

How can we use our understanding of science to melt away the inequities? We must also learn from the past, with a blast from the past.

along certain regions on the continents of Greenland and the Antarctic's Dry Valley have been mysteriously dropping, even though temperatures on many other areas of both polar regions have been suffering a rise in temperature. Way deep in the interior of Antarctica, for example, the South Pole, scientists have recorded temperature drops well below -106° F, 108 to be exact, the coldest in almost 40 years. So what gives? Some 800 miles away, science teams from universities from around the world are keeping track on the unusually huge icebergs that have been snapping off the West Antarctic Ice Sheet. The two points, in short, are reflective of data points collected by scientists that somewhat contradict data from other scientists, showing it is not just political dogs at war with each other.

Up in North America, although the glaciers in Alaska, Canada, and Montana are shrinking, in the ladder the number of named glaciers has dropped from 83 to fewer than 65, it seems glaciers some 60 miles northwest of Denver, Colorado, above 12,000 feet have pockets of expanding glacier movement. It is a mystery. Unfortunately, there is not enough research funds to study the situation more closely as time demands. I wonder what would happen if there would be a curtailment on the spending of \$20 billion in subsidies to coal and oil industries by the U.S. government? For the better part of half a century, the real cost of gasoline has been hidden in due part to scores of subsidies—tabbed at millions of dollars. Gas and oil appear inexpensive.

All that we have learned is that, namely, we keep seeking for clues because, foremost, whether or not the disappearance of huge deposits of polar ice is driven by climate change, global warming or not, whether it is a continuation of lengthy cycles that even though ended some twenty to twelve thousand years ago and which coincidentally just happen to demonstrate dramatic indexes of rising heat in the last 50 years, we must have the maturity to realize and admit, no matter how many scientific gadgets we have that can measure, there can never be a pure 100% blame or answer to all this. The time scale and the variability of our globe is too immense. The days of trying to pinpoint a single answer are gone, and so too is the disarming value that we must have a 100% proof of air and ground measurements. Forget the idea of pulling one crisp one hundred dollar bill out of some magical wallet to solve all the answers.

The rate of a rising heat global temperature index is not an exaggeration as it was

thought of as late as the early 1990s. Ice stations, satellite analyzers, ocean monitors, Professor Keeling's long research data going back to 1957, and all the undying words of from the poor farmers and fishermen to the brilliant professors like Andrew Rothrock, Mark Serreze, Lonnie Thompson, Douglas MacAyeal, Henry Kendal and many others in conjunction with myriad television, radio and newspaper reporters and the ultraconservative heads Peter Hewings and James Baker lend a weight that is undeniable.

“Roll the dice, just one more time. Some will win; some will lose. Some of them just sing the Blues....it goes on and on.” **song by Journey**

As the growth rate of the U.S. continues in the South, the West, especially my home state of California at 33,871,648 as of the 2000 Census, the Northeast and to an extent the Midwest as it stands, comes the old theory to expect higher carbon dioxide levels with a rise in population. Higher CO₂ stems from greater numbers using greater energy, right? After all, every family wants automobiles, a big-screen color television and other nice electrical gadgets. Since the “nifty fifties” as a whole, per capita consumption of electricity has been growing. But, now to prove a point that the old theory falls by the wayside.

We shall use the example of California, not because that's where I live, but because it is a prime example that demonstrates that the old theory can be quite visibly wrong.

Back in 1979, per capita consumption of electricity in California, incidentally not only the largest state but, with a population density that exceeds that of Europe, was 7,292 kilowatt-hours. Twenty years later, as the population grew by 10 million, the number of kilowatt-hours dramatically did not increase, but instead went down to 6,952 kilowatt-hours in 1999. The price tag? A transition away from fossil fuels.

Global warming or not, I can only imagine how greater this decrease in per capita consumption of electricity would have been if a larger program of alternative energies were to have been set up. It wounds my heart when I hear California is struck by an Energy Crisis. I was part of the baby boom, lived all my life in California, remember in 1970 watching color television for the first time in our living room and marvel-

ling at what I saw on the screen and now, learning that you can't even cook a hamburger for lunch because of no energy. Brown-outs and black-outs are cold turn of events. It is abysmal to think national rates of energy could increase 50%, truly a cold idea, just like it had begun to occur in the largest State in the Union in mid-2000. It is also a cold, cold matter when the largest public utility in U.S. history, PG&E of California, tastes the bitter roots of a foul-up and files for bankruptcy (Springtime of 2001).

