

Will a Revolutionary Energy Breakthrough Help to Kick-Start the Economy?

The late Arthur Clarke was asked the following on the occasion of his 90th birthday -

Q: What do you think is the single most important advance that humans will make before the 21st century is out? **A:** If I had three wishes, I would ask for these: 1. A method to generate limitless quantities of clean energy. 2. Affordable and reliable means of space transport. 3. Eliminating the design faults in the human body.

Q: What is your message to the young thinkers, scientists and writers of the world today? **A:** Remember Clarke's Three Laws: 1. When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is probably wrong. 2. The only way of discovering the limits of the possible is to venture a little way past them into the impossible. 3. Any sufficiently advanced technology is indistinguishable from magic.

The U.S. economy has entered a recession. It appears to some as the first stage of a major depression. If so, the band-aids so far advocated by the White House and Congress are unlikely to have very much effect. A major contributor to the downturn is the high price of oil and other energy resources. Gasoline is predicted to reach \$4 per gallon this summer. In Gorda, California, customers already pay more than \$5 per gallon at the pump.

Several new energy systems are in development throughout the world – as they reach the market, demand for fossil fuels will drop. However, few of these innovations have the potential to catalyze changes in the entire energy picture. Even fewer can substantially wind down carbon dioxide production within the 8-10 years that scientists, such as Dr. James Hansen at NASA Goddard, believe is all the time the inhabitants of this planet have, if we are to avoid the most drastic, life threatening, impacts caused by Global Warming.

The earth is immersed in an extremely dense sea of energy. In 1926, inventor Hans Coler, in Germany, tapped what he termed Space Energy. His first generator delivered a few watts of electricity. During 1937, Coler demonstrated a second, 6,000 watt, generator that was shown to the German navy. During WWII, a highly secret NAZI R&D project supported Coler, in attempts to achieve production of his invention. The goal was to recharge submarine batteries, without the need for a sub to surface. Late in the War, the Allies bombed the lab. After hostilities ended, Coler cooperated with British Intelligence, which published a Report in 1946, concluding his achievement was real. In 1979, 34 pages of the British Intelligence Report were declassified. Today, they can readily be found on the internet.

Several companies are developing revolutionary new technology. These generators appear to be tapping the same, Space Energy resource. It is now often referred to as Zero Point Energy (ZPE). Two major utilities and several other firms have begun to evaluate our own firm's magnetic ZPE conversion systems, several of which have no moving parts. Rotary devices that may be tapping ZPE could be demonstrated by other companies this year.

A recent book by Thomas Valone is entitled: **Zero Point Energy – The Fuel of the Future**. Valone provides a comprehensive look at this little known sea of energy - which can help end our planetary dependence on fossil and uranium fuels. Earlier, his Ph.D. thesis examined the potential of ZPE conversion systems to perform useful work.

ZPE conversion systems are under development all around the planet. Those inventions that prove practical will presumably tap this never previously commercialized, renewable, abundant source of energy. ZPE conversion devices without moving parts can be manufactured in many of the world's electronic factories. They are likely to prove inherently cost-competitive with all existing energy systems. Not only can they be used to power homes and businesses of every variety, but also to make practical cars, trucks, buses, ships and eventually aircraft that need no engines, batteries, or any variety of conventional fuel or recharge.

Advanced designs will soon be capable of producing a few watts of electricity on a self-sustaining basis, analogous to an inexhaustible electric battery. **A Proof-of-Concept prototype was evaluated by Lee Felsenstein, EE. He**

concluded it to be analogous to the early work on the transistor, which eventually led to a Nobel Prize and the creation of Silicon Valley.

2,000 watts is the maximum amount of power that can be drawn from a wall outlet to recharge the battery of a plug-in hybrid car. Generators magnetically converting ZPE are expected to generate this much power and demonstrate replacement of the plug needed by a plug-in hybrid car, within a year. This will be a harbinger of automobiles that need no conventional fuel. With normal progress, prototype ZPE conversion systems are anticipated to replace an automobile engine within three years. That goal might be achieved in less time if development involves four teams of engineers and technicians - on a 24/7 basis. These prototypes will open a path to mass production of entirely new varieties of automotive power plants. ZPE powered vehicles will never require conventional fuel of any kind.

Cars can become a source of income

Vehicle to grid (V2G) power was demonstrated during 2007. Future production hybrid electric cars might earn \$4,000 each year - for the vehicle's owner - when parked - based on power drawn by utilities from the car's batteries. In the future, ZPE powered cars are expected to earn much more, as these generators are expected to replace both batteries and car engines. Therefore, they are likely to produce far greater amounts of electricity.

A generator converting ZPE and powering an electric automobile might be thought of as a fuel cell that uses magnetism instead of hydrogen. We can easily switch this magnetic cell on or off. When the car is driving the conversion cell is switched on, providing energy to the electric motor that propels the car. When the vehicle is parked, *the electric motor is turned 'off', but the modular cell remains "on", still producing energy, like a fuel cell that runs on magnetism instead of hydrogen.* In larger cars, trucks and buses, up to 150 kW, produced by the cell while the motor is off, can be transferred from the vehicle through a wireless technology requiring no physical connection to the parked vehicle, providing power to the utility grid. Instead of paying to park, *the electric power utility will pay vehicle owners, because their cars and trucks become a source of electricity, a clean alternative to any existing type of power plant.* Over a reasonable period of time, payments to the owner may be sufficient to reimburse the purchase price of a vehicle.

Once cars, trucks and buses become available that need no fuel, it is logical to expect manufacturers will sell every such vehicle they make. Plants that have been shut down will reopen. Auto workers who have been laid off will have the opportunity to be rehired. Large numbers of new automotive manufacturing jobs will be created.

A revolutionary product this far-reaching has the potential to provide huge numbers of new jobs and opportunities for new enterprise. The economic impact of cars as power plants may prove a surprising way to stimulate the global economy. It can also provide distributed generation wherever the grid is lacking or unreliable. Moreover, cars can wirelessly power homes and businesses. Imagine the advantages following storms and other disasters.

Greenland loses more ice each year than all the ice in the Alps. Elsewhere there is also frightening, massive, melting of ice. The North Pole may be ice-free in summer as soon as 2012. The Observer newspaper, in the UK, has stated that in 7 “*years nearly all Peru's glaciers will be gone due to global warming and its 27 million people will nearly all lack fresh water, with the likely result being: 'chaos, conflict and mass migration'*”. Each 1 degree Celsius global temperature rise deprives between 400 million and 1.7 billion people of sufficient water. “*A total of 46 nations and 2.7 billion people are now at high risk of being overwhelmed by armed conflict and war because of climate change*”. More than 180 nations have coastal areas in peril. The world has twenty megacities. Thirteen of them, including New York, London, Miami, Shanghai and Tokyo, are at hazard. Drastic shifts are happening much more rapidly than earlier predicted. It has been said:

“What we do in the next two to three years will determine our future. This is the defining moment.”

Energy consumption is at the core of human existence. We must sharply accelerate development of new, cost-effective, sustainable alternatives. Small firms in several countries have explored breakthrough energy conversion technologies for several years. To reverse the dangerous trends mentioned above, let's envision a commercially developed technological revolution that conserves planetary resources. Some varieties of ZPE magnetic conversion modules are projected to be easy to manufacture and use, as well as inexpensive, thus capable of rapidly achieving global impact. It would seem they may have the potential to catalyze, with a kick start, a global economic recovery. What better legacy to the legendary life of Arthur Clarke?