ALTERNATIVE FUEL

It is a debate that probably should have been going on when Henry Ford started mass producing motor vehicles and when Thomas Edison invented the light bulb around the early 1900s. Given that we have a growing number of people owning cars in more places around the world and then a finite resource in oil, it was inevitable that crisis of various forms would eventuate. Of all the technological challenges facing our world that affect our daily lives, this energy source dilemma along with maybe cancer treatment could be the biggest. The question is are their alternatives to things like oil and coal and then how advanced are we in finding a viable alternative. The short answer is yes there are alternatives but how far we are down the track of making them a reality is dependent on who you ask.

One of the major options in regards to alternative fuel for powering things like cars is a hydrogen fuel cell. A fuel cell converts the chemicals hydrogen and oxygen into water, and in the process it produces electricity. So essentially you are producing energy in the form of electricity and the only by product is water which is good for the environment. This process has the potential to be up to 80% efficient meaning 80% of the resource chemicals initially are able to be converted into energy. Compare this with petrol for your car which is only about 20% efficient. Hydrogen fuel cells were one of the energy sources for Apollo 11 reaching the moon in 1969 so it is not a new concept but it was expensive.

Also as hydrogen and oxygen are not limited to one or a few regions of the world like crude oil, political conflicts over this important resource can also be eliminated. What are the current issues with fuel cells? Well, while 90% of our universe is made up of Hydrogen, it is not readily available in any sort of useful way currently for this technology. Also current methods employed to extract hydrogen don't give a pure form meaning the energy efficiency drops to about 30-40%. This also increases the cost of the cell. Oxygen is of course readily available in our atmosphere.

A recent discovery on the rings of Saturn of all places could be the major breakthrough for this technology. Scientists have discovered that as water comes off the rings, the hydrogen is lost from it, leaving the oxygen. The method is called electromagnetic bipolar separation; a method used in the laboratories and can be employed deep in earth's core using the earth's own electromagnetic field. If the method can be perfected, it can separate hydrogen from water almost free. If Hydrogen can be obtained free of cost, we can have abundance of energy with almost no cost and then the resultant water or steam is totally pollution free.

In short we could have very cheap energy, remove fossil fuels like oil as a source of global political and social conflicts and clean up our environment. If this is the end result then we should all want something to happen now.

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