The Flow of Energy is Vital to Human Civilizations

By Lance Winslow - 2001

This essay is meant to educate citizens and the real estate community on the importance of energy; "The Flow of Energy!" The flow of energy has always been important to advanced civilization. The ancient Egyptians used people power. They used elephants to move things and even in battle. The water wheel was used as early as 4000 B.C. as power. Here is a modern concept of ocean wave generation is really along an old technology theme, albeit an incredible advance on that ancient idea.

http://www.worldthinktank.net/oceanwave.shtml

Steam Engines are much newer. Animals, water and many other improvised methods allowed for the making of machines by simplifying life; from farming to water pumps for mills, etc.. By freeing up the time needed to sustain life, mankind is able to use that extra time to increase his flow of thought and thus coming up with other inventions and devises. Now, fast forward to modern times where we often take for granted our electricity, until of course; it is shut off by a black out. What we see as the ultimate hardship other third world countries do not have at all. And in places like Baghdad after the major fighting had ended, energy for only three hours a day and they were indeed thankful for even that.

We should not forget the gifts of Tesla and Entrepreneur Westinghouse for the Hydropower and for free enterprise, which funded the beginnings of what, we now take for granted every time we flick a switch. Recently, we all felt the affect of the Black out of the Northeast Regional Power Grid, now we realize that we need to upgrade the transmission lines throughout all the grids, cascading in failure. SCARDA's real time computer system saw the problem but nearly all the defensive options include mean shutting down parts of the gird, power to millions of people, which is a hard choice to make, although if not covered in a timely manner the cascading would occur.

Here are a scary book to read on the subject;

http://www.amazon.com/exec/obidos/tg/detail/-/0072227877/002-5871440-6244020

We also saw the rolling blackouts in California and the vulnerability of getting the grids energy to the Los Angeles basin where Southern California inhabits over 16 million people. I have personally visited many Nuclear Power Plants in the US and since my Grandfather was a Nuclear Physicist at Stanford Linear Accelerator I am pro-nuclear power.

http://www.carwashguys.com/paloverde.shtml

The newest pebble reactors are easy to build and manage and have extremely high output considering their small size, perfect for islands set downwind from populations, but we are only scratching the surface of nuclear energy. Unfortunately the Three-mile Island and Chernople incident make populations feel uncomfortable with Nuclear. Therefore the increased regulations have made the cost of construction almost not worth it. The ROI of a nuclear power plant could take as long 150 years.

This is so unfortunate seeing how great Nuclear power is and how clean it can be when handled correctly. For this reason for nearly three decades we saw no new permits granted and we continue to have a large percentage of our power coming from fossil fuels which is a problem for air quality and long term it has many issues such as acid rain. We do have plenty of coal, but clean coal technologies are still a few years out.

Imagine having all nuclear power where you turn it on, monitor it and it just sits there and produces energy? We no longer lead the world in Nuclear Energy and now in the age of International Terrorism some are afraid that if we build Nuclear Power then they could become a target. This is not proper thinking in the day and age of radar guidance SAM sites, automatic sensors and back-up systems. We can defend Nuclear Power Plants from any type of attack and generally the newer plants will be put in the middle of nowhere, thus lessoning the risks.

Now then how many people will breath polluted air if we do not have a continued mix of these nuclear plants contributing to the grid and bring on the clean coal technologies? And is the grid safe any way, seeing as we already had one black-out which was purely a failure. Iran, N. Korea, Pakistan, India, Argentina, Armenia, Belgium, Brazil, Bulgaria, Canada, China Red, Taiwan, Czech Republic, Finland, Germany, Hungary, France, South Korea, Lithuania, Mexico, Netherlands, Romania, Russia, Slovenia, slovakia, Spain, Sweden, Ukraine, UK and USA all have nuclear power or will soon. France is at 68% derived from nuclear. Spain 60%, Sweden 65%, Ukraine 73%, UK 81%. Are we crazy? Why are we using so little nuclear? Because we do not have neighbors yelling at us next door that have to breath our pollution and also because we have little in the way of population compared to land mass, but Nuclear only makes sense.