I wonder how long Oregon, Washington, Idaho and Montana will tolerate Californians stealing their water and energy from them? I guess as long as deregulated power companies belly-up and spend all their proverbial coins on their stock holders it will continue.

Suffice to say, an energy predicament is growing, but we may learn—in much the same way California learns and decreases her per capita consumption of electricity (by 5%)—it is possible to keep up our American life-style if we increase technologies that utilize novel ways, like generating secondary power through wind—the United States could even someday be the Saudi Arabia of wind—nevertheless with the attachments of the corollary of not going bananas over climate protection.

The present administration of the United States better beware lest they will be labeled much the same way Hoover's administration was in 1931 when they did not prepare America on time. Unless America is prepared, I sense there may be repeats of ugly rate hikes, fractured brown and black-outs, and also ugly astronomical gasoline price hikes—much the same way our American life unilaterally—just as an old century bid farewell—was smacked in Spring of both 2000 and 2001, plus 2008.

For over 100 years the burning of oil and hydro-carbon fuel has been king. Novel ways in the past have replaced older ways that were no longer energy useful. It has happened before. For example, Americans once didn't have the things everybody takes for granted. Everybody has an electric refrigerator, now. Once upon a time, like about seventy years ago, there still thrived an enticing business that delivered ice to millions of American homes to keep refrigerators (a real icebox) cold. Delivery men brought ice every day. It cost 10¢ or 25¢. They were huge slabs, weighing anywhere from 10 to 25 pounds. Every day deliveries were required to bring in a new chunk of ice.

However, as kitchens began to have refrigerators with electricity, icemen's jobs went defunct. To use another example, a decade or so earlier you had musicians who played organs or pianos during the showing of silent screen films. But, next thing you knew, it was neither energy useful nor profitable for theater owners to have organ

players once the coming of sound pictures came, which began in 1927. A new form of life-style emerged. And everybody who lived in the 1920s and 1930s witnessed it and got the message. Even though the businesses of ice delivery and organ-type programs shut down, the American people progressed. The cinema was bolstered by a workforce of new electricians who came on the scene; new jobs came into existence. And regarding sound, next thing you knew you had scores of musicians and technicians in Hollywood, not just an organ player, developing those scores of cinema movies we now come to call old Hollywood classics. I mean scores of classics, like *Gone With The Wind* with Clark Gable and Vivien Leigh, *Northwest Passage* with Spencer Tracy and Robert Young, *Down Argentine Way*, with Don Ameche, Betty Grable and Carmen Miranda, *The Maltese Falcon* with Humphrey Bogart, *Meet Me in St. Louis* with Judy Garland; and that's just for starters. In the longrun, businessmen/women have to adjust, too.

Petroleum and atomic based economies are fast becoming obsolete. Regarding the latter, the beginning of the fusion era and atomic reactors appeared but a little over half a century ago. Of the various types of energy sources, none pose a risk to life or bring as much problems after you stop using them as energy by nuclear fusion. That type of energy has never gotten on track in the public's eye.

For decades, their instability and long toxic endurance has made them an unpopular form of energy since its commercial activation. The idea that it can be turned into a handsome alternative of energy because public utilities are sending other forms of energy through the roof is ludicrous. Just before this book went to press, I got wind of some techniques using reverse sono-luminescence that can mitigate the long-life of nuclear waste. Such ideas give hope of a possibility for a 21st Century regeneration of nuclear power on a safe wide-scale use.

America must navigate new forms in energy. Alternative means of energy are not new. Communities many years ago in Florida used to know about solar water heaters—offered, produced and supported a decade and a half before World War Two, if you can believe that. We may be at the threshold of something marvelously feasible and new, in terms of time, in much the same way one hundred years ago society attempted a marvelous, astounding changeover from gas lamps to electrical lamps. Today's society has access to astonishing marvels. In distant Japan, I see inventive engineers

perfecting a way to supply electricity from roofing shingles—just plug in your appliances. In Canada, there is a company, named Stuart Energy, that wants to sell a gadget called a Personal Fuel Appliance that can produce hydrogen from a household water faucet. America used to revel in inventions, especially electrical ones, but if the invention does not use electricity, the common Joe and Jill do not really hear of it.

