

The Story of OceanNRG™: A Work of Fiction

By Frank Trujillo

Prologue: It is said that truth is sometimes stranger than fiction. But in this obvious work of fiction—a story replete with one falsehood and fabrication after another—I cannot somehow get it out of my head that the day may come when a good part of what has here been recorded as fiction will have evolved into reality.

It could do us all some good, were we to take just a few moments, walk down the road a bit, and take a small step... into the future:

March 24, 2032

To Whom It May Concern:

A good many things have changed in the United States over the past quarter century. Twenty-five years ago, in 2007, there was virtually no ocean-based electricity, what people in every corner of the world these days call *OceanNRG*. Today it is next to impossible to imagine a world without it

Automobile manufacturers have today moved beyond gas-electric and hydrogen fuel-cell designs to “periodic rechargeables,” automobiles that tap the power grid every month or so in order to charge their batteries, then are good for another couple of thousand miles. Gasoline and ethanol-powered cars—and gas-powered lawnmowers, for the matter—are relics of the past. Virtually everything is today cordless and rechargeable, including small tractors, leaf blowers, boat motors, personal watercraft, concrete mixers, and—yes, even motorcycles. The incandescent bulb is long gone, having first been publicly vilified in California back in 2007. Today, school children anxious to catch a glimpse of one must visit a museum—in most cases getting there in an all-electric (electric-to-electric-motor, power at each wheel) school bus. Personal

wrap-around air bags are standard—one per passenger—and buses are still yellow, except, like cars, they are unmistakably *green*.

The same basic technology has of course helped revolutionize the trucking industry. Power devices on our *BigRollers* (formerly known as “18-wheelers”) tend to be much larger and their *NRGConverters* somewhat more potent, hence allowing for up to 1,000 miles between charges.

Today's recreational vehicles are “powered” via high-performance hybrid electric-hydrogen. This propels a turbine which, in turn, supplies power to four, six, or as many as a dozen, electric motors—one on each wheel. There's an abundance of power, plenty enough to pull a pair of standard *ElectriHarleys* or a large boat. Long gone are the days when one had to kick old “Arvie” down a couple of gears to navigate the slightest grade. And no longer is there a need for a gas generator as more than ample standby power is obtainable via twin, giant, rechargeable trillithium-ion batteries. Most RVs today have a range in the vicinity of 1,200 miles prior to the next “fill-up.” In both Class A and Class C models, what used to be the front end (driver's compartment) is now surprisingly different. Flip a switch and—*Voila!*—your *CariLong* 4-passenger all purpose vehicle (APV) is jettisoned (with you in it!) and you're ready for a trip to the market or to do some sightseeing. The rotating passenger compartment maximizes the relative ease of re-entry.

Approximately 68% of all homes and offices today are heated and cooled via electricity, most of which is generated via conventional *OceanNRG*. Nuclear energy accounts for approximately 3% of this total. 20% of homes and offices are dependent almost completely on 100% off-the-grid solar, or the newer *BiSol* (biomass/solar) applications. Natural gas and oil see limited usage these days, along with a variety of other sources (propane, kerosene, etc.), their usage now accounting for the remaining 12%.

Historically, there have always been water problems, at least to one degree or another. This was true even in the Old West. As most today realize, these problems began to intensify in 2008, and especially so in the sun-belt states. By 2015, water desalinization was a veritable imperative. Water was more and more an issue, and desalinization was found to be more and more necessary following the severe Southern Plains drought of 2008-2112 and corresponding storm damage to the California Aquaduct in 2011, and, again later in 2113, when, as a result of a prolonged *sudden surge*

saturation (SSS) phenomenon—damage to the tune of \$20 billion was done to the water transport system. Desalinated water, of course, today as then, is a byproduct of *OceanSolar*, and it was both coincidental and fortuitous that at least one 10 billion-gallon plant was up and running at the time.

Over the years, as a result of increased frequency and severity of storms, mobile emergency temperature control systems (METCS) have been developed. These can today be activated and hastily deployed where needed at virtually a moment's notice. Mandated by Congress in 2009, following the Redfield, New York, lake-effect storms tragedy, and continuously improved since that time, the “*eMerge paks*” (as they have come fondly to be called) are capable of providing ambient heat to individuals for a period of up to three weeks before requiring a recharge. Resulting from their use, thousands upon thousands of human lives have been saved, and the number of frostbite-related amputations and emergency procedures associated with heat exposure (as a result of stroke, etc.) has greatly decreased.