Countries have often thought of over producing to export to nearby countries and the USA has only 20% of its energy coming from Nuclear, it ought to be 80% and we ought to be producing enough to light up all of the modern countries of Central and North America. We should be producing and exporting our extra, this would mean energy would be cheaper and we would all have higher standards of living and better quality of life and why not? What if we produced 125% of demand?

Such a system could work. And yes we could throw in some Solar, after all we have the technologies; Solar Power: **http://www.parthe.net/_cwg0803/00000036.htm** too, it would be silly not to. In Tempe; **http://www.carwashguys.com/tour_tempe.shtml** . We could also use some wind, we already have some, huge wind farms out there in many places; **http://www.carwashguys.com/tour_palmsprings.shtml** . Our Hydro-electricity accounts for some 20% of our current needs, we could increase this using some of the strategies outlined by the Online Think Tank. Hydro Power: **http://www.parthe.net/_cwg0703/00000074.htm** , think of that?

We do use the most electricity per capita than any other country in the World, but we also have the strongest middle class and rank near the top in quality of life and standard of living. For instance try living in Baghdad at 120 degrees with no air conditioning. If we are able to power up efficiently, without polluting, it is all good. We have done quite well with our hydro in this country and much of this is discussed in the Flow of Water essay right here on my Blog. Instead of paying attention to our needs as the population grows, we are waiting for crisis and then immediately looking for a scapegoat when things go wrong, thrusting a whistleblower to hero status and allowing lawsuits to destroy us like a virus - it is time to get beyond this repeating scenario of heads rolling on the blackout blame;

http://www.bizjournals.com/columbus/stories/2003/08/11/daily15.html?f=et58

Here are some ideas on bettering the system and the transmission lines:

http://www.parthe.net/_cwg0803/0000001c.htm
http://www.parthe.net/_cwg0803/00000026.htm

It must be obvious to anyone who is reviewing these things from a far that we love to blame others after the fact instead of covering the bases before the fact. It is said that the transmission lines for the power grid need an upgrade of 600 Billion which is not significant especially considering the enormity of the problem and the huge expansive distances it needs to cover, but really we should be looking into the infrastructure costs on a pay as you go basis.

It seems a little un-nerving that all of a sudden we of all people living in the greatest nation ever created in the history of mankind have this huge problem. The fastest expanding countries building reactors right now are China, Taiwan, India (8) and Russia building six meaning it along with India, which will most likely export some of that energy - smart move on their part thus, proving my point that we should be producing and selling to Mexico, Canada and Central America.

Ships with giant ion lithium batteries could also take power to the islands of the Caribbean, since the technology exists now and can be used for such a purpose. Three ships, one in route, one loading their battery, one docked and supplying electricity. There is a Canadian company with this technology, which puts large batteries on a huge rail car system. We should be looking into this, also terminals for Burlington Santa Fe and CSX, if you get a power outage you will have enough minimal power back in service to keep chaos at bay within 8 hours.

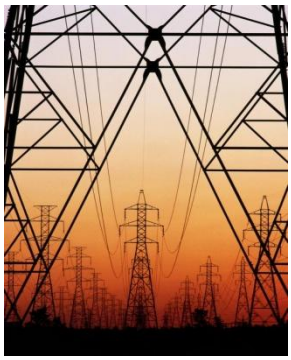
As a matter of fact Energy and Power have become so important that it is one of those things that you need triple redundancy back up for all the time. There are many different ideas for back-up batteries during power outs, think of the back-up, which means the would-be international terrorist thinks he can disrupt your system and as soon as he tries he is caught by a series of sensors and all he did is cause a flicker, while the most important systems reboot and spring into action:

