SEAS SPACE ENERGY ACCESS SYSTEMS, INC.

The Right Time to Develop Future Energy Technologies

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Introduction to Compelling Evidence about the Coming Climate Change

In 1900, Nikola Tesla, the father of AC electricity, warned against using fuel for energy.[1] Current man-made Greenhouse Forcing of the atmosphere has been measured to be 2.4 – 4.3 W/m^2 by the Global Warming International Center (GWIC). “A change of 7.5 to 10 W/m^2 will completely alter seasonal characteristics, e.g. from winter to spring. Thus, 2.4 – 4.3 W/m^2 of Greenhouse Forcing is quite a significant alteration of energy balance.”This is a measure of the watts (energy) per meter squared (area) that is being radiated into the atmosphere from our excessive carbon–based emissions. Note carefully that in 1997, the Institute for Policy Studies released a report that declared the World Bank was solely responsible for DOUBLING the world’s output of

carbon by its overseas fossil fuel investments through the life of the investment.[2] This simple comparison of two different studies suggests that the DOUBLING of our Greenhouse Forcing into a range of 4.8 – 8.6 W/m^2 may be anticipated in the next couple of decades.

The GWIC 1999 News Flash went on to further conclude:

> "The man-made alteration of energy balance in the General Circulation system determines how chaotic our atmospheric and oceanic systems will be...simple thermodynamics predicts an OSCILLATORY NATURE of the change in climate in any one ecological zone due to global warming. Global warming causes 'extreme events' and bad weather in the near term. In the long term it may cause the earth to transition to another equilibrium state through many 'oscillations in climatic patterns.' The magnitude of these oscillations could easily 'exceed' the difference between the end points."

From chaos theory, the end points are where we start and where we end up. In other words, as the earth climate seeks a new equilibrium point, with the forcing function of increased energy input, it may get much hotter AND much colder with a vengeance as the climate goes haywire for an undetermined amount of time.

Make no mistake about it, the earth has now **surpassed 300 ppb** (parts per billion) **of CO_2**(a potent greenhouse gas) for the first time in 400,000 years, according to ice core analysis by Tom Wigley from the National Center for Atmospheric Research. He also stated on a recent NOVA program that we need to cut fossil fuel use by 50% or more to stabilize CO_2 because of increased energy demand that is predicted to be 60% more by 2020. Worse than that is the projected level of CO_2 by 2050: an astounding 600 ppb! At the same time, **Oxygen Inventory Depletion** (OID) is occurring: worldwide levels of oxygen have decreased by 50-70 ppm since 1958 when the measurements were first taken.[3]

Need we mention that right now the **Arctic ice is melting at a rapid rate?** In 1999, scientists reported that 46 years of data documenting

the declining extent of the Arctic sea ice yield a 98% probability that it is due to man-made causes.[4] The average annual temperatures in Alaska and Siberia have climbed as much as seven (7) degrees F in the past two decades reducing sea ice thickness by about 40% of what it was in 1980.[5] Why is the loss of this natural heat sink important? The Arctic sea ice covers an area the size of the United States. Without this natural reflector of solar energy, the same area of exposed ocean water will absorb as much as 100 times more solar energy than ice. This new energy influx will, of course, simply ADD to the already accelerating global warming due to greenhouse gases.

To summarize, "experts believe human activities could be ending the period of relative climatic stability that has endured over the last 10,000 years, and that permitted the rise of agricultural and industrial society."[6]

Is Global Warming Harmful to Health?

In a word: YES!

> "Computer models have predicted that global warming would produce several changes in the highlands: summit glaciers (like North Pole sea ice) would begin to melt, and plants, mosquitoes and mosquito-borne diseases would migrate upward into regions formerly too cold for them. All these predictions are coming true."[7]

Dr. Epstein, Associate Director at the Center for Health and the Global Environment at Harvard Medical School, further reports that the West Nile virus, spread by mosquitoes, broke out for the first time in N. America just last year. Washington residents know that it has already spread to Maryland in October, 2000. "Malaria and dengue fever are another two of the mosquito-borne diseases most likely to spread dramatically as global temperatures head upward." Regarding these diseases, it is important to note that NO VACCINE is available and the causative parasites are becoming resistant to standard drugs. El Ninos are expected to become more common and severe—which means that

the diseases they produce could become more prevalent as well (such as waterborne diseases like cholera). He concludes that, "Cleaner energy sources must be put to use QUICKLY AND BROADLY, both in the energy-guzzling industrial world and in developing nations, which cannot be expected to cut back on their energy use...The world's leaders, if they are wise, will make it their business to find a way to pay for these solutions."

How Much will it take to Correct the Climate Problem?

"The Intergovernmental Panel on Climate Change, established by the United Nations, calculates that halting the ongoing rise in atmospheric concentrations of greenhouse gases will require a whopping 60% to 70% reduction in emissions."[8]

They are not the only agency arriving at that conclusion. The Worldwatch Institute concurs, stating that "stabilizing atmospheric CO_2 at safe levels will require a 60-80% cut in carbon emissions from current levels."[9]

Can Oil Production keep up if we Ignore the Climate Change?