Happily for our farmers and ranchers—and ultimately for consumers—over the years innumerable cattle, horses, chickens, and related farm animals, have likewise been saved. If memory serves me, the seven southern Colorado herds, in 2011, were the last to have been completely decimated. The agriculture industry in general, and growers of fruits and vegetables in particular, have continued to bear the brunt of weather extreme. Severe weather *ClimXtreme* alerts, the number of which has declined steadily over the past 10 years, remain all too frequent. A weary and troubled world looks very much forward to the day when crop devastation will be a thing of the past. Most weather-sensitive crops in the United States are today protected by advanced on-the-grid radiant heating and *FrescoMax* cooling (both are subsidized by the federal government) and rely heavily on *OceanNRG* electricity for affordability. Thanks to the concerted and ongoing efforts of meteorologists, extremengineers¹, agriculturists, and others, present applications are capable of handling temperature variations of +/- 21⁰, Fahrenheit.

Over the past 20 years, most nations have had no choice other than to implement the newer climate change technologies. Systems similar in design to radiant heating and *FrescoMax* exist today in virtually every country, some with the full

¹ The term *extremengineers* (extreme engineers) has gained in popularity over the past 20 years, initially on the heels of reconstruction efforts directed at unprecedented levels of weather-related structural damage. Later, as the need was seen for society to engage in widespread preventative measures to minimize storm damage, the new “science” of *extremengineering* (extreme engineering) sprang rapidly into existence.

support—and, in some cases, financial backing—of the U.S. Government. Though some strongly opposed it, sanctioned by the Supreme Court in *U.S. v. TPB Enterprises, et.al.*, a 2011 decision. U.S. support (authorized by Congress in 2009) to assist Chile in the rapid reconstruction of an agricultural industry almost completely decimated by severe heat, was found to, “be in the national interest of the United States of America.” After all, so very much of our fruit and vegetables, as well as other perishables come to us from elsewhere in world. These helpful, *Clim&Adaptation* programs exist today in such varied and faraway places as Mexico, Brazil, Vietnam, Afghanistan, Greenland, Canada, and Iraq.

Many a sacrifice has been made with respect to temperature extreme and destructive storm patterns which have resulted from global climate change. Difficult years, no doubt, remain ahead. But, if there is any one bright light on the horizon, it is that *climate change has forced nations of the world to accept that we are in this together*. There is a collective awareness, increasing on virtually a daily basis, of the imperativeness of sharing resources and finding new and better ways to work collaboratively.

People everywhere, the world over, seem optimistic—moreso, perhaps, than at any time since before the Great Depression. There is, in all parts of the world, this sense that by working together we have turned the tide with respect to global warming. None of this, of course, would have possible absent the new technologies, *OceanNRG* in particular.

Clean and renewable ocean-based energy—*wave power, tidal energy, marine biomass energy, off-coast wind-energy*, etc.—had been attempted, if only to a small degree, in countries other than the U.S. commencing as early as the 1970s. They were jump-started into prominence by Congress in 2008. Today, a mere twenty-five years later, clean *OceanNRG* accounts for more than 50% of total U.S. electrical output. Wind, solar, advanced hydropower, and related *SeaBreeze* (i.e., off-shore wind energy) technologies currently contribute an additional 30%. And, as is the case with all *OceanNRG* technologies, these sources are entirely *renewable*. Today, with coal and natural gas-fired plants continuously declining in popularity and usage (a mere 20% of electricity is produced via the old fossil-fuel boiler) and, as a direct result, with CO² emissions continuing to plummet, the entire world is breathing much easier.

As I write, the most exciting development on the horizon is the new *SolarOcean* initiative. The commemorative, twin *SolarOcean* power plants, once they are completed and fully operational, will be capable of providing power to an estimated 75% of all

homes. An everlasting legacy to the innocent souls lost during that fateful day in 2001, completion is projected for 2040, assuming, of course, there are no additional Katrina or Rudolfo-esque tragedies or related cataclysmic events which plagued earlier developments.

As additional *SolarOcean* plants come on line—six more are anticipated by the year 2050—and as *marine biomass energy* at long last comes to fruition, it is estimated there will be **enough electricity to supply the entire world.** This is especially good news in that, no later than 2050, we can perhaps fulfill our goal of assisting people worldwide with respect to radiant heating and *FrescoMax* cooling.

Although the public was initially somewhat skeptical, reaction to these innovative, pollution-free, and persistently renewable *blue-green ocean technologies* has been almost entirely positive. Witnessing for themselves the simplicity of these “new-wave” (ocean wave) designs, gaining confidence that indeed they can operate in harmony with *offshore aquaculture* and *marine biomass energy*, Americans seem more positive than ever we can assure a bright future for our grandchildren, and for theirs.