http://www.businessweek.com/magazine/content/02_09/b3772105.htm

The flow of energy and the integrity of the system can be maintained and having automatic back-ups means we can do just that; computer hacker, attacker, mother nature, no problem, back up and running in a nano-second. Regarding the de-regulation of energy, this is not such a bad idea really, even the commoditizing of energy is not such a bad idea - the California mess with deregulation was ill-conceived. De-regulation can be done correctly and can assist businesses in judging costs and allow entrepreneurs to understand their costs and turn variable costs into fixed costs meaning more investment in R and D, co-generation, and larger capital expenditures for manufacturing, knowing things will be okay.

We see a huge problem with factories, which switched to Natural Gas to save the environment and get some tax breaks and this winter may be put out of business due to the rising costs during the coming shortage of Natural Gas. We cannot lose anymore manufacturing jobs in this country, especially the ones which have survived so far which have been those specialized high paying niche manufacturing jobs or those companies which have done well since plant and equipment have long been paid off.

Those very high tech robotic manufacturing facilities will lose out to third world labor costs due to high costs of energy, we need stable power and the flow of energy. This is merely one reason we are putting this report at such a high level. It appears if we are going to spend some 500-800 plus Billion on a new power grid then perhaps we might like to look into some of the new physics we are learning about? It has even been theorized that we should be able to deliver via ELF power to a receiver or battery system to any point on the planet, maybe we can deliver the power without transmission lines which go "buzzzzzz" and if they do maybe we can turn that sound back into energy so we do not lose so much energy during transmission to the points of destination. **http://www.parthe.net/_cwg0803/00000026.htm** .



Just because Enron became embroiled in scandal does not mean the energy should not be traded or that free markets should not soften the fluctuation in pricing or that energy should not be deregulated. It if is done correctly, in a non-gambling casino fashion, everyone can win, not just the brokers and traders, but the people too, that makes our nation stronger. It really is time to get the grid together, get the back ups in place, set ourselves up for flawless energy and lower the costs. All this can be done in somewhat short order. But we must see the big picture. Having looked at these issues on both a macro level and at a micro level; it appears to me that when it is possible companies, individuals and government agencies should in fact generate their own power. At their houses with fuel cells, solar, wind, etc and plug into the grid so the grid can work net-centric with sensors allowing for the closing off or opening of connections to the whole, when everything works, it works well, but right now when it doesn't everything goes to hell.

http://www.carwashguys.com/0100802_6.shtml

Why not think of it like a ship with a hole in it, the hatches are closed and the water coming in is limited to one small area, meanwhile that small area has a back up, get back on line, fixes its problem and then once that is done, reconnection occurs. Not one fail safe many, many smaller fail safes, sensors at each house, street, housing tract, census tract, zip code, city (maybe many individual sectors), country, state, sub-region, region, country. All can run independently or all together?

Runways and Airports producing their own power; **http://parthe.net/_cwg0803/00000073.htm and http://parthe.net/_cwg0803/00000072.htm** . The idea is to have all the important items with minimal back-up systems while things are restored. There are so many ideas we have not explored and should explore. With a little proper usage, and conservation and a cohesive plan, the Grid should be so safe and capable. Strong and efficient enough that it no longer will be looked on as a target of those who wish us ill. Even devises can be made that lay on the drive way and the drive wheels of the car sit on them and they spin wheels generating electricity for emergency power up a neighborhood. People would not be totally without electricity in the event of a Black out, rolling brown out, or large transmission line failure.

Traveling the country in a motor home and being self contained gives me a little different perspective on things than most. It is time to put together a complete plan for the next 50 and 100-years to insure trouble free electricity and power for the country and then the world. The plan must be updated every five years with a 5, 10 and 20 year plan as well, while studying the future of energy innovations. Maybe at that point we can look into some revolutionary harvesting of space energy? **http://www.parthe.net/_cwg0703/00000057.htm**