which and how much energy we shall use is grotesque. This will never work.

China and India, the really big present and future carbon energy users, will never accept mandates. And you can bet that all those who will sign up for any voluntary reductions will figure out creative ways for cheating.

As I noted above, there is a way out of this. Coal, natural gas and oil will become instantly obsolete the minute in which we invent something better. Therefore, as we recognize the urgency, let's focus on this goal.

### **Fund smart people**

***And the best way to advance in our quest for clean, affordable energy is to give large incentives to gifted people and credible research institutions, public and private, so that they will come up with real innovation, sooner rather than later.***