In a word: NO! If we just continue as we do today with the selfish, business-as-usual attitude and clamor for more oil, do we stand a chance of enjoying a reasonable lifestyle for the next twenty years? Seeing that approximately 80% of the oil produced today comes from fields discovered before 1973, most of which are in decline, we must hesitate before coming to an optimistic conclusion. If we realize that the TOTAL world production of oil has increased less than 10% in the past two decades, then we might start to get concerned.[10] If we think about the fact that the U.S. energy demand grows at a rate of 1.1% per year, from 95 to 121 quadrillion Btus (quads) by 2020, we must ask where will the **EXTRA 27% come from**? Transportation is rated by the U.S. Department of Energy to be the most rapidly growing sector. However, as domestic crude oil production is projected to **DECLINE** from 6.3 to 5.3 million barrels per day by 2020, we gas-guzzling Americans naively believe that we can demand FROM SOMEWHERE a **30% increase** from 2.90 million barrels of oil per day to 3.81 million barrels of oil per day by 2020![11]

Instead, the OPEC nations, where 50% of our imported oil comes from, have a different story in mind for us. World production of oil is expected to **peak by 2010** and then begin to decline, which will forcibly reduce production.[12] Knowing this fact, give or take a few years, the OPEC nations decided instead to decrease their output of oil NOW by **only 1.2%** in 1999 which drove prices up dramatically, causing a lot of oil-addicted nations to complain bitterly in protest. The protests had no effect on the producers. "OPEC Blames Taxes for High Oil Prices" read the headlines in the *Washington Post* (9-29-00, p. A22) which went on to say:

"Saudi Arabia is the only OPEC nation with the capability to boost oil production significantly, a move that would harm the finances of other member nations..."

The conclusion is obvious: It is nearly impossible, even with the "hard-line approach" advocated by G.W. Bush, to continually increase our imports of and addiction to oil even over the next ten years while OPEC is already beginning THE SQUEEZE. In September, 2000, the first OPEC summit in 25 years was held. As the U. S. and European Union called on OPEC to increase production, OPEC simply agreed to "provide adequate, timely and secure supplies of oil to consumers at fair and stable prices." Of course that's what any dominant dealer with 2/3 of the market will do! With Iraq selling the U.S. more oil than Kuwait is today, do we go to war over oil again?

Solving the Oil Consumption and Global Warming Problem Simultaneously

The clear answer to both dilemmas portrayed above is to begin a forced weaning process aimed at creating a government-mandated 1% reduction (based on Y2K usage) per year in oil consumption and/or oil imports every year for the next twenty years, with the second decade adding 1% to each year's reduction. **Phase I amounts to a mandatory reduction, on the average, of 200,000 barrels of oil per year, for the next ten years, yielding a 10% total reduction by 2010. Phase II, in 2010, would increase the reduction by 1% each subsequent year (2%, 3%, 4%, etc.) yielding a 55% +**

10% = 65% total reduction by 2020. At first, a gradual reduction in oil imports by a fraction of 1% could be mandated with that fraction made up by domestic hybrid cars sales that have a tax incentive. The last few years of the decade program would have reductions greater than 1% mandated. This should be called the "*The U. S. Energy Independence Initiative*" or something like that. As a vital part of this process, a **ten-year** *U.S. Energy Manhattan Project* with emergency funds allocated to emerging energy developments (many of which are already invented) is required for successful replacement of current technology with **carbon-free, fuel-less energy technologies**.[13] A public education process needs to begin immediately as well to prepare all industrial, transportation, and housing sectors for the transition.

The reason for an average of 1% reduction in oil usage per year is that within ten years, a total of 10% (based on Y2K usage) reduction will be achieved. By then, fuel-less, carbon-free energy generators will be commercially available. That starts Phase II where an increasing amount of oil will be taken away from the market each year, before the OPEC nations force the issue.

End the Present Suppression of Emerging Energy Technologies

From my experience, the present management of the U.S. Energy Department, State Department, and Commerce Department has engaged in an outright and successful attempt to prevent viable emerging energy technologies from reaching the market and the public. They have rescinded legitimate grants that had already been awarded, prevented allowed patents from being issued, blocked approved conferences from taking place, and distorted accurate news before it is reported. Furthermore, certain non-profit organizations, most notably the American Physical Society, have abused their non-profit status by heavily lobbying government agencies and the media to encourage such suppression.

For example, the Public Affairs Coordinator for the American Physical Society, Dr. Robert Park, has further used his position of power to unduly influence the government and the media to target certain individuals and inventions, even to the extent of defaming their character, mine included, and depriving of their livelihood to suit his

unscrupulous desires for scientific dominance. The Patent Office, State Department, and the Commerce Department, have been found on numerous occasions to obey his suggestions/demands on a particular issue. Examples and a chronology of such abuses have been cataloged. Both the U.S. Department of Energy (DOE) and the U.S. Patent Office have, for example, made public statements that clearly discriminate against cold fusion, a viable new physics discovery celebrating its tenth anniversary last year. Their practices of rescinding nuclear energy research grants or recalling a patent that already has been issued a patent number and posted in the Official Gazette, shows to what extent they will go to prevent anything resembling cold fusion from gaining recognition. One explanation seems to be stemming from the $249 million dollars that the hot fusion research program (Tokamak and laser confinement) are already receiving in FY 2000. However, these ongoing programs still do not have viable overunity output results even after decades of Federal DOE expenditures and will not for at least another two decades, according to the U.S. DOE! The suppression practices referred to above must stop in order to allow emerging energy technologies to reach the market.

Conclusion

In the short term, the development of a retrofit carburetor device for all cars, that reclaims or transmutes the carbon from the exhaust, can drastically reduce the emissions of CO_2 from transportation vehicles. (The transportation sector presently contributes to 33% of the carbon emissions.)[14] Preliminary results from this type of device shows a dramatic improvement in mileage as well, making it attractive for consumers.[15]

As the new fuel-less, carbon-free energy sources are brought to market, the reduction in oil demands will become easier and more acceptable. If the U.S. Government establishes a time-table to meet the 65% reduction in CO_2 emissions by 2020, ostensibly targeting the importation of oil, the earth can reverse its beginning of climatic oscillations with the present Greenhouse Forcing. I pray that our lawmakers will have the wisdom to adopt some of the above-mentioned measures to ensure our future.

The Author

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