Every American willing to work is currently employed. The one downside to the new technologies is that the required engineering, development, deployment, upkeep, and monitoring thereof is exceedingly material and labor intensive. In a surprising, and somewhat ironic, twist, economic growth in the interior regions of our country has for 25 years now been on a par with that which has been the case in our marine states. I overheard someone say recently, “The United States has the same 12,383 miles of coastline we’ve had ever since Hawaii and Alaska were added to the Union. The only difference is now each one of us has come to feel like we own a big piece of it!”

Harnessing this “cleanest-of-clean,” energy—marine energy—today known simply as *OceanNRG*—has greatly reduced the level of CO², and related greenhouse-gas, emissions into the atmosphere. So remarkable is the turn-around, it’s difficult today to even imagine that, as late as 2015, these numbers were perceived to be unobtainable. Commitment to these innovations in electrical generation has directed more attention than ever before to the *responsibility all humans share for diligent stewardship of the ocean*. Today there is much, much greater respect, and affinity, for the ocean. Because indeed we Americans have gone “blue, *WavyBlue*,” (as the 2010 *Surfenergy* song of the year suggests), we can today, at long last, boast that *our country is 100% energy independent*.

Absolutely none of this would have been possible had Congress and the President *not* acted decisively, in 2007 and 2008, and, of course, in subsequent years. That was a special and remarkable time, and those energy-filled times shall likely be forever remembered as absolute breakthrough, *New Renaissance*, years.

Until 2008, there was no *NOAA* (National Oceanic and Atmospheric Administration) and no *IOOS* (Integrated Ocean Observing System).

And until 2009, of course—difficult as this is to imagine—**there was no Cabinet-level U.S. Department of the Ocean!**

Until 2009 or 2010, only a relatively small percentage of citizens had so much as heard of *wave energy*, *marine biomass energy*, *the w/p BuckySail*, *tidal energy*, *the LectriStation*, *off-shore wind farms*, *Surfenergy™*, *Beachenergy™*, *saltwater desal*, *Pelamis*, *UnderwaterKite™*, *Blue Energy*, *CombOcean™*, *SteamOcean™* and *ocean thermal energy conversion*. Yet, amazingly, these are the terms that populate the energy lexicon of today. Many of us have come to see them as members of a united family, siblings living and working together—and yes, competing with one another—in the unwavering quest to discover an even more optimum approach to production of the cleanest of clean energy.

In the past there was virtually no ocean-based electricity. Today it is next to impossible to imagine a world without it.

It is hard to imagine this today, but at the turn of the century, in 2000, and even on up until 2007, because of our addiction to oil and to other fossil fuels, there was very little incentive for anyone, be they in the public or private sector, to undertake any of the hard work requisite to the establishment of a new energy paradigm. Oh, everyone seemed to realize back then that global warming, or climate change, was real, and that we humans—because of our dependence on fossil fuels—were to blame for it.

But who could possibly have predicted that addressing a problem of this enormity would entail bringing about a veritable *sea change* in ourselves? We could change nothing until we changed the manner in which we had been going about our thinking. After all, it is upon one belief system or another that the very *culture* of a society is built.

What is more than apparent is that, at the turn of the century and on up to 2008, few Americans perceived that substantive change was even remotely possible. Such was the case, for example, with respect to such things as the rapid depletion of fossil fuels (ongoing and unrestrained at the time), our admitted national “addiction” to oil (ongoing and virtually unrestrained at the time), the unacceptably high carbon dioxide emissions spewing into the atmosphere (ongoing and virtually unrestrained at the time), and the awareness that global warming is human caused and potentially catastrophic (ongoing and virtually unattended to at the time).

But, as we have learned, people can change, and so too can the people that represent them. One person, and then another, and another, can persuade a roomful of people that *substantive change not only is possible, it is today a cultural imperative*. Such was the case with Vice President Al Gore and his *An Inconvenient Truth*. If anyone deserves credit for enlightening people throughout the world as to the need for change it is Al Gore. Initially, he worked with only a roomful of people, and then another, and another, and then he convinces a university-full of students and faculty, and then one city, and then another... More than anyone else it is he who convinces them that *not only is substantive change possible, it is today a cultural imperative*.

And before anyone realized it could ever happen, this gigantic wave of interest rushes in—a veritable tsunami—and comes crashing against the coastline of blind acceptance and dead tradition, all the while playing havok with western civilization’s conventional belief system, every churning motion of the ocean exposing the past folly of our ways. And then—with a overwhelming whoosh—this rip-tide, fire-breathing tsunami, proceeding vehemently to catch us completely by surprise, suddenly jerks us into the cold, turbulent water, spiriting us out far away, helplessly...but contentedly... into the sea.

Oh, well, in some little way at least, such was the story with ocean energy. And, of course, the rest is history.

Dr. Frank Trujillo, March 24, 2032

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