Other forms of energy techniques can allow consumers to implement revolutionary new techniques. For example, excess energy from air molecules can run a 318 V-8 Chrysler engine. The advantage to this is you don't need gasoline. You keep the same engine, modified of course with an attached heat 100 delta plus 6 million BTU condenser and a process Fischer/Brauer cycle, invented by E. Fischer. Unfortunately, like other devices that you attach to other engines to give electricity or heat, they are usually confiscated by big-name industry parties. The story of millionaire-inventor Dennis Lee is one such example. He had hit it big as far back as the 1980s, using a principle of producing power with heat energy. Then he got smashed.

We shall not go into a detail history, but if you are interested, please read a copy of *The Alternative*, by Mr. Lee. He made a mistake of heading for the West Coast, and was noticed by the energy establishment, had his research laboratory equipment diabolically destroyed, and lost his assets. He worked with minimal temperature boilers, compressors and heat pumps. There was no fancy computerization. Fortunately for him, he had a criminal court case dismissed after leading inventors and world class scientists stood up for him, in particular his invention of a system developed that can take energy out of the air, by process of conversion, and run a system to furnish electricity, at no operating cost. Threatened, he later did not shut up, and was finally imprisoned in California for years, only released before the old century was up. He was no more millionaire-Lee. The powers that be, the hidden energy powers, busted him. He and others with little gizmos of advanced continuous propulsion, energy from evaporators and air, and solar panels pose a huge threat to current energy big-time establishments. School books, for one reason or another, usually teach that each invention did not show economical feasibility, or so goes the public catchword.

The concepts of alternatives to fossil fuel burning are a very large field. Historically speaking, the modern oil industry is traced back to 1859, when oil was discovered in Pennsylvania. People and business today, needless to say, should navigate new forms of energy power. The biggest job in the future will be the application and the individual conversion in the transportation and non-transport infrastructure. Oil and hydro-carbons, a longtime form of energy, must enter the buffer zone. American

leaders must create a buffer in the infrastructure, a time between the real switch and the calculation: a buffer zone just like that inside a computer, which keeps things from jumbling-up. One must remember, Americans have placed a hefty reliance on the fossil fuel industry and to change that overnight would take a war. But, by the same token, Americans in the past have shown they can rise together when their heads are at stake. One of the first things that need to be done on a large scale is to mass-produce all sorts of things, filling stations, engine kits, auxiliaries, beginning with transportation, followed by homes and businesses.

When you have a society such as ours so completely dependent on oil, you cannot change overnight. Solar power and wind, I believe, will change the nature of energy, if they ever become practical. When the world had a population of under one billion, all homes and shops burned wood to cook and for heat.

It was just some 60 years ago that fast highballing steam engines were a central power in the United States. The 600-ton Big Boys, heavier than two empty 747's consumed 1 ton of coal per mile. But, they were replaced by economical diesels.

As populations increased and all manner of commercial possibilities also grew, we saw the rise of oil and hydro-carbon fuel. In the same way they once displaced numerous forms of energy, we must say it is time for them to enter the buffer zone and permit other newer forms to take center stage.

Time dictates that they become fired up. It would be nicer if, in the process, the new energies would not decrease the atmospheric ozone.

This brings us to one of the most exciting new technologies. One universal form of energy that holds promise, and which can power everything from ovens to automobiles, is hydrogen. What is hydrogen?

Hydrogen is revolutionary. What we have in hydrogen fuel is that it can be coupled to solar power to bring abundant energy. Hydrogen can be created from water and, after its burning, it turns back to water. Hydrogen as an alternative energy can also be created from fossil fuels or natural gas, but for obvious reasons will not be that clean. In conjunction with solar and wind power, which has to jolt the water to create the hydrogen, which serve as initial buffers, though expandable, America may find the beginning stage of a secret weapon much as the Liberty ships or radar was for victory in the early stages of the Second World War. Unless the reader is a student of history,